ATS-14-663

Form 3160-3
(March 2012)

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. SL:NM7754; BL:LC061483 — TES 7-15-14

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. <313489> Newcastle 6 Federal Com PDK #7H

2. Name of Operator COG Operating LLC <229137>

9. API Well No. 30-015- 42506

3a. Address: One Concho Center, 600 W. Illinois Ave, Midland, TX 79701

3b. Phone No. (include area code): 432-685-4384

10. Field and Pool, or Exploratory: Loco Hills; Glorieta-Yeso

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface: SHL: 1030' FSL & 10' FEL, Unit P, Sec 1, R29E

At proposed prod. zone: BHL: 985' FSL & 330' FEL, Unit P, Sec 6, R30E

11. Sec., T. R. M. or Blk. and Survey or Area: SL: Sec 1, T17S, R29E; BL: Sec 6, T17S, R~~29~~30E

14. Distance in miles and direction from nearest town or post office*: 2 miles from 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): 10'

16. No. of acres in lease: SL: 40; UL M: 74.48; UL N: 1154.53; BL: 360

17. Spacing Unit dedicated to this well: 157.~~38~~.31

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 85'

19. Proposed Depth: TVD: 4474' MD: 9203' EDC: 5109' MD

20. BLM/BIA Bond No. on file: NMB000740; NMB000215

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3678' GL

22. Approximate date work will start*: 11/30/2014

23. Estimated duration: 90 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: [signature] Name (Printed/Typed): Kelly J. Holly Date: 03/27/2014

Title: Permitting Tech

Approved by (Signature): Name (Printed/Typed): /s/ STEPHEN J. CAFFEY Date: 7-8-14

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.

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)

*(Instructions on page 2)

ROSWELL CONTROLLED WATER BASIN

NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 14 2014
RECEIVED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015- 42506	96718	Loco Hills; Glorieta Yeso

[4] Property Code	[5] Property Name	[6] Well Number
313489	NEWCASTLE 6 FEDERAL COM PDK	7H

[7] OGRID No.	[8] Operator Name	[9] Elevation
229137	COG OPERATING, LLC	3678'

[10] Surface Location

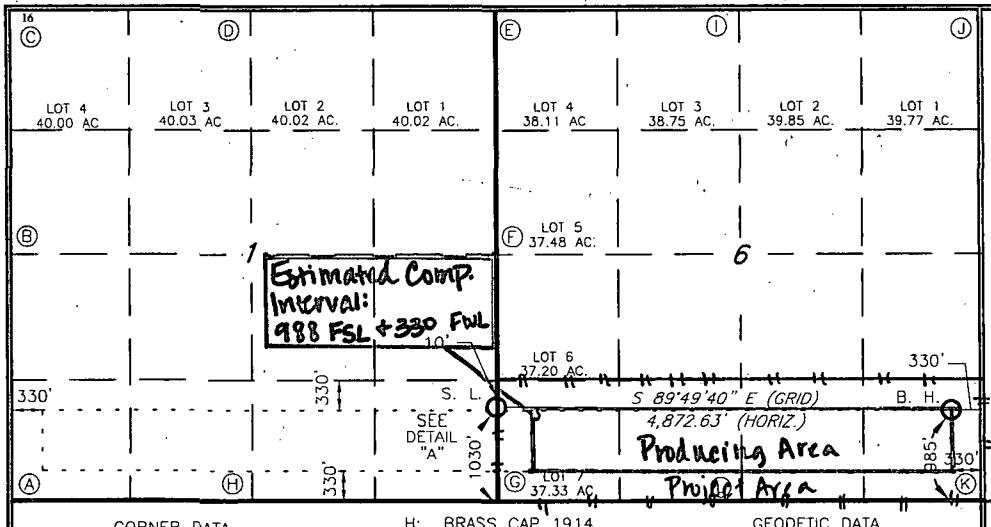
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	1	17-S	29-E		1030	SOUTH	10	EAST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	6	17-S	30-E		985	SOUTH	330	EAST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
157.33			

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.



CORNER DATA
NAD 27 GRID – NM EAST

A: BRASS CAP "1914"
N 675322.5 – E 591200.4

B: BRASS CAP "1914"
N 677961.6 – E 591198.9

C: BRASS CAP "1914"
N 680599.9 – E 591196.5

D: BRASS CAP 1914
N 680602.4 – E 593835.9

E: BRASS CAP "1914"
N 680602.3 – E 596475.6

F: BRASS CAP "1914"
N 677961.9 – E 596474.4

G: BRASS CAP "1914"
N 675324.2 – E 596474.6

H: BRASS CAP 1914
N 675326.5 – E 593844.9

I: BRASS CAP "1916"
N 680609.7 – E 599011.1

J: BRASS CAP "1916"
N 680616.9 – E 601650.7

K: BRASS CAP
N 675356.3 – E 601669.2

L: BRASS CAP
N 675340.1 – E 599029.3

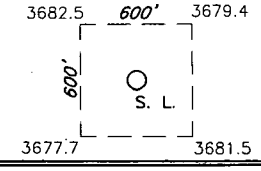
GEODETIC DATA
NAD 27 GRID – NM EAST

SURFACE LOCATION
N 676354.2 – E 596464.5

LAT: 32.858987° N
LONG: 104.019189° W

BOTTOM LOCATION
N 676339.5 – E 601335.9

DETAIL "A"



[17] OPERATOR CERTIFICATION

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 or has a right to drill this well at this 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 — Date: 3-4-14

Kelly J. Holly
Printed Name

kholly@concho.com
E-mail Address

[18] 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.

3/1/13
Date of Survey

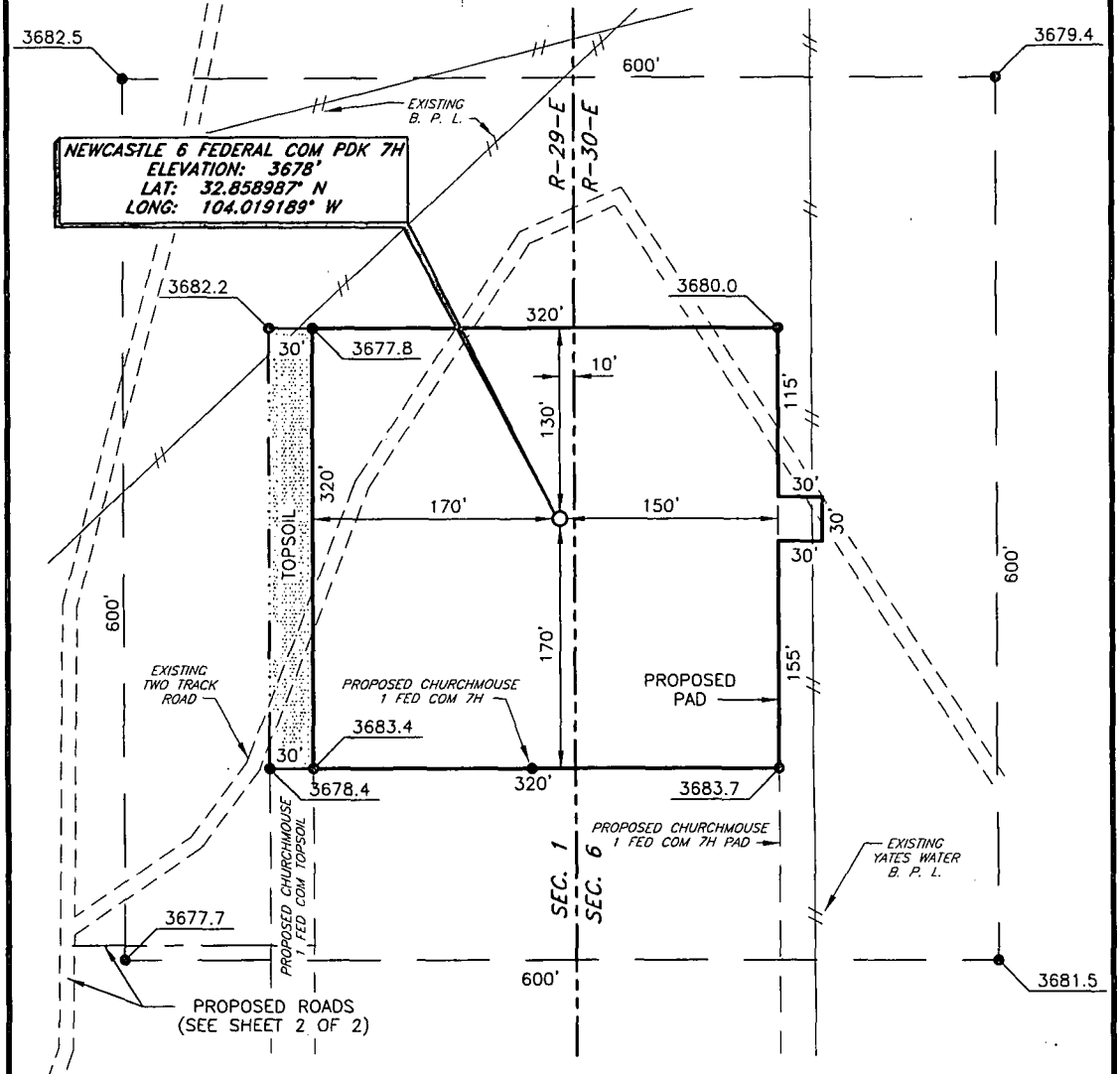
Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

COG OPERATING, LLC

Newcastle 6 Federal Com PDK #7H
(1030' FSL & 10' FEL)
Section 1, T-17-S, R-29-E,
N. M. P. M., Eddy Co., New Mexico



N

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 27 - NM EAST
DISTANCES ARE GROUND.

DIRECTIONS TO LOCATION

From the intersection of Co. Rd. No. 215 (Kewanee) & Co. Rd. No. 257 (Mallet Rd.);

Go East on Co. Rd. No. 257 approx. 1.0 mile;

Turn right onto a lease road;

Follow lease road (becoming a two track road) South approx. 0.7 mile;

Turn right and go Southwest 0.1 mile;

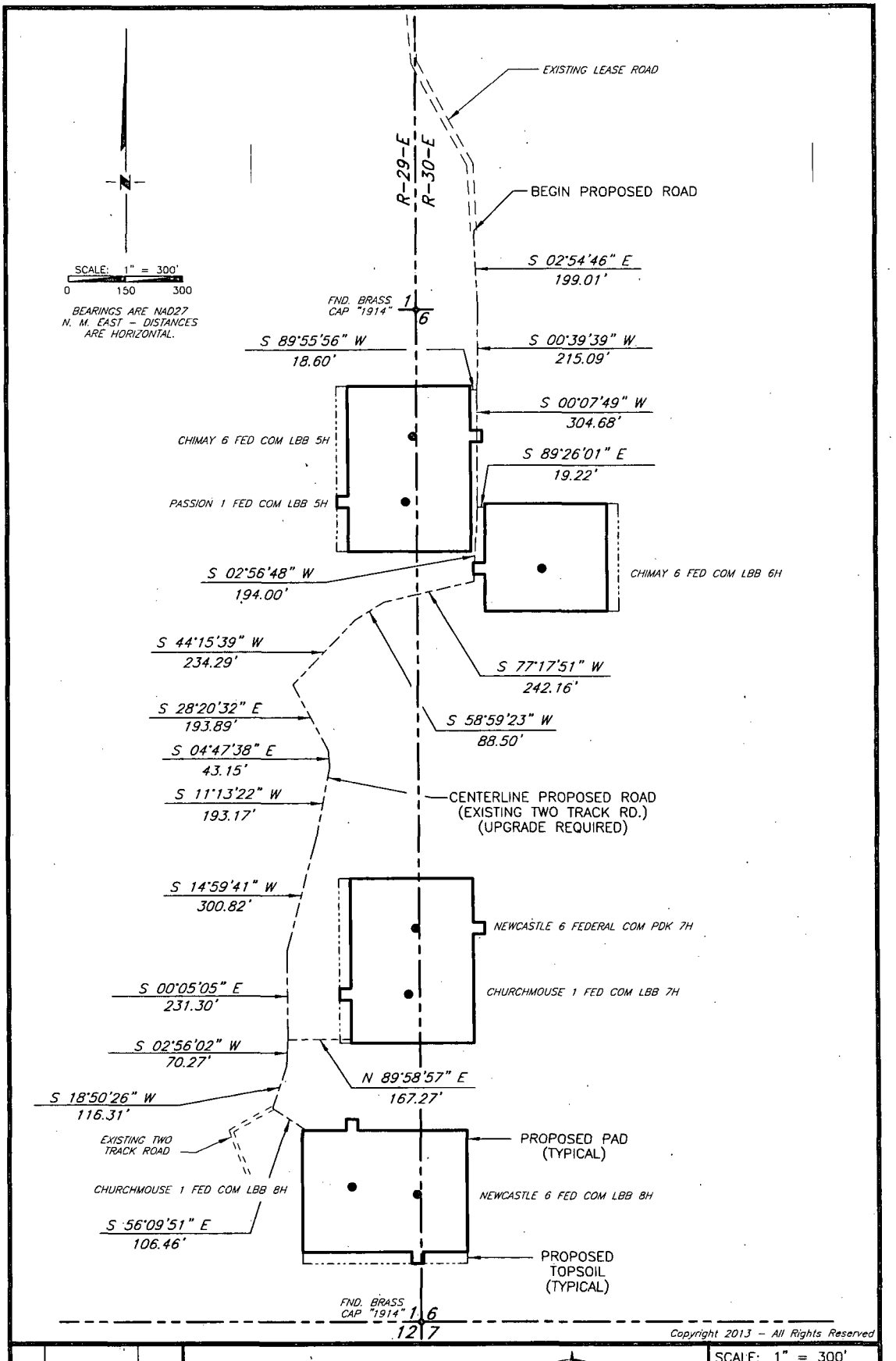
Turn left and go South approx. 0.1 mile;

Location is approx. 335' East of the two track road.

NO.	REVISION	DATE
2	Well Name	1/30/14
1	Well Name	5/2/13
JOB NO.: LS130080		
DWG. NO.: 130080PAD		

PROSPERITY CONSULTANTS, LLC
2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664 o (512) 992-2087 f (512) 251-2518

SCALE:	1" = 100'
DATE:	3/1/13
SURVEYED BY:	GB/SM
DRAWN BY:	LWB
APPROVED BY:	LWB
SHEET :	1 OF 2



NO.	REVISION	DATE
2	Well Name	1/30/14
1	Well Name	5/2/13

JOB NO.: LS130080

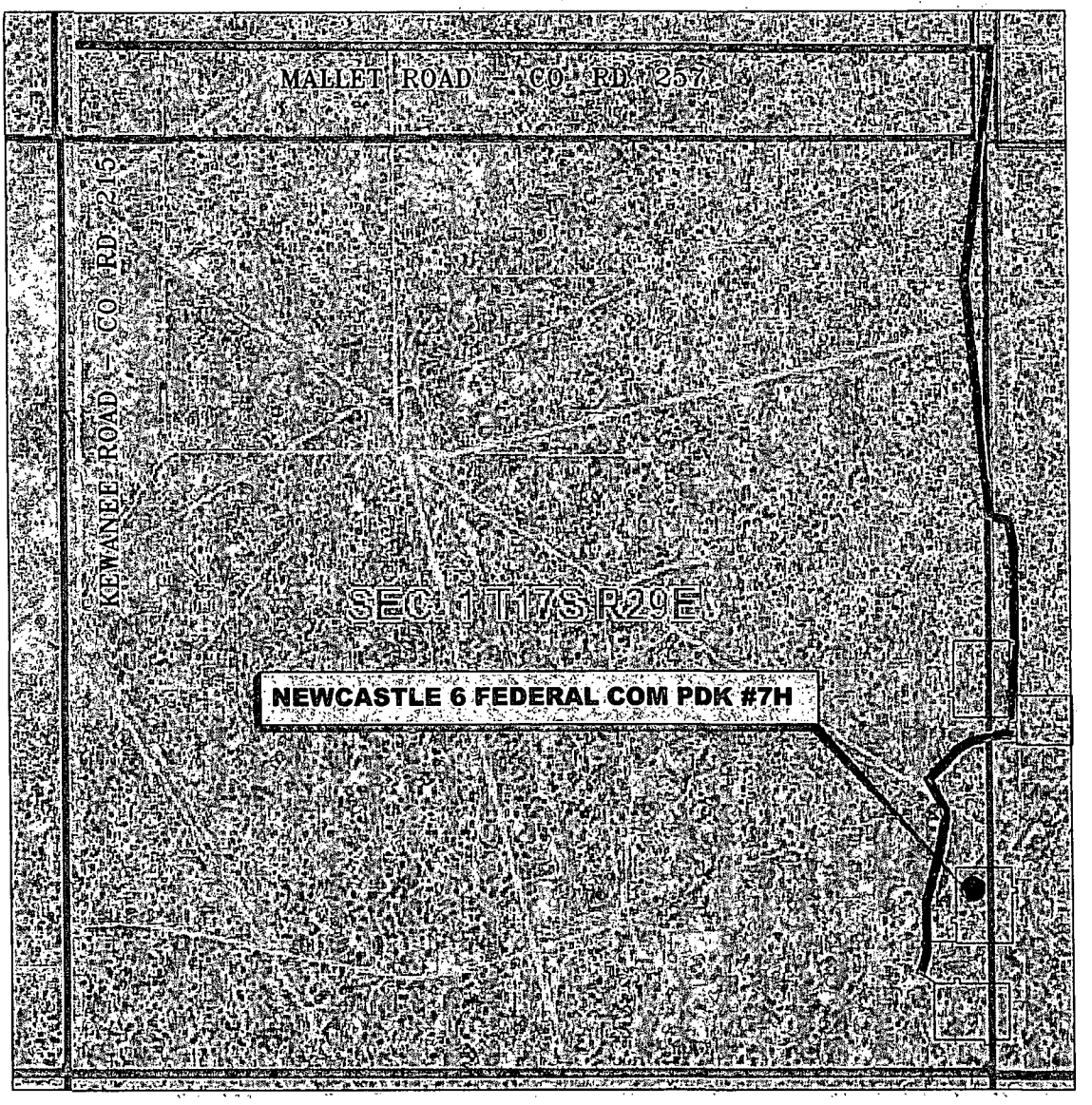
DWG. NO.: 130080PAD2

PROSPERITY CONSULTANTS, LLC
2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664
o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 300'
DATE: 3/1/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 2 OF 2

VICINITY MAP

NOT TO SCALE



SECTION 1, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Passion 1 Federal Com PDK
WELL NO.: 7H

LOCATION: 2140' FSL & 30' FEL
ELEVATION: 3686'

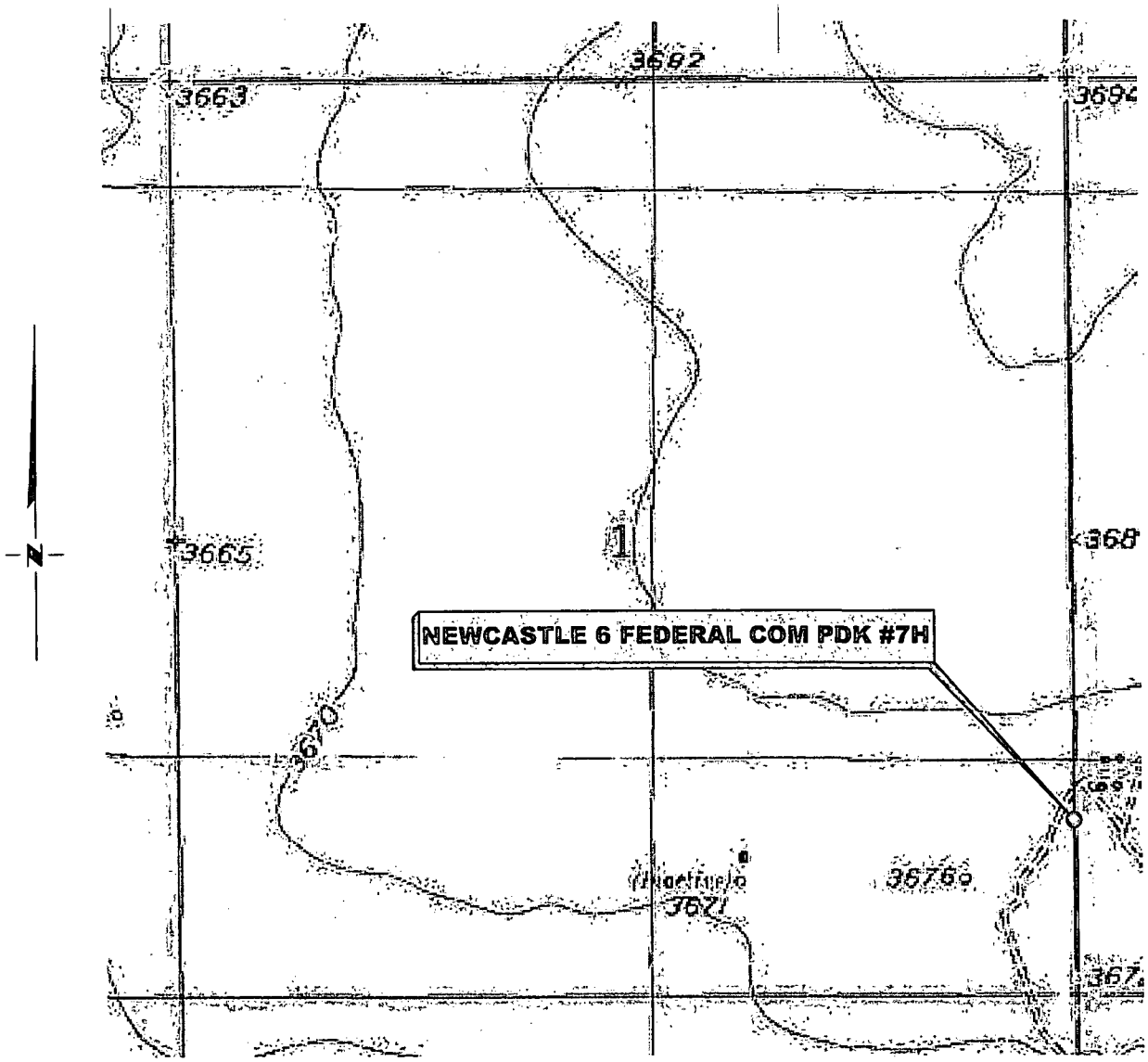
NO.	REVISION	DATE
2	Well Name	1/30/14
1	Well Name	5/2/13
JOB NO.: LS130080		
DWG. NO.: 130080VM		

PROSPERITY CONSULTANTS, LLC

2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664 o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 1000'
DATE: 2/26/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 1 OF 1

LOCATION VERIFICATION MAP



SECTION 1, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Newcastle 6 Federal Com PDK
WELL NO.: 7H
ELEVATION: 3678'

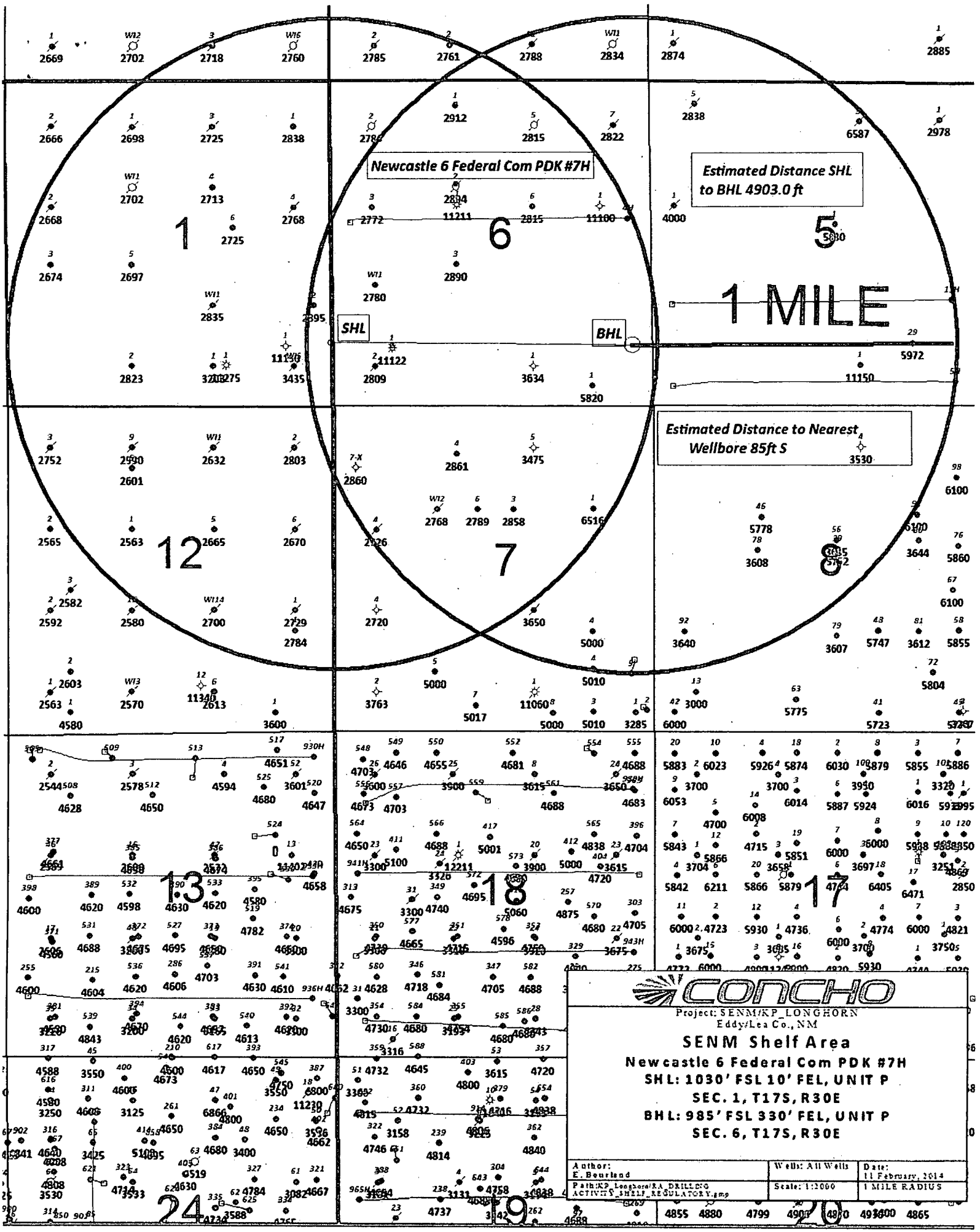
LOCATION: 1030' FSL & 10' FEL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

1	WELL NAME	1/30/14
NO.	REVISION	DATE
JOB NO.: LS130080		
DWG. NO.: 130080LVM		

PROSPERITY CONSULTANTS, LLC

2251 Double Creek Drive, Suite 602, Round Rock, Texas 78664 o (512) 992-2087 f (512) 251-2518

SCALE: 1" = 1000'
DATE: 3/1/13
SURVEYED BY: GB/SM
DRAWN BY: LWB
APPROVED BY: LWB
SHEET : 1 OF 1



CONCHO

Project: SENM/KP_LONGHORN
Eddy/Lea Co., NM

SENM Shelf Area

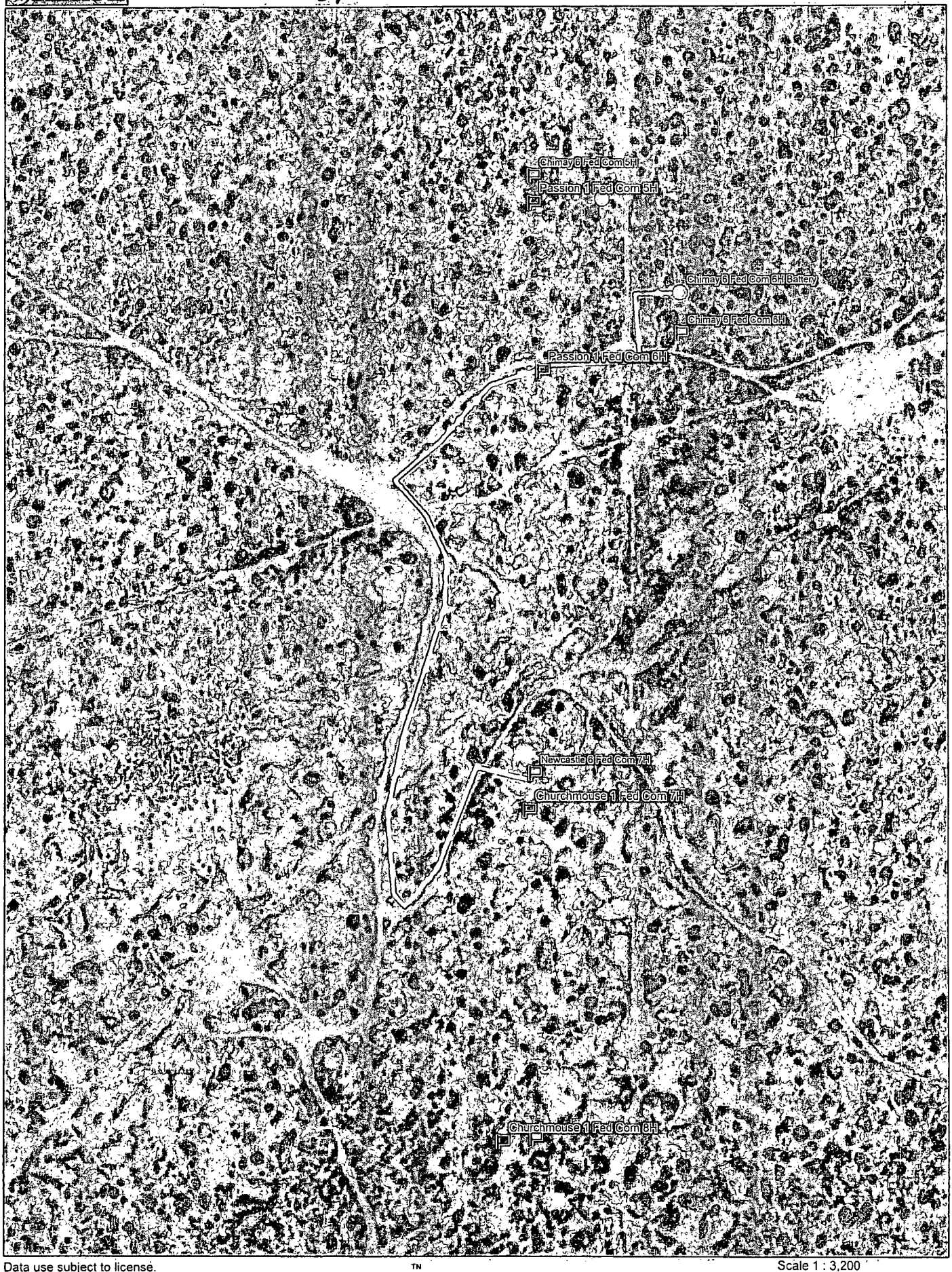
Newcastle 6 Federal Com PDK #7H
SHL: 1030' FSL 10' FEL, UNIT P
SEC. 1, T17S, R30E
BHL: 985' FSL 330' FEL, UNIT P
SEC. 6, T17S, R30E

Author: E. Bourland	Wells: All Wells	Date: 11 February, 2014
Path: K:\P_Longhorn\RA_DRILLING ACTIVITY_SHELF_REGULATORY.mxd	Scale: 1:2000	1 MILE RADIUS

DELORME

EXBT 1

XMap® 7



TN

MN (7.6°E)

Scale 1 : 3,200

0 80 160 240 320 400 ft

0 20 40 60 80 100 m

1" = 266.7 ft

Data Zoom 16-0

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
NEWCASTLE 6 FEDERAL COM PDK #7H
SHL: 150' FSL & 2290' FEL, UNIT P
Sec 1 T17S R29E
BHL: 985' FSL & 330' FEL, Unit P
Sec 6, T17S, R30E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres

2. Ground Elevation: 3678'

3. Proposed Depths: Horizontal: **KOP (Kick off Point) TVD=4029' MD=4029'**
EOC (end of curve) TVD=4545' MD=5109'
Toe (end of lateral) TVD=4474' MD=9203'

4. Estimated tops of geological markers:

Fresh Water	110'
Rustler	325'
Top of Salt	350'
Tansill	1070'
Yates	1178'
Seven Rivers	1460'
Queen	2063'
Grayburg	2475'
San Andres	2780'
Glorieta	4195'
Paddock	4280'
Blinebry	4700'
Tubb	5610'

5. Possible mineral bearing formations:

Yates	1178' Oil/Gas
Seven Rives	1460' Oil/Gas
Queen	2063' Oil/Gas
Grayburg	2475' Oil/Gas
San Andres	2780' Oil/Gas
Glorieta	4195' Oil/Gas
Paddock	4280' Oil/Gas
Blinebry	4700' Oil/Gas
Tubb	5610' Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing at 350' (25' into Rustler) and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be isolated by setting 9 5/8" casing at 1090' (20' into Tansill) and circulating cement back to surface in a single or multi-stage job. Multi-stage job will consist of installing 9 5/8" DV Tool and possibly ECP 50' below 13 3/8' casing shoe. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them as described in the following paragraph.

A 8 ¾" open hole will be drilled from 9 5/8" casing shoe to KOP and thru curve. At end of curve (EOC) the open hole will be reduced to 7 7/8" and drilled to TD. At TD 5 ½" production casing will be installed. This casing string will be cemented from the TD to surface in single or multi-stage jobs. The multi-stage job will consist of two stages with DV Tool and possibly ECP set at KOP. First stage will be from TD to KOP and second stage will be from KOP to surface. 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.

6. Proposed Mud System

The well will be drilled to TD with a combination of fresh water, brine, cut brine mud systems. The applicable depths and properties of these systems are as follows:

DEPTH (MD)	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-350'	Fresh Water	8.3-8.9	28-40	N.C.
350'-1090'	Brine	9.8-10.1	29-32	N.C.
1090'-4029'	FW/Cut Brine	8.3-9.2	29-32	N.C.
4029'-4856'	Cut Brine	8.5-9.2	29-32	N.C.
4856'-9203'	Cut Brine	8.5-9.2	29-32	N.C.

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

Visual or electronic mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weights, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

6. Proposed Casing Program

Hole Size	Interval MD	OD Casing	Weight	Grade	Condition	Jt.	brst/clps/ten
17 ½"	0-350'	13 3/8" 0-350'	48#	H40/J55 Hybrid	New	ST&C	4.94/4.98/22.02
12 ¼"	350'-1090'	9 5/8" 0-1090'	40#	J55/K55	New	LT&C	2.14/4.53/14.08
8 ¾"	1090'-4856'	5 ½" 0-4856'	17#	P110	New	LT&C	1.33/3.44/6.69
7 7/8"	4856'-9203'	5½" 4856'-9203'	17#	P110	New	LT&C	1.33/3.44/6.69

7. Proposed Cement Program

13 3/8" SURFACE: (Circulate to Surface)

		Description	Yield	Density	Water Requirements
Tail: 0'-350' Excess 90%	400 sks	Class "C" w/2% CaCl2+ 0.25 pps CF	1.32 cf/sk	14.8 ppg	6.6 gal/sk.

9 5/8" INTERMEDIATE:

Option #1: Single Stage (Circulate to Surface)

Lead: 0'-750' Excess 91%	200 sks	50:50:10 C:Poz:Gel w/ 5% Salt+ 0.25% CF +5 pps LCM	2.45 cf/sk	11.8 ppg	14.4 gal/sk.
Tail: 750'-1090' Excess 167%	250 sks	Class C w/2% CaCl2	1.32 cf/sk	14.8 ppg	6.3 gal/sk.

Combined excess 115%

Option #2: Multi-stage w/ DV Tool @ +/-400'(DV Tool 50' below 13 3/8" csg. Shoe) (Circulate to Surface)

Stage #1:

Lead: 400'-750' Excess 124%	100 sks	50:50:10 C:Poz:Gel w/5% Salt +5 pps LCM + 0.25 pps CF	2.45 cf/sk	11.8 ppg	14.4 gal/sk
Tail: 750'-1090' Excess 167%	250 sks	Class "C" w/2% CaCl2	1.32 cf/sk	14.8 ppg	6.3 gal/sk.

Stage #2:

		Description	Yield	Density	Water Requirements
Lead: 0'-400' Excess 66%	100 sks	50:50:10 C:Poz:Gel w/5% salt+ 5 pps LCM + 0.25 pps CF	2.45 cf/sk	11.8 ppg	14.4 gal/sk.

Combined Excess Stage #1 & Stage #2: 74%

Note: Multi-stage tool to be set depending on hole conditions at approximately 400' (50' below the surface casing shoe). Cement volumes will be adjusted proportionately for depth changes of multi-stage tool.

5 ½" PRODUCTION CASING:

Option #1: Single Stage (Cement cal to surface)

1st Lead: 0'-3000' Excess 44%	550 sks	35:65:6 C:Poz Gel w/5% salt+ 5 pps LCM+ 0.2 % SMS+ 0.3% FL-52A+ 0.125 pps CF	2.01 cf/sk	12.5 ppg	11.4 gal/sk.
2nd Lead: 3000'-4029' Excess 111%	400 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ 0.6 % SMS+ 0.125 pps CF+1% FL-25+ 1% BA-58	1.37 cf/sk	14.0 ppg	14.4 gal/sk.
Combined Lead Excess 41%					
Tail: 4029'-9203' Excess 42%	1000 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ 0.6% SMS+0.125 pps CF +1% FL-25+ 1% BA-58	1.37 cf/sk	14.0 ppg	14.4 gal/sk.

Combined Lead & Tail Excess: 52%

Option #2:Multi-stage (2 Stages) w/DV Tool & ECP(if necessary) @ +/-4029' (Cement calculated to surface)

Stage #1:

		Description	Yield	Density	Water Requirement
Tail: 4029'-9203' Excess 42%	1000 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ 0.6 % SMS+ 0.125 pps CF+1% FL-25+ 1% BA-58	1.37 cf/sk	14.0 ppg	6.4 gal/sk

Stage #2: DV Tool & ECP @ +/-4029'

		Description	Yield	Density	Water Requirement
Lead: 0'-3000' Excess 44%	550 sks	35:65:6 C:Poz Gel w/5% salt+ 5 pps LCM+ 0.2 % SMS+ 0.3% FL-52A+ 0.125 pps CF	2.01 cf/sk	12.5 ppg	11.4 gal/sk
Tail: 3000'-4029' Excess 111%	400 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ 0.6 % SMS+ 0.125 pps CF+1% FL-25+ 1% BA-58	1.37 cf/sk	14.0 ppg	6.4 gal/sk

Combined Excess Stage #1 & Stage #2: 52%

Note: 5 ½" casing will be run from KOP at 4029' thru curve and lateral to TD of 9203' MD. Productive intervals will be isolated by cement as described above..

Note: Multi-stage tool & ECP (if necessary) to be set depending on hole conditions at approximately 4029'.

Cement volumes will be adjusted proportionately for depth changes of multi-stage tool.

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 (Exhibit #10) 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 and 4 1/2" drill pipe rams on the bottom. A 13-5/8" BOP will be used during the drilling of the well. A 13 5/8" permanent casing head will be installed on the 13 3/8" casing. The BOP will be nippled up on the 13 5/8" permanent casing head and tested to 250 psig/300 psig low and 2000 psig by independent tester using test plug. After setting 9-5/8" casing a permanent "B section" well head spool will be installed and the BOP will then be nippled up on the permanent B section. BOP and well head will be tested again by a independent tester using test plug to 250 psig./300 psig. low and 2000 psig. 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 will include a Kelly cock and floor safety valve, choke lines and a choke manifold with a 2000 psi WP rating all of which will also be tested to 250 psig/300 psig low and 2000 psig by independent tester also.

9. Production Hole Drilling Summary:

Drill 8¾" hole to 4029'. Kick off at +/- 4029', building curve at 11°/100' to 91° inclination at 4856' MD/4550'TVD azmith 96.74°.(EOC) Reduce hole size to 7 7/8" and turn at 3°/100' to AZ 89.15° at 5109' MD/ 4545' TVD. Continue lateral at inclination at 91° and az 89.15° for +/4094' lateral to TD at +/-9203' MD/4474' TVD. Run 5-1/2" production casing from surface thru curve and lateral to TD. The 5 ½" csg. will be isolated by either a single stage or multi-stage cement jobs. Cement will be calculated to surface. Minimum tie-back is 200' above 9 5/8" casing shoe.

10. 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.

11. Logging, Testing and Coring Program:

A. The following logs will be run in the vertical portion of the hole to KOP: SLB-PEX/HRLA,HNGS.

B. The mud logging program will consist of lagged 10' samples from 9 5/8" casing shoe thru KOP and curve 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 *5 ½"* production casing has been cemented at TD based on drill shows and log evaluation.

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

See COA

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature at TD is 90° Fahrenheit and estimated maximum bottom hole pressure is 1970 psi. Wells in this area will penetrate formations that are known or could reasonably be expected to contain Hydrogen Sulfide. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area; however, a H_2S drilling operations plan is included with the APD. Hydrogen sulfide detection equipment will be operational and breathing equipment will be on location after drilling out the 13 3/8" casing shoe and until the 5 ½" production casing is cemented. If while drilling the intermediate or production hole sections H_2S concentrations exceed 100 ppm the well will be shut in and a remote operated choke will be installed (see diagram #9 &#10) and COG will comply with Onshore Order #6. All BOPE testing companies used by COG have H_2S certified employees and will work on H_2S locations. No major loss circulation zones have been reported in offsetting wells.

See COA

13. Anticipated Starting Date

Drilling operations will commence approximately on **October 31, 2014** with drilling and completion operations lasting approximately ***90*** days.

GEG 3.26.14

COG OPERATING, LLC

Eddy County, NM
Newcastle 6 Fed Com PDK 7H
7H

Lateral

Plan: Plan #2

Standard Planning Report

19 February, 2014

Section Distances

Sec1,T17S,R29E
SHL - Unit P
1030'FSL, 10'FEL

Sec6,T17S,R30E
PP
988'FSL, 330'FWL
PBHL - Unit P
985'FSL, 330'FEL

Database:	EDM R5000.1 MULTI	**Local Co-ordinate Reference:**	Well 7H
Company:	COG OPERATING, LLC	**TVD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Project:	Eddy County, NM	**MD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Site:	Newcastle 6 Fed Com PDK 7H	**North Reference:**	Grid
Well:	7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

Project Eddy County, NM

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 Newcastle 6 Fed Com PDK 7H

Site Position:		**Northing:**	676,354.20 usft	**Latitude:**	32° 51' 32.35 N
From:	Map	**Easting:**	596,464.50 usft	**Longitude:**	104° 1' 9.08 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.17 °

Well 7H

Well Position	**+N/-S**	0.00 usft	**Northing:**	676,354.20 usft	**Latitude:**	32° 51' 32.35 N
	+E/-W	0.00 usft	**Easting:**	596,464.50 usft	**Longitude:**	104° 1' 9.08 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,678.00 usft

Wellbore Lateral

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/18/2014	7.51	60.63	48,679

Design Plan #2

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	90.17

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	
4,029.00	0.00	0.00	4,029.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,856.27	91.00	96.74	4,549.79	-62.20	526.30	11.00	11.00	0.00	96.74	
5,109.12	91.00	89.15	4,545.38	-75.19	778.59	3.00	0.00	-3.00	-89.96	
9,203.00	91.00	89.15	4,474.22	-14.70	4,871.40	0.00	0.00	0.00	0.00	Newcastle 7H PBHL

Database:	EDM R5000.1 MULTI	**Local Co-ordinate Reference:**	Well 7H
Company:	COG OPERATING, LLC	**TVD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Project:	Eddy County, NM	**MD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Site:	Newcastle 6 Fed Com PDK 7H	**North Reference:**	Grid
Well:	7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,029.00	0.00	0.00	4,029.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 11.00									
4,050.00	2.31	96.74	4,049.99	-0.05	0.42	0.42	11.00	11.00	0.00
4,100.00	7.81	96.74	4,099.78	-0.57	4.80	4.80	11.00	11.00	0.00
4,150.00	13.31	96.74	4,148.91	-1.64	13.89	13.90	11.00	11.00	0.00
4,200.00	18.81	96.74	4,196.94	-3.26	27.63	27.64	11.00	11.00	0.00
4,250.00	24.31	96.74	4,243.43	-5.42	45.87	45.88	11.00	11.00	0.00
4,300.00	29.81	96.74	4,287.94	-8.09	68.45	68.47	11.00	11.00	0.00
4,350.00	35.31	96.74	4,330.06	-11.25	95.16	95.19	11.00	11.00	0.00
4,400.00	40.81	96.74	4,369.42	-14.86	125.76	125.80	11.00	11.00	0.00
4,450.00	46.31	96.74	4,405.64	-18.90	159.96	160.02	11.00	11.00	0.00
4,500.00	51.81	96.74	4,438.39	-23.34	197.46	197.53	11.00	11.00	0.00
4,550.00	57.31	96.74	4,467.37	-28.11	237.90	237.98	11.00	11.00	0.00

Database:	EDM R5000.1 MULTI	**Local Co-ordinate Reference:**	Well 7H
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Project:	Eddy County, NM	**MD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Site:	Newcastle 6 Fed Com PDK 7H	**North Reference:**	Grid
Well:	7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

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)
4,600.00	62.81	96.74	4,492.31	-33.20	280.91	281.01	11.00	11.00	0.00
4,650.00	68.31	96.74	4,512.99	-38.54	326.10	326.21	11.00	11.00	0.00
4,700.00	73.81	96.74	4,529.21	-44.09	373.04	373.18	11.00	11.00	0.00
4,750.00	79.31	96.74	4,540.83	-49.79	421.32	421.47	11.00	11.00	0.00
4,800.00	84.81	96.74	4,547.74	-55.60	470.48	470.64	11.00	11.00	0.00
4,850.00	90.31	96.74	4,549.86	-61.46	520.07	520.25	11.00	11.00	0.00
4,856.27	91.00	96.74	4,549.79	-62.20	526.30	526.48	11.00	11.00	0.00
Start DLS 3.00 TFO -89.96									
4,900.00	91.00	95.43	4,549.03	-66.83	569.77	569.97	3.00	0.00	-3.00
5,000.00	91.00	92.43	4,547.28	-73.68	669.51	669.73	3.00	0.00	-3.00
5,109.12	91.00	89.15	4,545.38	-75.19	778.59	778.82	3.00	0.00	-3.00
Start 4093.87 hold at 5109.12 MD									
5,200.00	91.00	89.15	4,543.80	-73.84	869.45	869.66	0.00	0.00	0.00
5,300.00	91.00	89.15	4,542.06	-72.36	969.42	969.63	0.00	0.00	0.00
5,400.00	91.00	89.15	4,540.32	-70.89	1,069.39	1,069.60	0.00	0.00	0.00
5,500.00	91.00	89.15	4,538.59	-69.41	1,169.37	1,169.57	0.00	0.00	0.00
5,600.00	91.00	89.15	4,536.85	-67.93	1,269.34	1,269.54	0.00	0.00	0.00
5,700.00	91.00	89.15	4,535.11	-66.46	1,369.31	1,369.51	0.00	0.00	0.00
5,800.00	91.00	89.15	4,533.37	-64.98	1,469.29	1,469.48	0.00	0.00	0.00
5,900.00	91.00	89.15	4,531.63	-63.50	1,569.26	1,569.45	0.00	0.00	0.00
6,000.00	91.00	89.15	4,529.90	-62.02	1,669.24	1,669.42	0.00	0.00	0.00
6,100.00	91.00	89.15	4,528.16	-60.55	1,769.21	1,769.39	0.00	0.00	0.00
6,200.00	91.00	89.15	4,526.42	-59.07	1,869.18	1,869.35	0.00	0.00	0.00
6,300.00	91.00	89.15	4,524.68	-57.59	1,969.16	1,969.32	0.00	0.00	0.00
6,400.00	91.00	89.15	4,522.94	-56.11	2,069.13	2,069.29	0.00	0.00	0.00
6,500.00	91.00	89.15	4,521.20	-54.64	2,169.11	2,169.26	0.00	0.00	0.00
6,600.00	91.00	89.15	4,519.47	-53.16	2,269.08	2,269.23	0.00	0.00	0.00
6,700.00	91.00	89.15	4,517.73	-51.68	2,369.05	2,369.20	0.00	0.00	0.00
6,800.00	91.00	89.15	4,515.99	-50.20	2,469.03	2,469.17	0.00	0.00	0.00
6,900.00	91.00	89.15	4,514.25	-48.73	2,569.00	2,569.14	0.00	0.00	0.00
7,000.00	91.00	89.15	4,512.51	-47.25	2,668.98	2,669.11	0.00	0.00	0.00
7,100.00	91.00	89.15	4,510.78	-45.77	2,768.95	2,769.08	0.00	0.00	0.00
7,200.00	91.00	89.15	4,509.04	-44.29	2,868.92	2,869.05	0.00	0.00	0.00
7,300.00	91.00	89.15	4,507.30	-42.82	2,968.90	2,969.01	0.00	0.00	0.00
7,400.00	91.00	89.15	4,505.56	-41.34	3,068.87	3,068.98	0.00	0.00	0.00
7,500.00	91.00	89.15	4,503.82	-39.86	3,168.85	3,168.95	0.00	0.00	0.00
7,600.00	91.00	89.15	4,502.08	-38.38	3,268.82	3,268.92	0.00	0.00	0.00
7,700.00	91.00	89.15	4,500.35	-36.91	3,368.79	3,368.89	0.00	0.00	0.00
7,800.00	91.00	89.15	4,498.61	-35.43	3,468.77	3,468.86	0.00	0.00	0.00
7,900.00	91.00	89.15	4,496.87	-33.95	3,568.74	3,568.83	0.00	0.00	0.00
8,000.00	91.00	89.15	4,495.13	-32.47	3,668.72	3,668.80	0.00	0.00	0.00
8,100.00	91.00	89.15	4,493.39	-31.00	3,768.69	3,768.77	0.00	0.00	0.00
8,200.00	91.00	89.15	4,491.65	-29.52	3,868.66	3,868.74	0.00	0.00	0.00
8,300.00	91.00	89.15	4,489.92	-28.04	3,968.64	3,968.70	0.00	0.00	0.00
8,400.00	91.00	89.15	4,488.18	-26.56	4,068.61	4,068.67	0.00	0.00	0.00
8,500.00	91.00	89.15	4,486.44	-25.09	4,168.59	4,168.64	0.00	0.00	0.00
8,600.00	91.00	89.15	4,484.70	-23.61	4,268.56	4,268.61	0.00	0.00	0.00
8,700.00	91.00	89.15	4,482.96	-22.13	4,368.53	4,368.58	0.00	0.00	0.00
8,800.00	91.00	89.15	4,481.23	-20.65	4,468.51	4,468.55	0.00	0.00	0.00
8,900.00	91.00	89.15	4,479.49	-19.18	4,568.48	4,568.52	0.00	0.00	0.00
9,000.00	91.00	89.15	4,477.75	-17.70	4,668.46	4,668.49	0.00	0.00	0.00
9,100.00	91.00	89.15	4,476.01	-16.22	4,768.43	4,768.46	0.00	0.00	0.00
9,203.00	91.00	89.15	4,474.22	-14.70	4,871.40	4,871.42	0.00	0.00	0.00

Database:	EDM R5000.1 MULTI	**Local Co-ordinate Reference:**	Well 7H
Company:	COG OPERATING, LLC	**TVD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Project:	Eddy County, NM	**MD Reference:**	3678'GL+13'KB @ 3691.00usft (Planning)
Site:	Newcastle 6 Fed Com PDK 7H	**North Reference:**	Grid
Well:	7H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #2		

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)
TD at 9203.00									

Design Targets

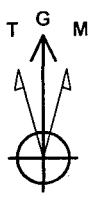
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Newcastle 7H PP - plan misses target center by 342.66usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-40.22	340.29	676,313.98	596,804.79	32° 51' 31.94 N	104° 1' 5.09 W
Newcastle 7H Surface - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	676,354.20	596,464.50	32° 51' 32.35 N	104° 1' 9.08 W
Newcastle 7H PBHL - plan hits target center - Point	0.00	0.00	4,474.22	-14.70	4,871.40	676,339.50	601,335.90	32° 51' 32.06 N	104° 0' 11.97 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,029.00	4,029.00	0.00	0.00	Start Build 11.00
4,856.27	4,549.79	-62.20	526.30	Start DLS 3.00 TFO -89.96
5,109.12	4,545.38	-75.19	778.59	Start 4093.87 hold at 5109.12 MD
9,203.00	4,474.22	-14.70	4,871.40	TD at 9203.00

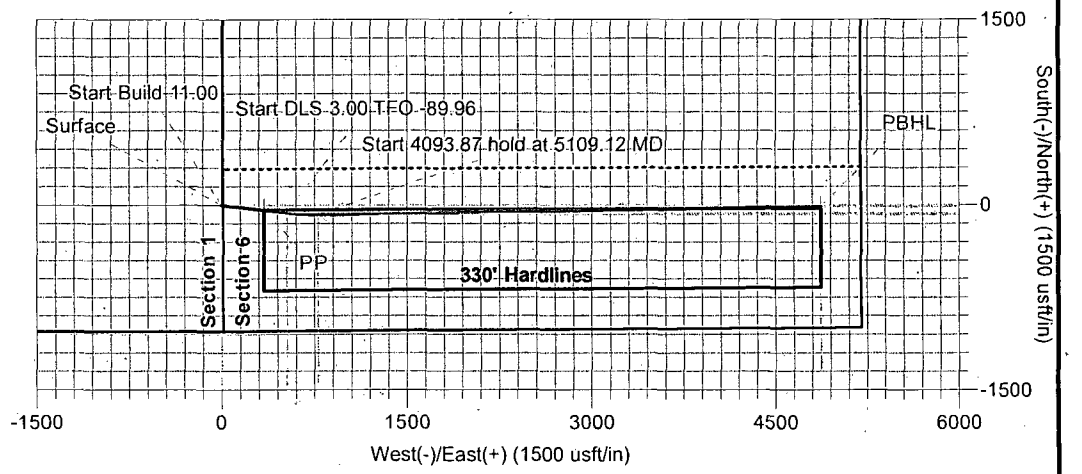
COG OPERATING, LLC

Field: Eddy County, NM
Site: Newcastle 6 Fed Com PDK 7H
Well: 7H
Wellbore: Lateral
Plan: Plan #2



Azimuths to Grid North
True North: -0.17°
Magnetic North: 7.34°

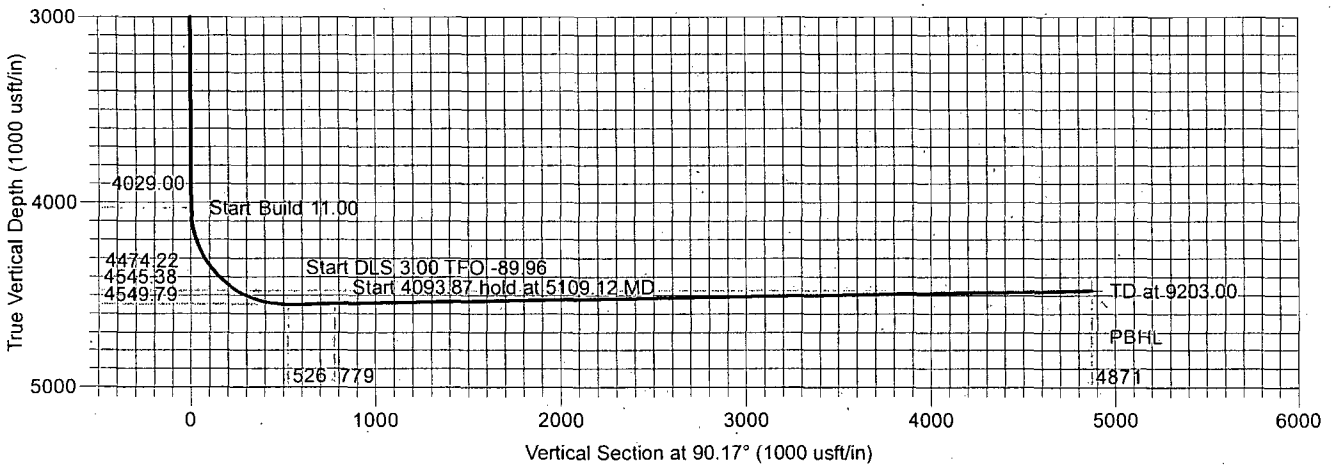
Magnetic Field
Strength: 48678.8snT
Dip Angle: 60.63°
Date: 2/18/2014
Model: IGRF2010



Section Distances

Sec1,T17S,R29E
SHL - Unit P
1030'FSL, 10'FEL

Sec6,T17S,R30E
PP
988'FSL, 330'FWL
PBHL - Unit P
985'FSL, 330'FEL



TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Newcastle 7H PP	0.00	-40.22	340.29	676313.98	596804.79	32° 51' 31.94 N	104° 1' 5.09 W	Point
Newcastle 7H Surface	0.00	0.00	0.00	676354.20	596464.50	32° 51' 32.35 N	104° 1' 9.08 W	Point
Newcastle 7H PBHL	4474.22	-14.70	4871.40	676339.50	601335.90	32° 51' 32.06 N	104° 0' 11.97 W	Point

SECTION DETAILS

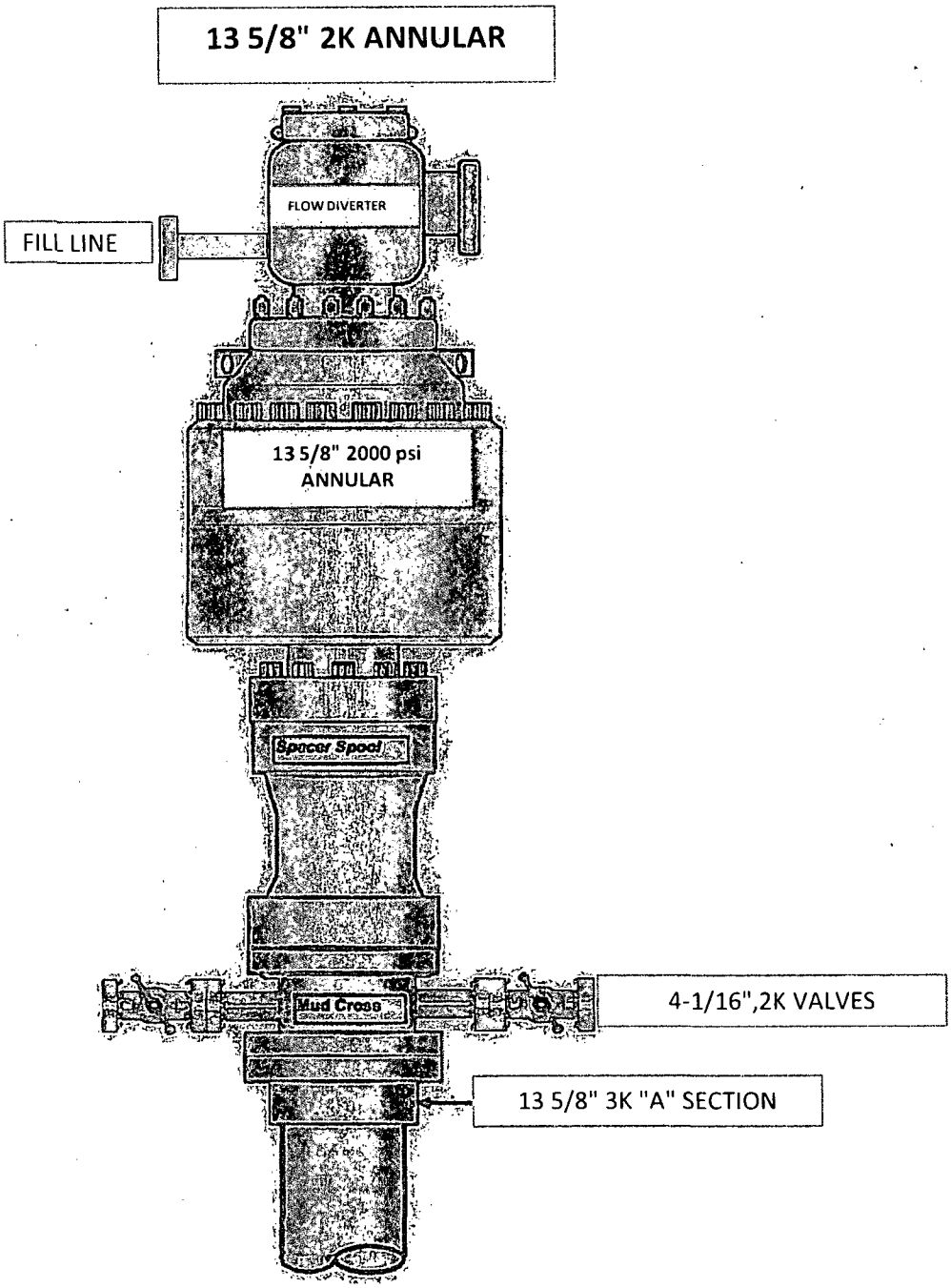
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4029.00	0.00	0.00	4029.00	0.00	0.00	0.00	0.00	0.00	
3	4856.27	91.00	96.74	4549.79	-62.20	526.30	11.00	96.74	526.48	
4	5109.12	91.00	89.15	4545.38	-75.19	778.59	3.00	-89.96	778.82	
5	9203.00	91.00	89.15	4474.22	-14.70	4871.40	0.00	0.00	4871.42	Newcastle 7H PBHL

Archer

ARCHER DIRECTIONAL DRILLING SERVICES
12101 Cutten Rd. Houston, Texas 77066
Phone: 281-301-2600 Fax: 281-301-2795

Design: Plan #2 (7H/Lateral)
Created By: Ivonne Gonzalez
Date: 15:45, February 19 2014

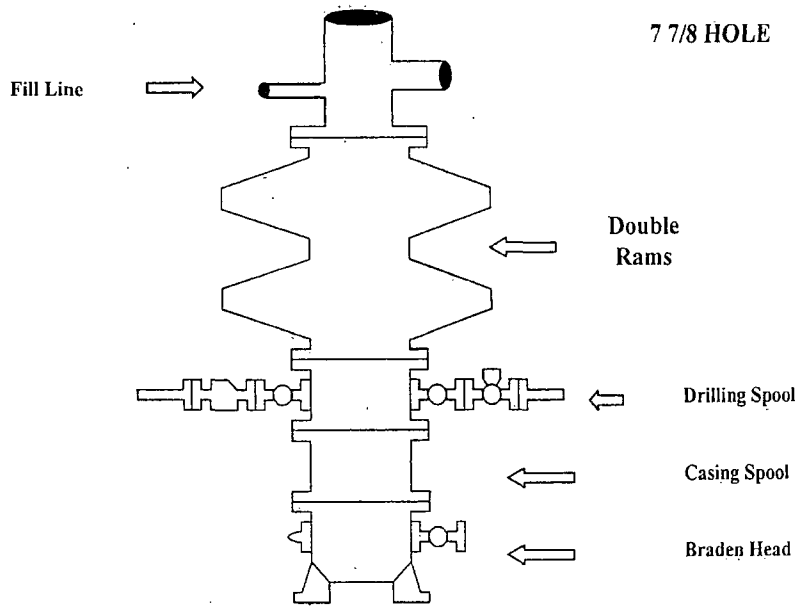
Exhibit #10


13 5/8" 2K ANNULAR
FLOW DIVERTER
FILL LINE
13 5/8" 2000 psi
ANNULAR
Spacer Spool
Mud Cross
4-1/16",2K VALVES
13 5/8" 3K "A" SECTION

COG Operating LLC

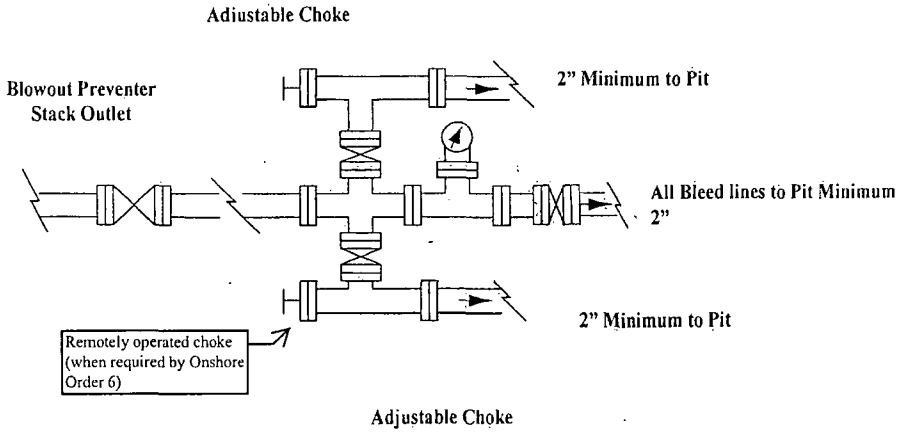
Exhibit #9

BOPE and Choke Schematic



Minimum 4" Nominal choke and kill lines

Choke Manifold Requirement (2000 psi WP)
No Annular Required



NOTES REGARDING THE BLOWOUT PREVENTERS
Master Drilling Plan
Eddy County, New Mexico

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
2. Wear ring to be properly installed in head.
3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
4. All fittings to be flanged.
5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
6. All choke and fill lines to be securely anchored especially ends of choke lines.
7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
8. Kelly cock on Kelly.
9. Extension wrenches and hands wheels to be properly installed.
10. Blow out preventer control to be located as close to driller's position as feasible.
11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

Closed Loop Operation & Maintenance Procedure

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

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

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

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

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

This equipment will be maintained 24 hrs./day by solids control personnel and or rig crews that stay on location.

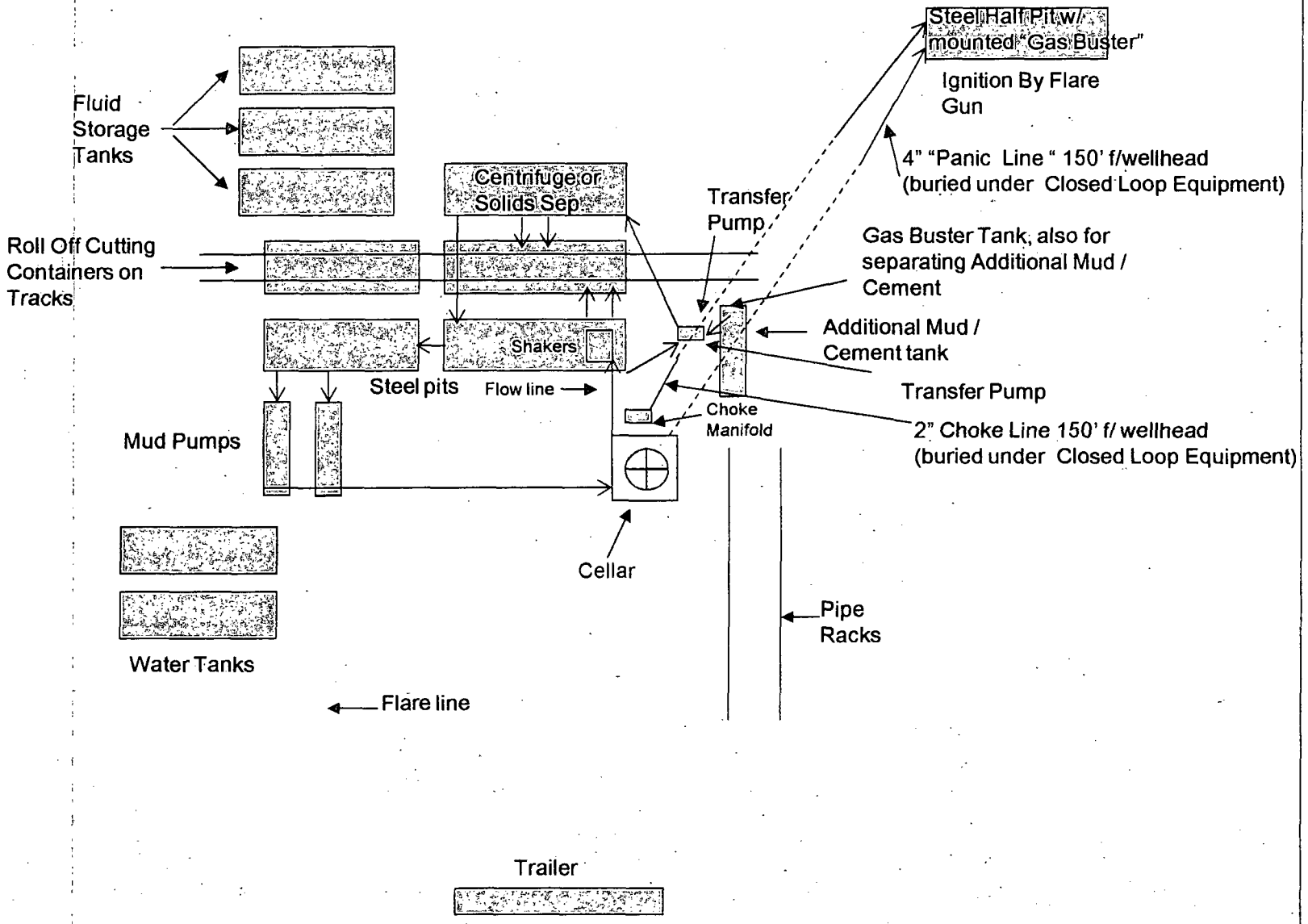
Cuttings will be hauled to either:

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

dependent upon which rig is available to drill this well.

COG Operating LLC

Closed Loop Equipment Diagram



COG Operating LLC

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards an characteristics of hydrogen sulfide (H2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H2S detectors alarms warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile tubular are to be used, personnel well be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. **The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.**

II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

1. **Well Control Equipment:**

   A. Flare line.

   B. Choke manifold with minimum of one remotely operated choke.

   C. Closed Loop Blow Down Tank

   D. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

   E. Auxiliary equipment may include if applicable: mud-gas separator, annular preventer & rotating head.

2. **Protective equipment for essential personnel:**

   A. SCBA (Self contained breathing apparatus) 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. **H2S detection and monitoring equipment:**

   A. Portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

4. **Visual warning systems:**

   A. Wind direction indicators as shown on well site diagram.

   B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

5. **Mud program:**

   A. The mud program has been designed to minimize the volume of H2S circulated to surface. Proper mud weight, safe drilling practices, and the use of H2S scavengers will minimize hazards when penetrating H2S bearing zones.

6. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

   B. All elastomers used for packing and seals shall be H2S trim.

7. **Communication:**

   A. Radio communications in company vehicles including cellular telephone and 2-way radio.

   B. Land line (telephone) communication at Office.

8. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

EXHIBIT #7

WARNING

YOU ARE ENTERING AN H_2S

AUTHORIZED PERSONNEL ONLY

1. BEARDS OR CONTACT LENSES NOT ALLOWED
2. HARD HATS REQUIRED
3. SMOKING IN DESIGNATED AREAS ONLY
4. BE WIND CONSCIOUS AT ALL TIMES
5. CHECK WITH COG OPERATING FOREMAN AT

COG OPERATING LLC
1-432-683-7443
1-575-746-2010

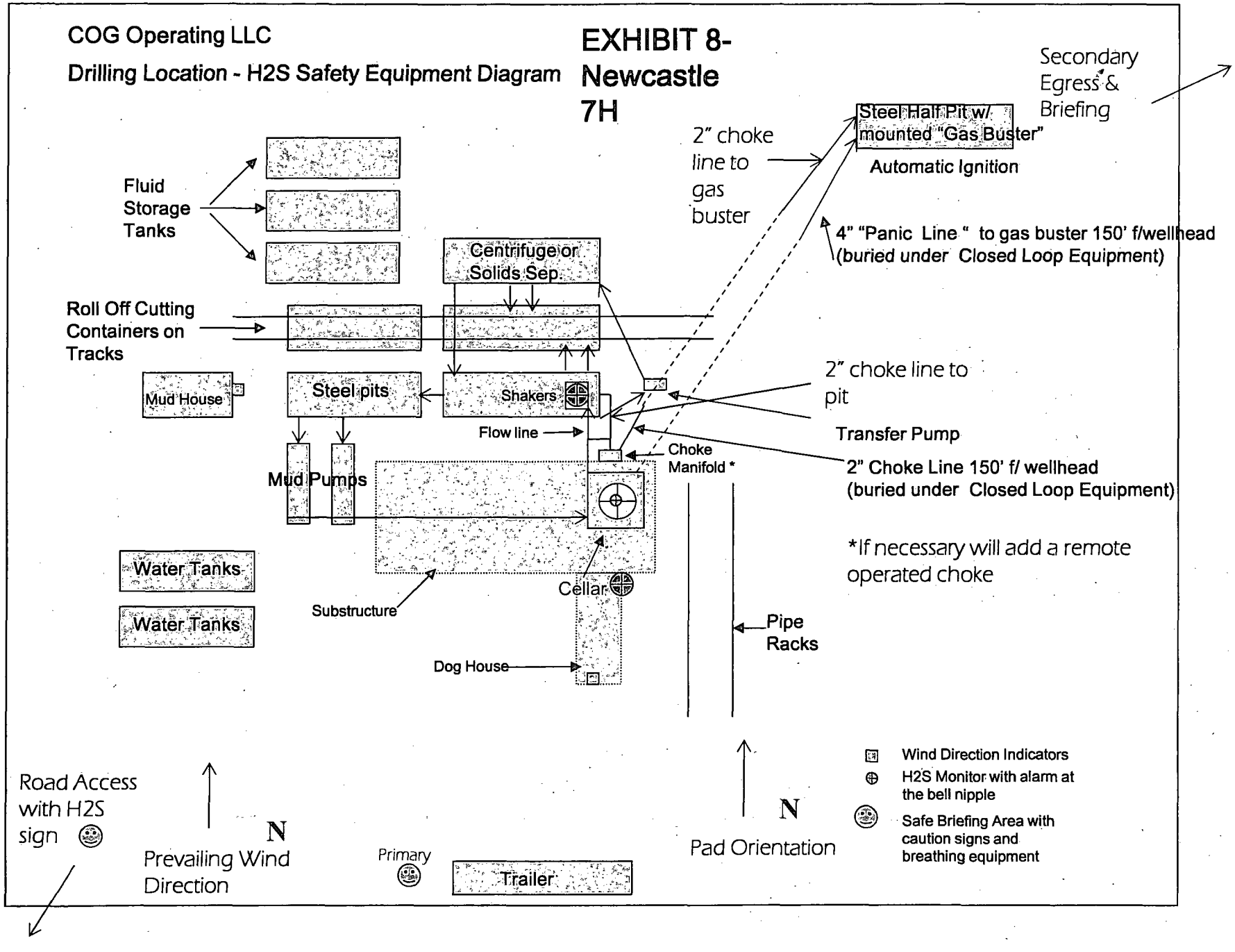
EDDY COUNTY EMERGENCY NUMBERS
ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

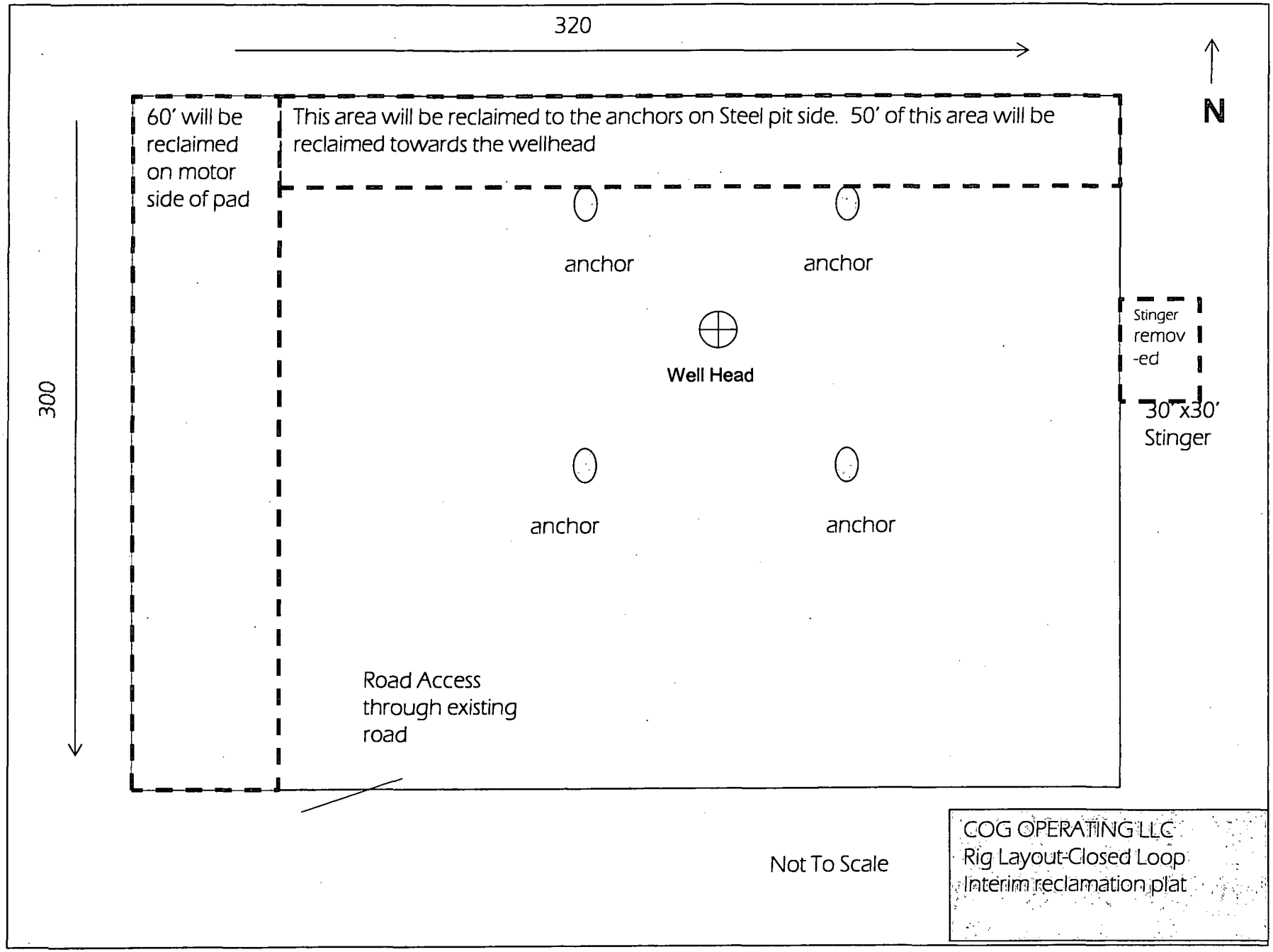
LEA COUNTY EMERGENCY NUMBERS
HOBBS FIRE DEPT. 575-397-9308
HOBBS POLICE DEPT. 575-397-9285
LEA CO. SHERIFF DEPT. 575-396-1196

COG Operating LLC

Drilling Location - H2S Safety Equipment Diagram

EXHIBIT 8- Newcastle 7H




320
N
60' will be reclaimed on motor side of pad
This area will be reclaimed to the anchors on Steel pit side. 50' of this area will be reclaimed towards the wellhead
anchor
anchor
Stinger removed
Well Head
300
30' x30' Stinger
anchor
anchor
Road Access through existing road
Not To Scale
COG OPERATING LLC
Rig Layout-Closed Loop
Interim reclamation plat

Surface Use & Operating Plan

Newcastle 6 Fed Com PDK 7H

- Surface Tenant: Bogle Farms, Lewis Derrick, P O Box 441, Artesia, NM 88211.
- New Road: approx. 297.27'
- Flow Line: approx. 0.4 mi
- Facilities: Chimay 6 Fed Com LBB 6H Federal Tank Battery

Well Site Information

V Door: East

Topsoil: West

Interim Reclamation: West/North

Notes

-Staked to share pad with the Churchmouse 1 Fed Com LBB 7H

Onsite: 2/22/2013Tanner Nygren(BLM), Caden Jameson (COG), Gary Box (P.C.)

SURFACE USE AND OPERATING PLAN

1. Existing & Proposed Access Roads

A. The well site survey and elevation plat for the proposed well is attached with this application. It was staked by Prosperity Consultants, LLC, Midland, TX.

B. All roads to the location are shown in the Vicinity Map. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary. The road route to the well site is depicted in Vicinity Map. The road highlighted in the Vicinity Map will be used to access the well.

C. Directions to location: See Vicinity Map.

D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease. Roads will be maintained according to specifications in section 2A of this Surface Use and Operating Plan.

2. Proposed Access Road:

The Elevation Plat shows that 297.27' of new access road will be required for this location. If any road is required it will be constructed as follows:

A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

B. The average grade will be less than 1%.

C. No turnouts are planned.

D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from the nearest BLM approved caliche pit.

3. Location of Existing Well:

The 1-mile Map shows all existing wells within a one-mile radius of this well.

As shown on this plat there are numerous wells producing from the San Andres and Yeso formations.

4. Location of Existing and/or Proposed Facilities:

A. COG Operating LLC does operate a production facility on this lease.

B. If the well is productive, contemplated facilities will be as follows:

1) Production will be sent to the Chimay 6 Fed Com 6H LBB 6H Federal Tank Battery located in Section 6 at approx. 2000' FSL & 330' FWL in T17S R30E. The facility location is shown in Exhibit #1.

2) The tank battery and facilities including all flow lines and piping will be installed according to API specifications.

3) Any additional caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche will be hauled from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.

4) Proposed flow lines, will follow an archaeologically approved route to the Chimay 6 Fed Com LBB 6H Federal Tank Battery located in Section 6 at approx. 2000' FSL & 330' FWL in T17S R30E. The flowline will be SDR 7 3" poly line laid on the surface and will be approximately 0.4 mi in length. See Exhibit 1.

5) It will be necessary to run electric power if this well is productive. Power will be provided by CVE and they will submit a separate plan and ROW for service to the well location.

6) If the well is productive, rehabilitation plans will include the following:

- The original topsoil from the well site will be returned to the location, and the site will be re-contoured as close as possible to the original site.

5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Vicinity Map. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

6. Source of Construction Materials and Location "Turn-Over" Procedure:

Obtaining caliche: The primary way of obtaining caliche to build locations and roads will be by "turning over" the location. This means, caliche will be obtained from the actual well sight. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2400 cu. Yards is max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:

A. The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.

B. An approximate 120' X 120' area is used within the proposed well site to remove caliche.

C. Subsoil is removed and piled alongside the 120' by 120' area within the pad site.

D. When caliche is found, material will be stock piled within the pad site to build the location and road.

E. Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.

F. Once well is drilled, the stock piled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stock piled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in attached plat.

- In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit.

7. Methods of Handling Water Disposal:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site.

B. Drilling fluids will be contained in steel mud pits.

C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.

D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.

E. Human waste and grey water will need to be properly contained and disposed of. Proper disposal and elimination of waste and grey water may include but are not limited to portable septic systems and/or portable waste gathering systems (i.e. portable toilets).

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

9. Well Site Layout:

A. The drill pad layout, with elevations staked by Prosperity Consultants, LLC, is shown in the Elevation Plat. Dimensions of the pad and pits are shown on the Rig Layout. V door direction is East. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.

B. The Rig Layout Closed-Loop exhibit shows the proposed orientation of closed loop system and access road. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

10. Plans for Restoration of the Surface:

A. Interim Reclamation will take place after the well has been completed. The pad will be downsized by reclaiming the areas not needed for production operations. The portions of the pad that are not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused to either build another pad site or for road repairs within the lease. The stockpiled topsoil will then be spread out reclaimed area and reseeded with a BLM approved seed mixture. In the event that the well must be worked over or maintained, it may be necessary to drive, park, and/or operate machinery on reclaimed land. This area will be repaired or reclaimed after work is complete.

B. Final Reclamation: Upon plugging and abandoning the well all caliche for well pad and lease road will be removed and surface will be recountoured to reflect its surroundings as much as possible. Caliche will be recycled for road repair or reused for another well pad within the lease. If any topsoil remains, it will be spread out and the area will be re-seeded with a BLM approved mixture and re-vegetated as per BLM orders.

11.Surface Ownership:

A. The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is multiple uses with the primary uses of the region for grazing of livestock and the production of oil and gas.

B. The surface tenant is Bogle Farms, Lewis Derrick, P.O. Box 441, Artesia, NM 88211.

C. The proposed road routes and surface location will be restored as directed by the BLM

12.Other Information:

A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.

B. There is no permanent or live water in the immediate area.

C. There are no dwellings within 2 miles of this location.

D. If needed, a Cultural Resources Examination is being prepared by Boone Arch Services of New Mexico, LLC. Carlsbad, NM, 88220. 506 E Chapman Rd. , phone # 575.887.7667 and the results will be forwarded to your office in the near future. Otherwise, **COG will be participating in the Permian Basin MOA Program.**

13. Bond Coverage:

Bond Coverage is Nationwide Bond # 000215

14. Lessee's and Operator's Representative:

The COG Operating LLC representative responsible for assuring compliance with the surface use plan is as follows:

Jim Evans	Ray Peterson
Drilling Superintendent	Drilling Manager
COG Operating LLC	COG Operating LLC
One Concho Center	One Concho Center
600 W. Illinois	600 W. Illinois
Midland, TX 79701	Midland, TX 79701
Phone (432) 685-4304 (office)	Phone (432) 685-4304 (office)
(432) 221-0346 (business)	(432) 818-2254 (business)

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 made 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 7th day of May, 2013.

Signed: Carl Bird

Printed Name: Carl Bird

Position: Sr. Drilling Engineer

Address: One Concho Center, 600 W. Illinois, Midland, Texas 79701

Telephone: (432) 683-7443

Field Representative (if not above signatory): Same

E-mail: cbird@concho.com

TERM ASSIGNMENT

MEWBOURNE OIL COMPANY, MEWBOURNE ENERGY PARTNERS 09-A, L.P., 3MG CORPORATION, CWM 2000-B, LTD., MEWBOURNE DEVELOPMENT CORPORATION AND CWM 2000-B II, LTD., whose address is P.O. Box 7698, Tyler, Texas 75711-7698, hereinafter referred to as "Assignor", for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby GRANT, BARGAIN, SELL, TRANSFER, ASSIGN and CONVEY unto **COG OPERATING LLC**, whose address is One Concho Center, 600 W. Illinois Ave., Midland, Texas 79701, hereinafter referred to as "Assignee", all of Assignor's interest in and to the oil and gas leases described in Exhibit "A" attached hereto and made a part hereof (hereinafter referred to as the "Leases") INSOFAR as the Leases cover the lands described in said Exhibit "A", together with all rights and privileges thereunder or appurtenant thereto. The leases assigned hereby are sometimes referred to hereinafter as the "Assigned Interest".

This Assignment shall be for a term of two (2) years from the effective date hereof, hereinafter called "Primary Term", and as long thereafter as oil and/or gas is produced from said land or lands pooled therewith, subject to the terms and conditions contained herein.

I.

This Assignment is made and accepted subject to, and Assignee hereby assumes its proportionate share of any and all overriding royalties, payments out of production, and other burdens or encumbrances to which the Leases may be subject, INSOFAR as such overriding royalties, payments out of production, and other burdens and encumbrances of record covering and affecting the Assigned Interest.

II.

This Assignment and all rights, reservations and covenants in connection herewith shall be considered covenants running with the lands and shall inure to and be binding upon the parties hereto, their heirs, personal representatives, successors and assigns.

III.

If, from time to time after the expiration of (i) the Primary Term or (ii) the hereinafter described continuous development program, whichever occurs later, production from a well drilled hereunder should for any reason cease, Assignee shall have the right at any time within sixty (60) days after the date of cessation of production to (a) resume production and thereby continue this Assignment in full force and effect as to all of the Assigned Interest then held under this Assignment or (b) commence drilling or reworking operations in an effort to make the Assigned Interest or lands pooled or communitized therewith again produce, in which event this Assignment shall remain in full force and effect as to all of the Assigned Interest then held under this Assignment as long as such drilling or reworking operations are being conducted in good faith without lapse of more than sixty (60) consecutive days between cessation of drilling or reworking operations and their recommencement whether on the same well or on different wells successively. If as a result of any such drilling or reworking operations, oil, gas or associated liquid or gaseous hydrocarbons is found and produced or the production of any of them is restored from the Assigned Interest then held under this Assignment, or on lands pooled therewith, this Assignment shall continue in force so long as any of them is produced hereunder or this Assignment is otherwise being maintained as herein provided.

IV.

If Assignee has drilled and completed on the Leases, or lands pooled therewith, a well or wells capable of producing oil and/or gas in paying quantities within the Primary Term of this Assignment, or if Assignee is engaged in actual drilling operations at the expiration of the Primary Term which drilling operations result in the completion of a well as a producer or abandonment as a dry hole, Assignee shall have the option, but not the obligation, to conduct a continuous development program on the Leases. If Assignee elects to conduct such a continuous drilling program, Assignee shall then commence the drilling of a well on the Leases, or lands pooled with the Leases, within one hundred and eighty (180) days from the expiration of the Primary Term of this Assignment or one hundred and eighty (180) days from completion or abandonment of any well or wells drilled through the expiration of the Primary Term of this Assignment, whichever is the later date. Thereafter, not more than one hundred and eighty (180) days shall elapse between completion of one (1) well as a well capable of producing oil and/or gas in paying quantities or plugging and abandoning as a dry hole and commencement of actual drilling operations on the next succeeding well. It is understood and agreed that completion shall mean the date of completion as filed on the NMOCD form C-105 or the date the well is plugged and abandoned. At such time as Assignee (i) fails to commence said continuous development program, (ii)

ATTN J GEORGE/ 1CC-7TH FL #757
COG OPERATING LLC
600 W ILLINOIS AVE

EXHIBIT "A"

Attached to and made a part of that certain Term Assignment by and between **Mewbourne Oil Company, et al.**, as Assignor, and **COG OPERATING LLC**, as Assignee, made effective June 1, 2013.

Oil and Gas Leases and Lands subject to this Term Assignment:

Lease No. 1

Serial No.: NMNM 7752 (Segregated out of Base Lease LC 028785).
Lessor: United States of America.
Lessee: Louis J. Root.
Dated: December 31, 1938.
Land Covered: Insofar and only insofar as said lease covers:
Township 17 South, Range 29 East, N.M.P.M.
Section 1: SW/4NE/4 and W/2SE/4, from a depth below 5000 feet beneath the surface to the top of the Abo formation, containing 120 acres, more or less.

Lease No. 2

Serial No.: NMNM 7754 (Segregated out of Base Lease LC 028785).
Lessor: United States of America.
Lessee: Louis J. Root.
Dated: December 31, 1938.
Land Covered: Insofar and only insofar as said lease covers:
Township 17 South, Range 29 East, N.M.P.M.
Section 1: SE/4SE/4, from a depth below 5000 feet beneath the surface to the top of the Abo formation, containing 40 acres, more or less.

Lease No. 3

Serial No.: NM 013814.
Lessor: United States of America.
Lessee: Hoover H. Wright.
Dated: September 1, 1958.
Land Covered: Insofar and only insofar as said lease covers:
Township 17 South, Range 29 East, N.M.P.M.
Section 1: Lot 1 and SE/4NE/4, from a depth below 2938 feet beneath the surface to the top of the Abo formation, containing 80.01 acres, more or less.

EXHIBIT "B"

Attached to and made a part of that certain Term Assignment by and between **Mewbourne Oil Company, et al.**, as Assignor, and **COG OPERATING LLC**, as Assignee, made effective June 1, 2013.

GEOLOGICAL REQUIREMENTS

MEWBOURNE OIL COMPANY
P. O. BOX 7698, TYLER, TX 75711
3901 S. BROADWAY, TYLER, TX 75701

Phone: (903) 561-2900
Fax: (903) 561-1870

Ladies and Gentlemen:

Please provide the following information to Mewbourne Oil Company as soon as such information becomes available:

Copies	Item	To the attention of:
1	Daily Drilling & Completion Reports by e-mail.	tylgeo@mewbourne.com midland@mewbourne.com
1	Daily Mud Log Report by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Geological Prognosis (if prepared) by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Well Logs (Field Prints), LAS File, including any MWD Logging by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Cased Hole Logs (Final Prints) by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Directional or Horizontal Drilling Survey Digital Data by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Daily Production Reports (first 60 days) on weekly basis by e-mail.	tylgeo@mewbourne.com drobison@mewbourne.com
1	Gas/Oil Ratio, Open Flow Test, Shut-In Test, Bottom Hole Pressure Test, Reservoir Fluid or Gas Analysis by e-mail.	tylgeo@mewbourne.com drobison@mewbourne.com
1	Drill Stem Test Reports & Charts – with water and gas analysis by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
1	Core Analysis by e-mail.	tylgeo@mewbourne.com midgeo@mewbourne.com
2	Electric Logs (Final Prints) mailed to above address.	Linda Stafford, Exploration Dept.
2	Final Mud Log Report mailed to above address.	Linda Stafford, Exploration Dept.
2	Cased Hole Logs (Final Prints) mailed to above address.	Linda Stafford, Exploration Dept.
1	Location Plat Survey mailed to above address.	Janet Burns, Engineering Dept.
1	State and Federal Forms (Drilling & Completion) mailed to above address.	Janet Burns, Engineering Dept.
1	Copy of Gas Contract (jurisdictional filing forms, interim collection notices, FERC final determination) mailed to above address.	Debbie Shattuck, Engineering Dept.

RECEPTION NO: 1308760 STATE OF NEW MEXICO, COUNTY OF EDDY
RECORDED 08/12/2013 8:42 AM
BOOK 0946 PAGE 0129
DARLENE ROSPRIM, COUNTY CLERK

COUNTY CLERK SEAL COUNTY, NEW MEXICO

3MG CORPORATION

By: _____
J. Roe Buckley
Vice President

CWM 2000-B, LTD.

By: _____
Curtis W. Mewbourne, Manager
CWM 2000-B Company, LLC, General Partner

CWM 2000-B II, LTD.

By: _____
Curtis W. Mewbourne, Manager
CWM 2000-B Company, LLC, General Partner

MEWBOURNE ENERGY PARTNERS 09-A, L.P.

By: _____
James Allen Brinson, Attorney-in-Fact for Mewbourne Development Corporation, Managing General Partner of Mewbourne Energy Partners 09-A, L.P.

ASSIGNEE:

COG OPERATING LLC

By: Mona D. Ables
Mona D. Ables
Vice President of Land

SD
BHG

ACKNOWLEDGMENTS

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **James Allen Brinson, Attorney-in-Fact for Mewbourne Oil Company**, a Delaware corporation, on behalf of the corporation.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Julie Ann Scheuber
Notary Public

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **James Allen Brinson, Attorney-in-Fact for Mewbourne Development Corporation**, a Delaware corporation, on behalf of the corporation.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Julie Ann Scheuber
Notary Public

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **J. Roe Buckley, Vice President for 3MG Corporation**, a Texas Corporation, on behalf of said corporation.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Julie Ann Scheuber
Notary Public

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **Curtis W. Mewbourne, Manager of CWM 2000-B Company, LLC, General Partner of CWM 2000-B, LTD.** a Texas Limited Partnership.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Julie Ann Scheuber
Notary Public

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **Curtis W. Mewbourne, Manager of CWM 2000-B Company, LLC, General Partner of CWM 2000-B II, LTD**, a Texas Limited Partnership.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Notary Public

STATE OF TEXAS §

COUNTY OF SMITH §

The foregoing instrument was acknowledged before me this 22 day of July, 2013, by **James Allen Brinson, Attorney-in-Fact for Mewbourne Development Corporation, a Delaware Corporation, Managing General Partner of Mewbourne Energy Partners 09-A, L.P.**, on behalf of the corporation.

JULIE ANN SCHEUBER
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 9-23-2013

Notary Public

STATE OF TEXAS §

COUNTY OF MIDLAND §

This instrument was acknowledged before me this 29 day of July 2013, by **Mona D. Ables, Vice President of Land for COG Operating LLC**, a Delaware limited liability company, on behalf of said limited liability company.

My Commission Expires:
November 20, 2016

Notary Public

EMILY BOURLAND
Notary Public, State of Texas
My Commission Expires
November 20, 2016

once commenced, fails to continue same, or (iii) upon the expiration of the two (2) year term of this Assignment, whichever occurs later, this Assignment shall automatically terminate as to (a) all land not included within a NMOCD approved spacing or proration unit assigned to each well then producing or capable of producing oil or gas in paying quantities.

V.

Assignee is hereby granted the right to pool or communitize the leases and Assigned Interest, or any part of horizon therein, with other lands if such pooling or communitization is necessary in order to comply with the pooling and spacing rules and orders of the New Mexico Oil Conservation Commission or any other governmental authority having jurisdiction over same. Notwithstanding anything contained in this Assignment to the contrary, operations commenced or conducted by Assignee on lands other than those covered by the Leases but which are effectively pooled or communitized with the Leases and the Assigned Interest or any part or horizon therein as allowed or prescribed by governmental authority, shall be considered to be located on the Assigned Interest for the purposes of this Assignment.

VI.

ASSIGNEE HEREBY AGREES TO INDEMNIFY AND DEFEND ASSIGNOR, ITS SUCCESSORS AND ASSIGNS, FROM AND AGAINST ALL DAMAGES, LOSSES, CLAIMS, DEMANDS AND CAUSES OF ACTION, INCLUDING, BUT NOT LIMITED TO, ANY CIVIL FINES, PENALTIES, EXPENSES, COSTS OF CLEAN-UP AND PLUGGING LIABILITIES ARISING SOLELY FROM ANY WELL OR WELLS DRILLED BY ASSIGNEE LOCATED ON THE ASSIGNED INTEREST OR LANDS POOLED THEREWITH FROM AND AFTER THE EFFECTIVE DATE HEREOF.

VII.

Assignee agrees to provide Assignor all data and information set out on Exhibit "B" attached hereto immediately upon availability to Assignee.

TO HAVE AND TO HOLD the Assigned Interest unto Assignee, Assignee's heirs, personal representatives, successors and assigns, subject to all of the express and implied covenants and obligations of the Leases and this Assignment. This Assignment is specifically made without warranty of title either express or implied.

This Assignment is executed by both Assignor and Assignee on the date of acknowledgment of each party's signature but shall be effective for all purposes as of June 1, 2013.

ASSIGNOR:

MEWBOURNE OIL COMPANY

By: _____
James Allen Brinson
Attorney-in-Fact

MEWBOURNE DEVELOPMENT CORPORATION

By: _____
James Allen Brinson
Attorney-in-Fact

STATE OF Texas §

§

COUNTY OF Midland §

The foregoing instrument was acknowledged before me this 8th day of ~~February~~ March, 2013, by Gayle L. Burleson as Vice President of New Mexico of COG Operating LLC, a Delaware Limited Liability Company, on behalf of said company.

(Seal, if any)

Jennifer Jo George
Notary Public

Title (and Rank) Land Assistant

My Commission Expires: Feb. 20, 2016

JENNIFER JO GEORGE
Notary Public, State of Texas
My Commission Expires
February 20, 2016

EXHIBIT "A"

Attached to and made a part of that certain Transfer of Operating Rights in a Lease for Oil and Gas or Geothermal Resources from **Chase Oil Corporation, et al**, as Transferors to **COG Operating, LLC**, as Transferee dated January 11, 2013 but effective January 1, 2013.

Lease Serial No.: **NMNM-117555**

TRANSFERORS:

	OWNED	CONVEYED	RETAINED
CHASE OIL CORPORATION	85%	85%	-0-

By: _____ Date: 1-11-2013
Travis K. Lanning, Attorney-in-Fact

	OWNED	CONVEYED	RETAINED
ROBERT C. CHASE and DEB E. CHASE	5%	5%	-0-

By: _____ Date: 1-18-13
Robert C. Chase

By: _____ Date: 1.18.13
Deb E. Chase

	OWNED	CONVEYED	RETAINED
VENTANA MINERALS LLC	5%	5%	-0-

By: _____ Date: 1-14-2013
Richard L. Chase, Manager

	OWNED	CONVEYED	RETAINED
DIAKAN MINERALS LLC	5%	5%	-0-

By: _____ Date: 1-14-2013
Courtney Lanning, Attorney-in-Fact

(LFN# NM1813A)

STATE OF NEW MEXICO §
§
COUNTY OF EDDY §

The foregoing instrument was acknowledged before me this 11th day of January, 2013, by Travis K. Lanning, Attorney-in-Fact for **CHASE OIL CORPORATION**, a New Mexico corporation.

My commission expires: 6-6-2013

Doneta S. Hopper
Notary Public

OFFICIAL SEAL
DONETA S. HOPPER
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires 6-6-2013

STATE OF NEW MEXICO §
§
COUNTY OF EDDY §

The foregoing instrument was acknowledged before me this 18th day of January, 2013, by **ROBERT C. CHASE and his wife, DEB E. CHASE.**

My commission expires: ~~6-6-2013~~ 2-15-2013

Staci D. Sanders
Notary Public

OFFICIAL SEAL
STACI D. SANDERS
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires: 2-15-2013

STATE OF NEW MEXICO §
§
COUNTY OF EDDY §

The foregoing instrument was acknowledged before me this 14th day of January, 2013, by Richard L. Chase, Manager of **VENTANA MINERALS LLC**, a New Mexico limited liability company.

My commission expires: 6-6-2013

Doneta S. Hopper
Notary Public

OFFICIAL SEAL
DONETA S. HOPPER
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires 6-6-2013

(LFN# NM1813A)

STATE OF NEW MEXICO §
§
COUNTY OF EDDY §

The foregoing instrument was acknowledged before me this 14th day of January, 2013, by Courtney Lanning, Attorney-in-Fact of **DIAKAN MINERALS LLC**, a Texas limited liability company.

My commission expires: 6-6-2013

Doneta S. Hopper
Notary Public

OFFICIAL SEAL
DONETA S. HOPPER
NOTARY PUBLIC - STATE OF NEW MEXICO
My commission expires 6-6-2013

ADDRESSES FOR TRANSFERORS:

CHASE OIL CORPORATION
P. O. Box 1767
Artesia, NM 88202-1767

ROBERT C. and DEB E. CHASE
P. O. Box 297
Artesia, NM 88202-0297

VENTANA MINERALS LLC
P. O. Box 359
Artesia, NM 88202-0359

DIAKAN MINERALS LLC
P. O. Box 693
Artesia, NM 88202-0693

RECEPTION NO: 1308804 STATE OF NEW MEXICO, COUNTY OF EDDY
RECORDED 08/13/2013 8:20 AM
BOOK 0946 PAGE 0292 Bradley
DARLENE ROSPRIM, COUNTY CLERK

BOOK 940 PAGE 0292

Form 3000-3a
(May 2006)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LFN #NM1813A

FORM APPROVED
OMB NO. 1004-0034
Expires: April 30, 2009

BLM NMSO
SANTA FE
RECEIVED

MAR 25 2013

PAID
RECEIPT#

TRANSFER OF OPERATING RIGHTS (SUBLEASE) IN A LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES

Mineral Leasing Act of 1920 (30 U.S.C. 181 et seq.)
Act for Acquired Lands of 1947 (30 U.S.C.- 351-359)
Geothermal Steam Act of 1970 (30 U.S.C. 1001-1025)
Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U.S.C. 6508)

Lease Serial No.

NMNM-117555

Type or print plainly in ink and sign in ink.

PART A- TRANSFER

1. Transferee (Sublessee)* **COG OPERATING, LLC**
Street **One Concho Center, 600 West Illinois Avenue**
City, State, ZIP Code **Midland, TX 79701**

1a. Transferor **CHASE OIL CORPORATION, etal**

*If more than one transferee, check here ☐ and list the name(s) and address(es) of all additional transferees on page 2 of this form or on a separate attached sheet of paper.

This transfer is for: *(Check one)* ☒ Oil & Gas Lease, or ☐ Geothermal Lease

Interest conveyed: *(Check one or both, as appropriate)* ☒ Operating Rights (sublease) ☐ Overriding Royalty, payment out of production or other similar interests or payments

2. This transfer (sublease) conveys the following interest:

Land Description	Percent of Interest			Percent of Overriding Royalty or Similar Interests	
Additional space on page 2, if needed. Do not submit documents or agreements other than this form; such documents or agreements shall only be referenced herein.	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
a	b	c	d	e	f
T-17S, R-30E, N.M.P.M., Eddy County, NM Section 06: E/2SE/4, SW/4SE/4 Containing 120.00 acres, more or less. All formations except the Grayburg Formation as defined by Sec. 2F of the Square Lake 12 Unit.	100%	100%	0%	*	As of Record

* Assignor reserves an overriding royalty interest equal to the difference between 20.5% and existing leasehold burdens. The reserved overriding royalty interest shall be proportionately reduced if Assignor owns or conveys less than the entire leasehold estate.

BLM RECOGNIZES ONLY THE ASSIGNMENT OF INTEREST, NOT THE CONDITIONS OF THE AGREEMENT

FOR BLM USE ONLY - DO NOT WRITE BELOW THIS LINE

THE UNITED STATES OF AMERICA

This transfer is approved solely for administrative purposes. Approval does not warrant that either party to this transfer holds legal or equitable title to this lease.

☒ Transfer approved effective APR - 1 2013

/s/Diane M. Ellenburg
By
Bureau of Land Management (BLM)

LAND LAW EXAMINER
FLUIDS ADJUDICATION TEAM
(Title)

JUL 23 2013
(Date)

(Continued on page 2)

J GEORGE/1CC 7TH FLOOR #757
COG OPERATING LLC
600 W ILLINOIS AVE
MIDLAND TX 79701-9808

Part A (Continued): ADDITIONAL SPACE for Names and addresses of additional transferees in Item No. 1, if needed, or for Land Description in Item 2, if needed.

PART B- CERTIFICATION AND REQUEST FOR APPROVAL

1. The transferor certifies as owner of an interest in the above designated lease that he/she hereby transfers to the above assignee(s) the rights specified above.
2. Transferee certifies as follows: (a) Transferee is a citizen of the United States; an association of such citizens: a municipality: or a corporation organized under the laws of the United States or of any State or territory thereof. For the transfer of NPR-A leases, transferee is a citizen, national, or resident alien of the United States or associations of such citizens, nationals, resident aliens or private; public or municipal corporations; (b) Transferee is not considered a minor under the laws of the State in which the lands covered by this transfer are located; (c) Transferee's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options), or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920, or 51,200 acres in any one State if this is a geothermal lease; and (d) All parties holding an interest in the transfer are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts; (e) Transferee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (f) Transferee is not in violation of sec. 41 of the Mineral Leasing Act.
3. Transferee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein. Applicable terms and conditions include, but are not limited to, an obligation to conduct all operations on the leasehold in accordance with the terms and conditions of the lease, to condition all wells for proper abandonment, to restore the leased lands upon completion of any operations as described in the lease, and to furnish and maintain such bond as may be required by the lessor pursuant to regulations 43 CFR 3104, 3134, or 3206.

For geothermal transfers, an overriding royalty may not be less than one-fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241).

I certify that the statements made herein by me are true, complete, and correct to the best of my knowledge and belief and are made in good faith.

Executed this 11th day of January 20 13 Executed this 8th day of ~~January~~ March 20 13

but effective 01-01-2013

Name of Transferor as shown on current lease **SEE ATTACHED EXHIBIT "A"** (Please type or print) **COG OPERATING, LLC**

Transferor _____ (Signature)
or
Attorney-in-fact _____ (Signature)

_____ (Transferor's Address)

_____ (City) _____ (State) _____ (Zip Code)

Transferee _____ (Signature)
or
Attorney -in-fact By: Gayle L. Burleson (Signature) Vice President of New Mexico

Title 18 U.S.C. Sec. 1001 makes 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 3)

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office

Refer to: 3160-3

To: AFM, Lands & Minerals, CFO
From: Geologist, CFO
Subject: Geologic Review of Application for Permit to Drill

COPY

Operator: COG Operating LLC

Well Name and Number: Newcastle 6 Federal Com PDK-7H

Potash: No

Location: SHL:1030'/S.& 0330'/S. SEC001 T017S, R029E.(SESE)

County Eddy **Lease Number:** LC061483 **APD Received:** 3-31-2014

Ground Level Elevation: 3678 **Surface Geology:** Qe/Qp-Eolian deposits/Piedmont alluvial deposits

TVD: 4474 **MD:** 9203 **BH Mud Weight:** 9.2

BHP: 2140 **MASP:** 1156

1. Geologic Marker Tops (from reports on surrounding wells):

Geologic Marker	WRIGHT A #001 3001502840 T17E R29E Sec 1 660FNL 660FEL Elevation Depth	APACHE FEDERAL #001 3001525092 T17E R30E Sec 6 1980FNL 870FEL Elevation Depth	SIX PACK FEDERAL COM #001 3001535131 T17E R30E Sec 6 1980FNL 1980FWL Elevation Depth	PINON FEDERAL COM #001 3001536041 T17E R30E Sec 6 950FSL 990FWL Elevation Depth	**Proposed Well** Newcastle 6 Federal Com PDK-7H T017S, R029E.(SESESEC001 1030'/S.& 0330'/S Unit Elevation Estimated Depth
Rustler	300	335	341	325	314
Top of Salt	490	595	560	500	474
Tansill	1015	1095	1065	1070	1039
Yates	1152	1210	1203	1200	1174
Seven Rivers	1400	1485	1454	1460	1439
San Andres	2738	2808	2782	2780	2734
Glorieta	-	4218	4210	4215	4179
ABO	-	6345	6300	6330	6299

2. Fresh Water Information

a. Fresh Water: 314

b. Fresh Water Remarks:

According to well data from the New Mexico Office of the State Engineer's Water Rights Reporting System, there is 1 250 foot well with no recorded water depth within a six-mile radius of the proposed project. The on-line oil and gas P&A well file list indicates water depths ranging from 346-458 feet within 3 miles of the proposed well. Since the Magenta Dolomite may not exist in some spots, usable water will be found in the alluvium above the Rustler Formation.

c. Water Basin: Roswell Water Basin

3. Recommended Casing Setting Depth

a. Surface Casing Depth: 350

b. Intermediate Casing Depth: 1090

c. 2nd Interm. Casing Depth

d. Casing Depth Remarks:

The operator proposes to set surface casing at 350 feet, which will adequately protect usable water zones. This is an acceptable set point. If salt is encountered, set casing at least 25 feet above the salt. The operator proposes to set intermediate casing at 1090 feet, which will be in the base of the Tansill Formation. This is an acceptable set pont.

4. Geologic Hazards

a. Cave/Karst Occurance:

b. Potential Cave/Karst Depth:

c. Possible Water Flows: Queen, Salado, Artesia Group,

d. Possible Lost Circulation: Rustler, San Andres, Grayburg, Artesia Group,

e. Possible Abnormal Pressure: NO

f. H2S within 1 mile: YES

g. H2S Remarks:

H2S has been reported within one-mile of the proposed project measuring 8000 ppm in the gas stream from the Undes S Empite Morrow Pool.

5. Additional Remarks

Geologist: Robert Salaz **Sign Off Date:** 6-11-2014

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Operating, LLC**
LEASE NO.:	**NMLC-061483**
WELL NAME & NO.:	**Newcastle 6 Federal Com PDK 7H**
SURFACE HOLE FOOTAGE:	**1030' FSL & 0010' FEL**
BOTTOM HOLE FOOTAGE	**0985' FSL & 0330' FEL Sec. 06, T. 17 S., R 30 E.**
LOCATION:	**Section 01, T. 17 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)

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 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, 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, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. 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. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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) 234-5909 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. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. 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.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

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 twenty-five (25) 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.

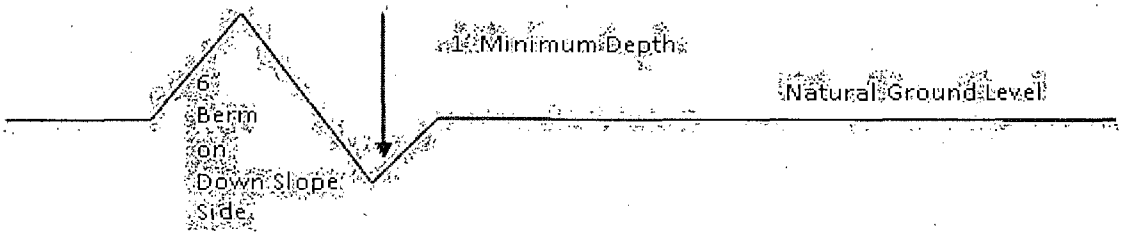
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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:

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

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route 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 cattleguards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted 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 fences.

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

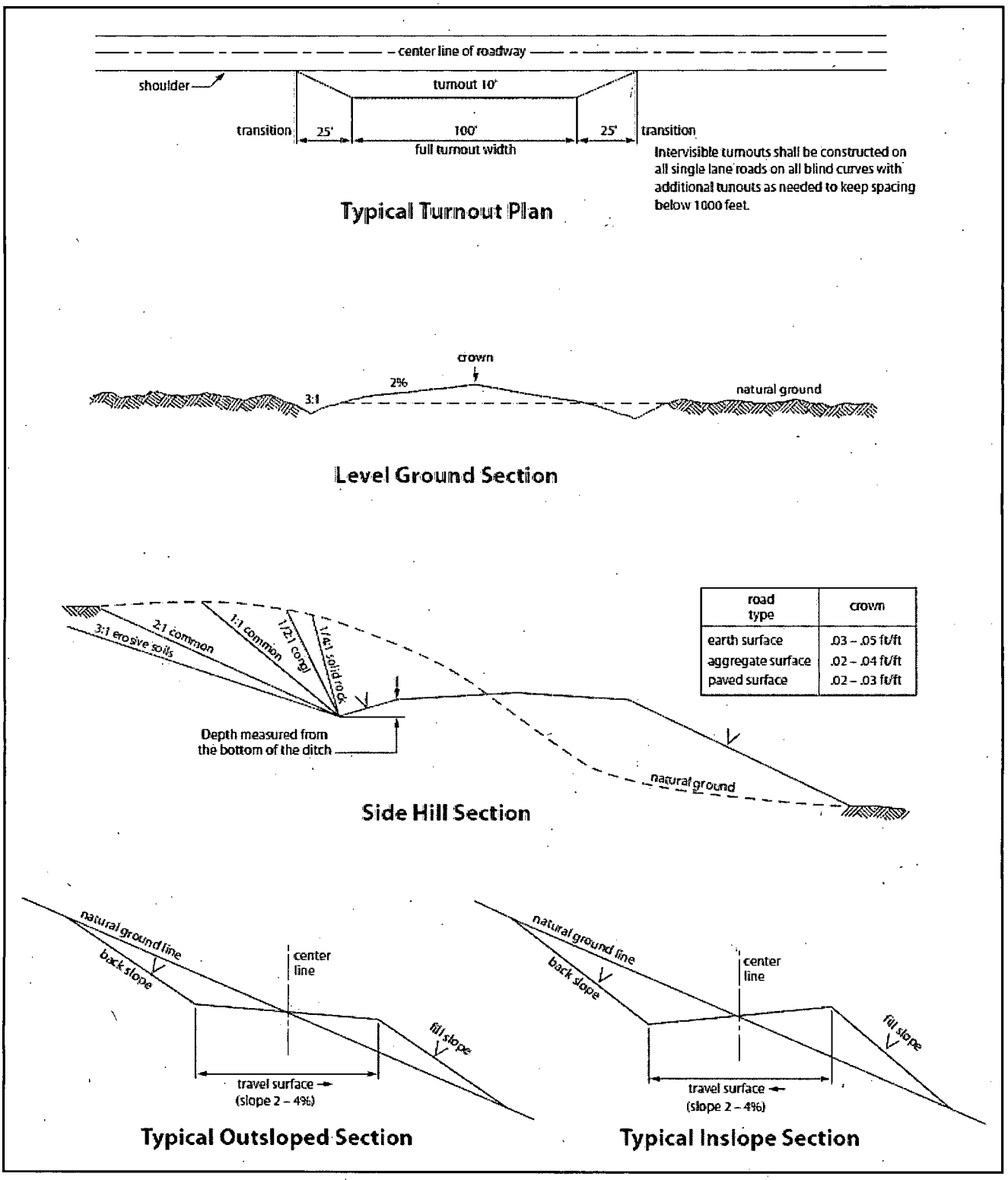


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Grayburg** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall 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 program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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

Wait on cement (WOC) time prior to drilling out 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. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Possibility of water flows in the Artesia group, Salado, and Queen.
Possibility of lost circulation in the Rustler, Artesia Group, Grayburg, and San Andres.

1. The **13-3/8** inch surface casing shall be set at approximately **350** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above 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:

Option #1:

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

Option #2:

Operator has proposed DV tool at depth of 400', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

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

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

Option #1:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Option #2:

Operator has proposed DV tool at depth of 4029', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range.

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve approved top of cement on the next stage.

b. Second stage above DV tool:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

4. 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 **2000 (2M)** psi **(2M annular or 2M BOP)**.

   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. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

   b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

   c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

   e. 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.**

   f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

JAM 062514

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.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

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** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder 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 will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation

measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy 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
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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