NM OIL CONSERVATION
ARTESIA DISTRICT
FEB 2 2015
OCD Artesia

14900

Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMLC-028731B
1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone	6. If Indian, Allotee or Tribe Name N/A
2. Name of Operator COG Operating LLC	7. If Unit or CA Agreement, Name and No. NMNM-111789X; Dodd Federal Unit
3a. Address One Concho Center, 600 W. Illinois Ave Midland, TX 79701	8. Lease Name and Well No. DODD FEDERAL UNIT #918H
3b. Phone No. *(include area code)* 432-685-4384	9. API Well No. 30-015- 42940
4. Location of Well *(Report location clearly and in accordance with any State requirements.*)* At surface SHL: 1650' FNL & 190' FEL, SEC 15, Unit H UNORTHODOX LOCATION At proposed prod. zone BHL: 1650' FNL & 330' FEL, SEC 14, Unit H	10. Field and Pool, or Exploratory Dodd; Glorieta-Upper Yeso
	11. Sec., T. R. M. or Blk. and Survey or Area Sec 14 & 15, T17S, R29E
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) 190'	16. No. of acres in lease 1480 / 17. Spacing Unit dedicated to this well 160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 433.6'	19. Proposed Depth TVD: 4770' MD: 9771' EOC:4850' TVD / 20. BLM/BIA Bond No. on file NMB000740; NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3608' GL	22. Approximate date work will start* 10/31/2014 / 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	Name *(Printed/Typed)* Kelly J. Holly	Date 06/19/2014
Title Permitting Tech		
Approved by *(Signature)* Steve Caffey	Name *(Printed/Typed)*	Date JAN 27 2015
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

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

(Continued on page 2)

*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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 18th day of September, 2013.

Signed: Carl Bird

Printed Name: Carl Bird

Position: 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

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- 42940	97917	Dodd; Glorieta Upper YEso

4 Property Code	5 Property Name	6 Well Number
308195	DODD FEDERAL UNIT	918H

7 OGRID No.	8 Operator Name	9 Elevation
229137	COG OPERATING, LLC	3608'

10 Surface Location

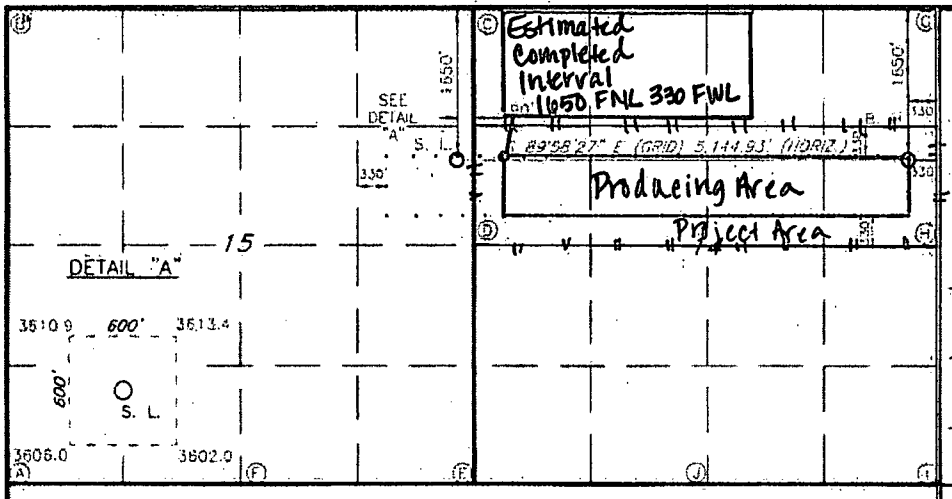
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	15	17-S	29-E		1650	NORTH	190	EAST	EDDY

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
H	14	17-S	29-E		1650	NORTH	330	EAST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division



16 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: 9-17-13

Kelly J. Holly
Printed Name

kholly@concho.com
E-mail Address

17 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.

7/25/13
Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

CORNER DATA
NAD 27 GRID - NM EAST

A: FND GLO BC 1914
N 664755.4 - E 580657.6

B: FND 1/2" REBAR
N 670039.5 - E 580645.6

C: FND 5/8" REBAR W/ AC ILLEG
N 670044.8 - E 585932.4

D: FND USGLO BC 1914
N 667404.9 - E 585938.6

E: FND USGLO BC 1914
N 664760.6 - E 585945.4

F: FND 1" IP W/BC BROKE OFF
N 664757.8 - E 583298.3

G: FND USGLO BC 1914
N 670041.9 - E 591216.3

H: FND 1 1/2" STL PIPE BENT OVER W/BC BROKE OFF
N 667403.0 - E 591222.1

I: FND 1" STEEL PIPE W/1/2" RBR INSIDE
N 664765.2 - E 591228.9

J: FND 1/2" REBAR W/STNS
N 664763.0 - E 588586.3

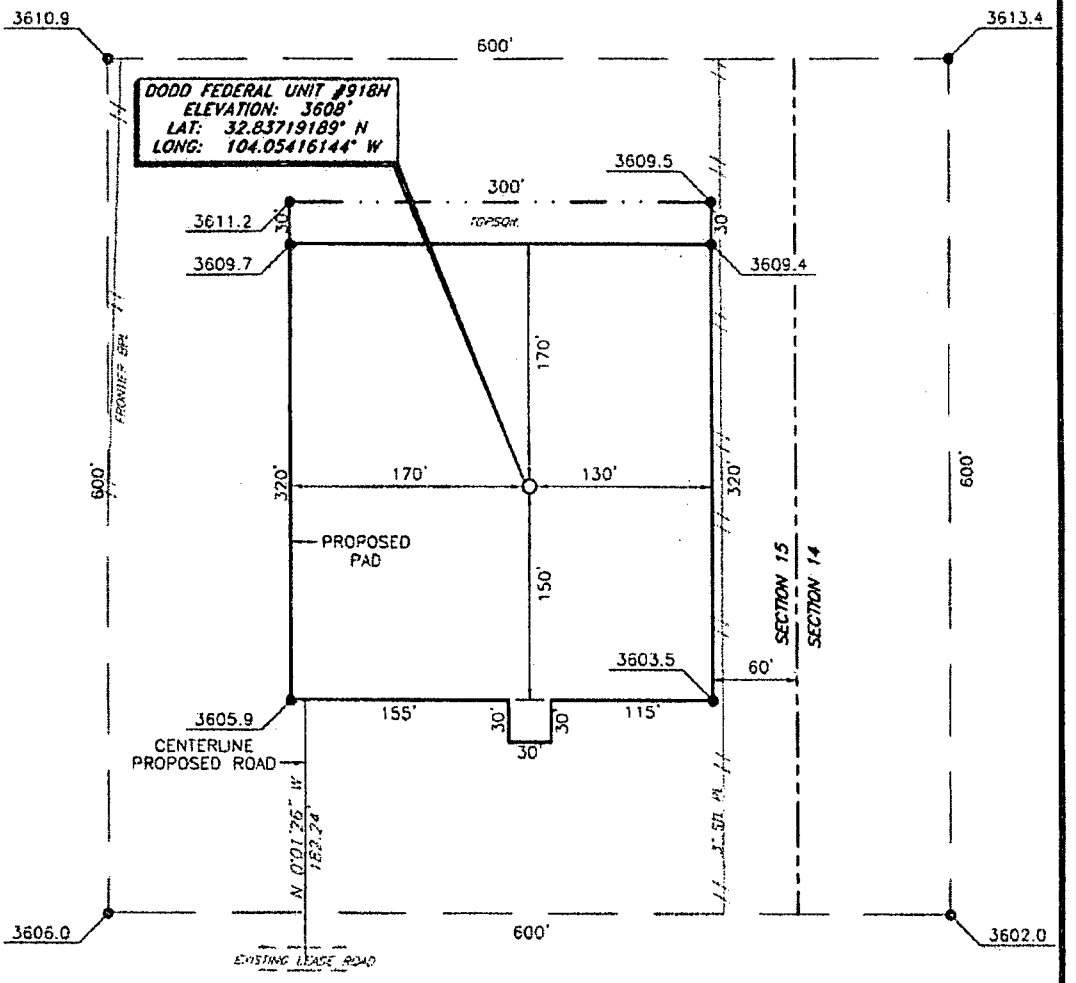
GEODETIC DATA
NAD 27 GRID - NM EAST

SURFACE LOCATION
N 665394.9 - E 585746.4
LAT: 32.83719159° N
LONG: 104.09416144° W

BOTTOM LOCATION
N 668392.5 - E 580690.0

COG OPERATING, LLC

Dodd Federal Unit #918H
(1650' FNL & 190' FEL)
Section 15, T-17-S, R-29-E,
N. M. P. M., Eddy Co., New Mexico



SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 27 – NM EAST
DISTANCES ARE GROUND

DIRECTIONS TO LOCATION

From the intersection of U. S. Hwy. No. 82 and County Road No. 214 (Barnaval Draw Rd.):

Go North on CR-214 approx. 140 feet;

Turn right on a lease road;

Go Northeast approx. 0.4 mile;

Turn left. Go North approx. 1.0 mile;

Location is approx. 325 feet East of existing lease road.

NO.	REVISION	DATE

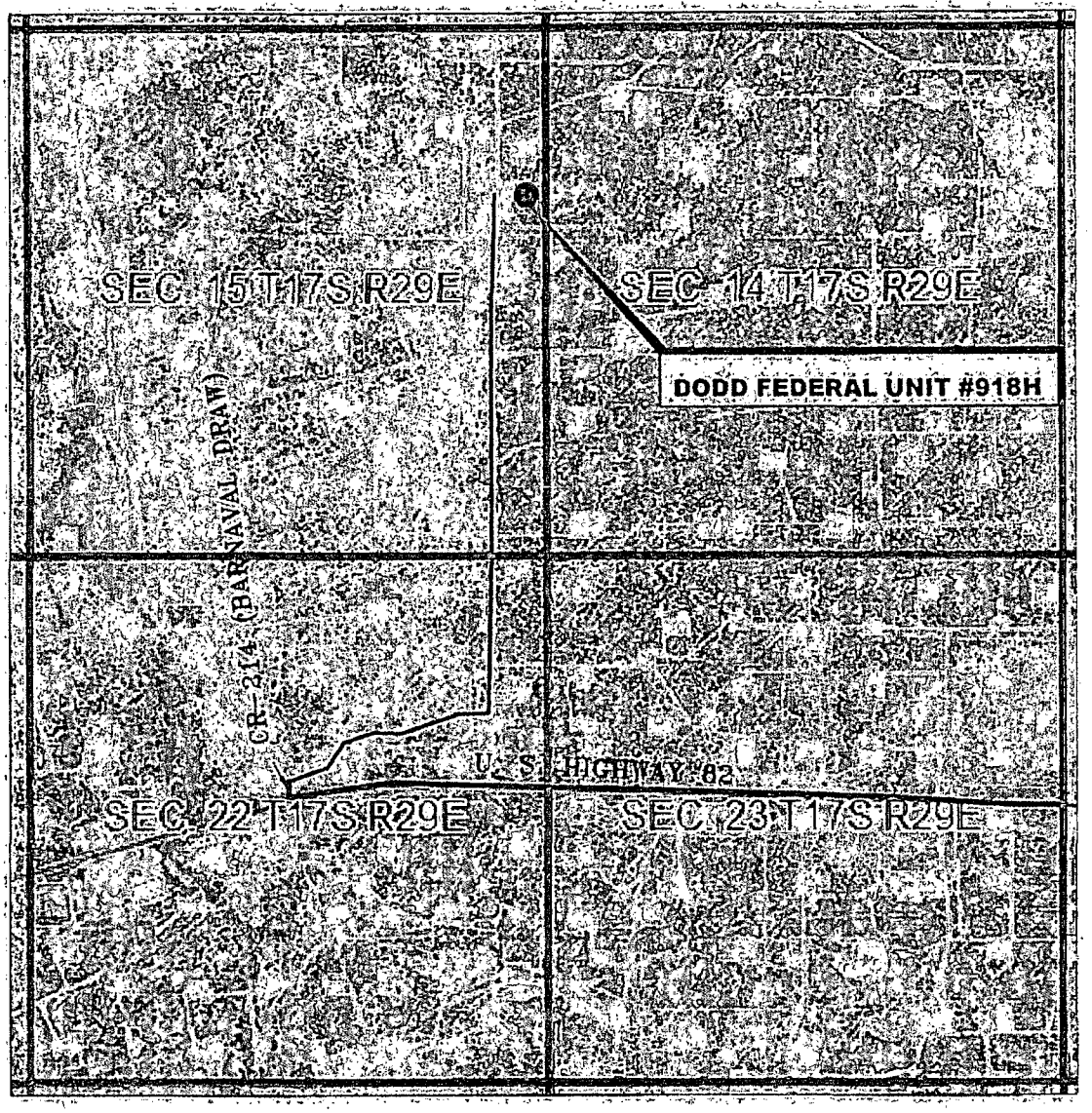
JOB NO.: LS130279
DWG. NO.: 130279PAD

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: 7/25/13
SURVEYED BY: CB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET : 1 OF 1

VICINITY MAP

NOT TO SCALE



SECTION 15, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Dodd Federal Unit.
WELL NO.: 918H

LOCATION: 1650' FNL & 190' FEL
ELEVATION: 3608'

NO.	REVISION	DATE

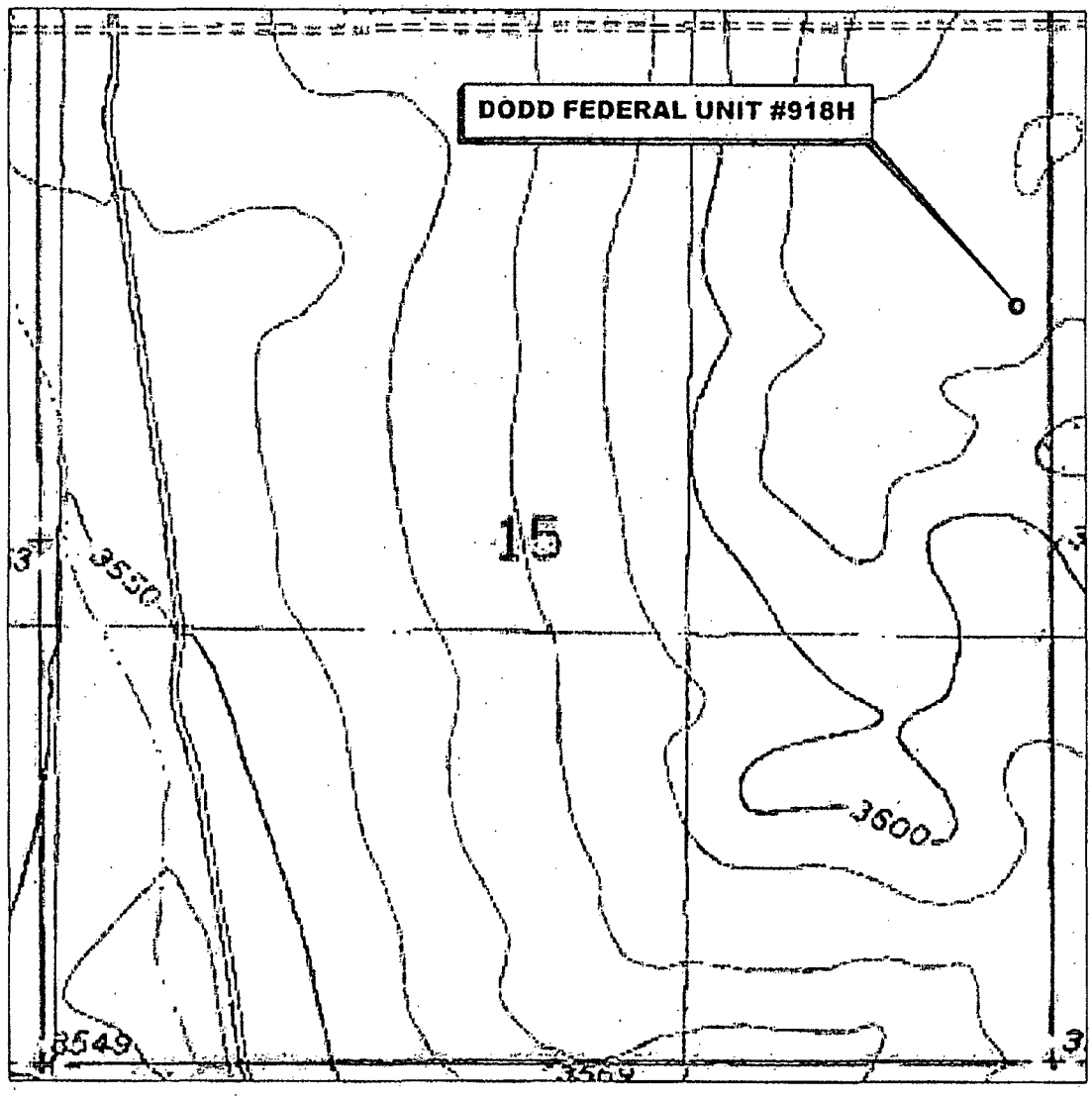
JOB NO.: LS130279
DWG. NO.: 130279VM

PROSPERITY CONSULTANTS, LLC

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

SCALE: NOT TO SCALE
DATE: 7/25/13
SURVEYED BY: GB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET: 1 OF 1

LOCATION VERIFICATION MAP



SECTION 15, TWP. 17 SOUTH, RGE. 29 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: COG Operating, LLC
LEASE: Dodd Federal Unit
WELL NO.: 918H
ELEVATION: 3608'

LOCATION: 1650' FNL & 190' FEL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Red Lake SE, NM (1955)

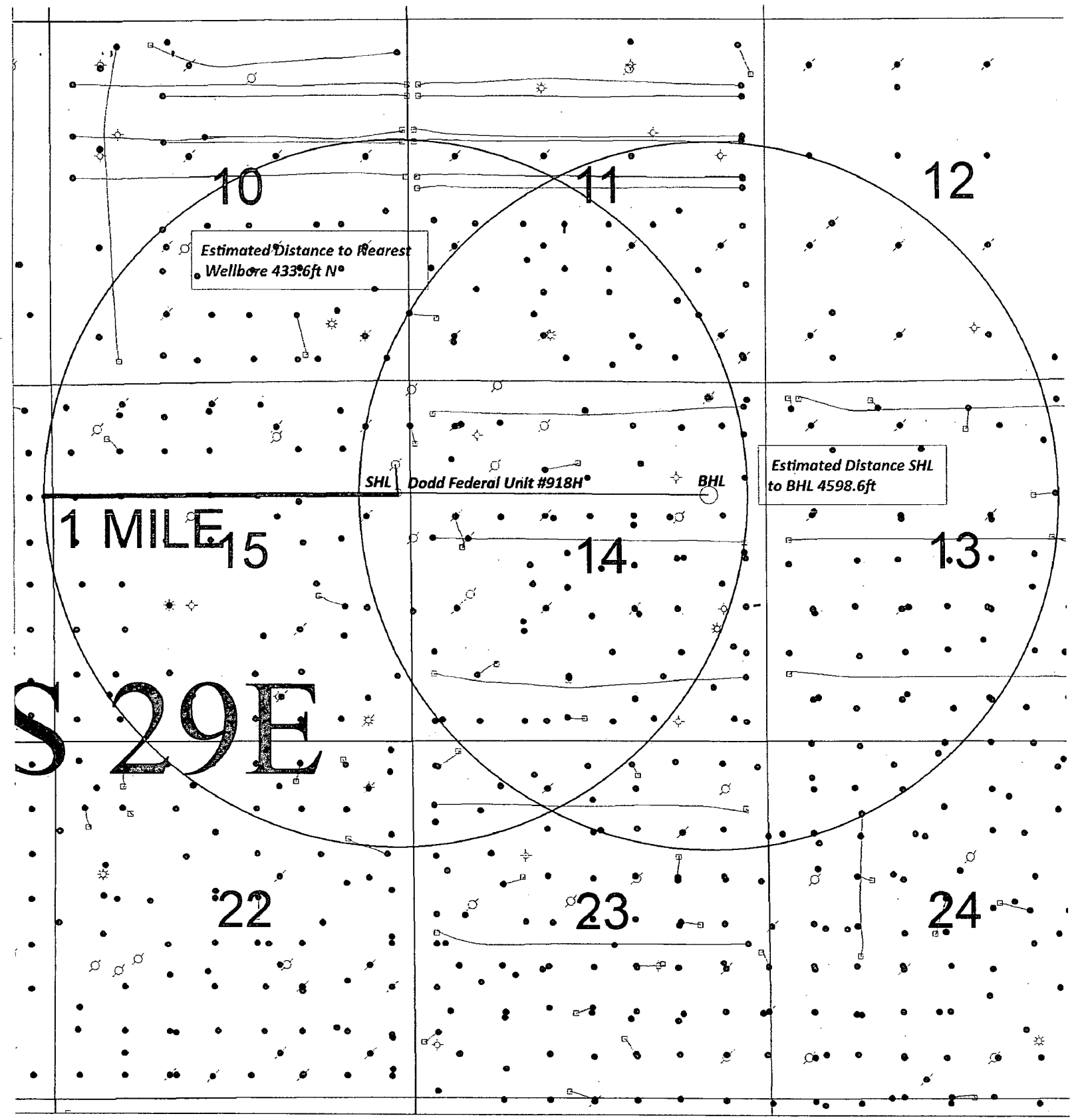
NO.	REVISION	DATE

JOB NO.: LS130279
DWG. NO.: 130279LVM

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: 7/25/13
SURVEYED BY: GB/SM
DRAWN BY: DR
APPROVED BY: LWB
SHEET : 1 OF 1



CONCHO

SENM Shelf Area
Dodd Federal Unit #918H
Sec. 15, T17S – R29E SHL 1650 FNL 190 FEL, UNIT H
Sec. 14, T17S – R29E BHL 1650 FNL 330 FEL, UNIT H

Author:	ALL WELLS	Date:

DELORME

EXHIBIT 1

XMap® 7

Data use subject to license.

© DeLorme. XMap® 7.

www.delorme.com

TN

MN (7.6°E)

Scale 1 : 6,400

0 180 360 540 720 900 ft

0 40 80 120 160 200 m

1" = 533.3 ft

Data Zoom 15-0

ATTACHMENT TO FORM 3160-3
COG Operating, LLC
DODD FEDERAL UNIT #918H
SHL: 1650' FNL & 190' FEL, UNIT H
Sec 15 T17S R29E
BHL: 1650' FNL & 330' FEL, Unit H
Sec 14, T17S, R29E
Eddy County, NM

1. Proration Unit Spacing: 160 Acres

2. Ground Elevation: 3608'

3. Proposed Depths: Horizontal: **KOP (Kick off Point) TVD=4329' MD=4329'**
EOC (end of curve) TVD=4850' MD= 5156'
Toe (end of lateral) TVD=4770' MD= 9771'

4. Estimated tops of geological markers:

Fresh Water	75'
Rustler	365'
Salt	465'
BOS/Tansill	825'
Yates	985'
Seven Rivers	1270'
Queen	1875'
Grayburg	2270'
San Andres	2560'
Glorieta	3995'
Paddock	4085'
Blinebry	4475'
Tubb	5505'

5. Possible mineral bearing formations:

Yates	985'	Oil/Gas
Seven Rivers	1270'	Oil/Gas
Queen	1875'	Oil/Gas
Grayburg	2270'	Oil/Gas
San Andres	2560'	Oil/Gas
Glorieta	3995'	Oil/Gas
Paddock	4085'	Oil/Gas
Blinebry	4475'	Oil/Gas
Tubb	5505'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing at ~~390'~~ 310' (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 ~~845'~~ 950' (20' into Tansill) and circulating cement back to surface in a single or multi-stage job. Multi-stage job will consist of setting 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 7" x 5 ½", tapered production casing will be installed (at KOP the production casing will crossover from 7" to 5 ½") This tapered 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:

See COA

DEPTH (MD)	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-390' 310' 950'	Fresh Water	8.3-8.5	28-40	N.C.
390'-845'	Brine	9.8-10.1	29-32	N.C.
845'-4329'	FW/Cut Brine	8.4-8.7	29-32	N.C.
4329'-5156'	Cut Brine	8.5-8.8	29-32	N.C.
5156'-9771'	Cut Brine	8.5-8.8	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

See COA

Hole Size	Interval MD	OD Casing	Weight	Grade	Condition	Jt.	brst/clps/ten
17 ½"	0-390' 310'	13 3/8" 0-390'	48#	H40/J55 Hybrid	New	ST&C	4.44/4.47/19.77
12 ¼"	390'-845' 950'	9 5/8" 0-845'	40#	J55	New	LT&C	2.14/5.85/18.16
8 ¾"	845'-4329'	7" 0-4329'	29#	L80	New	LT&C	1.33/3.39/5.44
8 ¾"	4329'-5156'	5 ½" 4329'-5156'	17#	L80	New	LT&C	1.33/2.71/4.77
7 7/8"	5156'-9771'	5 ½" 5156'-9771'	17#	L80	New	LT&C	1.33/2.71/4.77

Production string will be a tapered string with 7" 26# L-80 LTC run from surface to kick off point (4329') and then crossed over to 5 ½" 17# L-80 LTC.

7. Proposed Cement Program

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

		Description	Yield	Density	Water Requirements
Lead: 0'-390' Excess 83%	425 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'-600' Excess 102%	175 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: 600'-845' Excess 182%	200 sks	Class C w/2% CaCl2	1.32 cf/sk	14.8 ppg	6.3 gal/sk.

Combined excess 126%

Option #2: Multi-stage w/ DV Tool & ECP (if necessary) @ +/-~~440'~~ See COA **(50' below 13 3/8" casing shoe)**
(Circulate to Surface)

Stage #1:

Lead: 440'-600' Excess 267%	75 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: 600'-845' Excess 182%	200 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'-440' Excess 51%	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: 126%

Note: Multi-stage tool to be set depending on hole conditions at approximately 440' (50' below the surface casing shoe). Cement volumes will be adjusted proportionately for depth changes of multi-stage tool.

7" X 5 ½" TAPERED PRODUCTION CASING:

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

1st Lead: 0'-2000' Excess 31%	200 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: 2000'-4329' Excess 27%	325 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ .6% SMS + 0.125 pps CF + 1% FL-25 +1% BA-58	1.37 cf/sk	14.0 ppg	6.42 gal/sk.
Tail: 4329'-9771' Excess 29%	950 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ .6% SMS + 0.125 pps CF + 1% FL-25 +1% BA-58	1.37 cf/sk	14.0 ppg	6.42 gal/sk.

Combined Lead & Tail Excess: 29%

Option #2:Multi-stage (2 Stages) w/DV Tool & ECP(if necessary) @ +/-4329'
(Cement calculated to surface, minimum tie-back 200' above 9 5/8" shoe.)

See COA

		Description	Yield	Density	Water Requirement
Stage #1:					
Tail: 4329'-9771' Excess 28%	950 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ .6% SMS + 0.125 pps CF + 1% FL-25 +1% BA-58	1.37 cf/sk	14.0 ppg	6.42 gal/sk.
Stage #2: DV Tool & ECP @ +/-4329'					
1st Lead: 0'-2000' Excess 31%	200 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:Tail: 2000'-4329' Excess 27%	325 sks	50:50:2 C:Poz Gel w/5% salt+ 3 pps LCM+ .6% SMS + 0.125 pps CF + 1% FL-25 +1% BA-58	1.37 cf/sk	14.0 ppg	6.42 gal/sk.

Combined Excess Stage #1 & Stage #2: 29%

Note: 5 ½" casing will be run from KOP at 4329' thru curve and lateral to TD of 9771' 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 4329'.

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

8. Pressure Control Equipment:

See COA

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 nipped 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 permanent "B section" well head will be installed and the BOP will then be nipped up on the permanent B . 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 4329'. Kick off at +/- 4329', building curve at 11°/100' to 91.00° inclination 90.03°az at 5156' MD/4850'TVD. Reduce hole size at end of curve to 7 7/8". Maintain this azmith and inclination for a total lateral length of +/4615' to TD at +/-9771' MD, 4770' TVD. Run 7" x 5-1/2" production casing. 7" to be run from surface to kickoff point and then changed over to 5 ½". 5 ½" casing will be run from kickoff point to TD and both strings 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 7" x 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 2100 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 this 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 7" x 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 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.

13. Anticipated Starting Date

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

GEG 5.22.14

CONCHO

COG Operating LLC

Eddy County, New Mexico (NAD 27 NME)
Dodd Federal Unit
#918H

Wellbore #1

Plan: Plan #1 11-06-13
Surface: 1650' FNL, 190' FEL, Sec 15, T17S, R29E, Unit H
PP: 1650' FNL, 330' FWL, Sec 14, T17S, R29E, Unit E
BHL: 1650' FNL, 330' FEL, Sec 14, T17S, R29E, Unit H

Standard Planning Report

13 November, 2013

PHOENIX
TECHNOLOGY SERVICES

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #918H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3608.00usft (Original Well Elev)
Project:	Eddy County, New Mexico (NAD 27 NME)	**MD Reference:**	WELL @ 3608.00usft (Original Well Elev)
Site:	Dodd Federal Unit	**North Reference:**	Grid
Well:	#918H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 11-06-13		

Project Eddy County, New Mexico (NAD 27 NME)

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

Site Dodd Federal Unit

Site Position:		**Northing:**	669,009.70 usft	**Latitude:**	32° 50' 19.97600 N
From:	Map	**Easting:**	585,704.90 usft	**Longitude:**	104° 3' 15.44871 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.15 °

Well #918H

Well Position	**+N/-S**	-614.80 usft	**Northing:**	668,394.90 usft	**Latitude:**	32° 50' 13.89129 N
	+E/-W	41.50 usft	**Easting:**	585,746.40 usft	**Longitude:**	104° 3' 14.98133 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,608.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	11/06/13	7.56	60.61	48,691

Design Plan #1 11-06-13

Audit Notes:

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

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	90.03

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	
4,329.21	0.00	0.00	4,329.21	0.00	0.00	0.00	0.00	0.00	0.00	
5,156.48	91.00	90.03	4,850.00	-0.25	529.96	11.00	11.00	10.88	90.03	
9,770.82	91.00	90.03	4,769.50	-2.40	5,143.60	0.00	0.00	0.00	0.00	PBHL-Dodd Federal U

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #918H
Company:	COG Operating LLC	**TVD Reference:**	WELL @ 3608.00usft (Original Well Elev)
Project:	Eddy County, New Mexico (NAD 27 NME)	**MD Reference:**	WELL @ 3608.00usft (Original Well Elev)
Site:	Dodd Federal Unit	**North Reference:**	Grid
Well:	#918H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 11-06-13		

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)
9,000.00	91.00	90.03	4,782.95	-2.04	4,372.89	4,372.89	0.00	0.00	0.00
9,100.00	91.00	90.03	4,781.20	-2.09	4,472.88	4,472.88	0.00	0.00	0.00
9,200.00	91.00	90.03	4,779.46	-2.13	4,572.86	4,572.86	0.00	0.00	0.00
9,300.00	91.00	90.03	4,777.71	-2.18	4,672.85	4,672.85	0.00	0.00	0.00
9,400.00	91.00	90.03	4,775.97	-2.23	4,772.83	4,772.83	0.00	0.00	0.00
9,500.00	91.00	90.03	4,774.22	-2.27	4,872.82	4,872.82	0.00	0.00	0.00
9,600.00	91.00	90.03	4,772.48	-2.32	4,972.80	4,972.80	0.00	0.00	0.00
9,700.00	91.00	90.03	4,770.74	-2.37	5,072.79	5,072.79	0.00	0.00	0.00
9,770.82	91.00	90.03	4,769.50	-2.40	5,143.60	5,143.60	0.00	0.00	0.00
TD at 9770.82 - PBHL-Dodd Federal Unit #918H									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-Dodd Federal Uni - plan hits target center - Point	0.00	0.00	4,769.50	-2.40	5,143.60	668,392.50	590,890.00	32° 50' 13.72903 N	104° 2' 14.69484 W
PP-Dodd Federal Unit #! - plan hits target center - Point	0.00	0.00	4,850.08	-0.24	520.00	668,394.66	586,266.40	32° 50' 13.87526 N	104° 3' 8.88657 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,329.21	4,329.21	0.00	0.00	KOP: Start Build 11.00°/100'
5,156.48	4,850.00	-0.25	529.96	LP: Hold 91° Inc at 90.03° Azi
9,770.82	4,769.50	-2.40	5,143.60	TD at 9770.82

CONCHO

Project: Eddy County, New Mexico (NAD 27 NME)
Site: Dodd Federal Unit
Well: #918H
Wellbore: Wellbore #1
Design: Plan #1 11-06-13

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.15°
Magnetic North: 7.41°

Magnetic Field
Strength: 48691.0snT
Dip Angle: 60.61°
Date: 11/06/2013
Model: IGRF2010_14

WELL DETAILS

Ground Level 3608.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	668394.90	585746.40	32° 50' 13.89129 N	104° 3' 14.98133 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	4329.21	0.00	0.00	4329.21	0.00	0.00	0.00	0.00	0.00		KOP: Start Build 11.00°/100'
3	5156.48	91.00	90.03	4850.00	-0.25	529.96	11.00	90.03	529.96		LP: Hold 91° Inc at 90.03° Azi
4	9770.82	91.00	90.03	4769.50	-2.40	5143.60	0.00	0.00	5143.60	PBHL-Dodd Federal Unit #918H	TD at 9770.82

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL-Dodd Federal Unit #918H	4769.50 - plan hits target center	-2.40	5143.60	668392.50	590890.00	32° 50' 13.72903 N	104° 2' 14.69484 W	Point
PP-Dodd Federal Unit #918H	4850.08 - plan hits target center	-0.24	520.00	668394.66	586266.40	32° 50' 13.87526 N	104° 3' 8.88657 W	Point

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #918H, Grid North

Latitude: 32° 50' 13.89129 N
Longitude: 104° 3' 14.98133 W

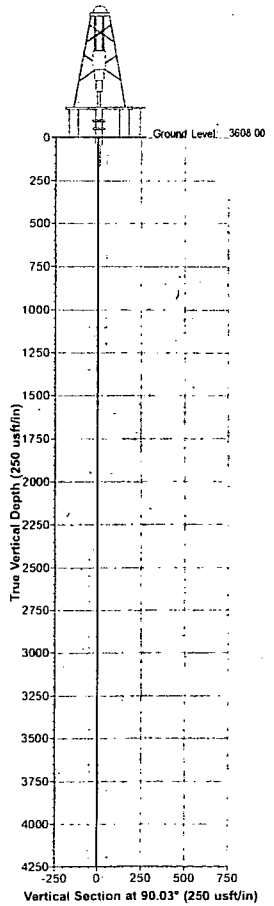
Grid East: 585746.40
Grid North: 668394.90
Scale Factor: 1.000

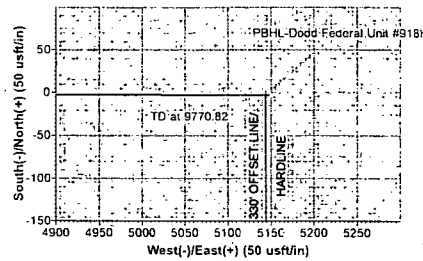
Geomagnetic Model: IGRF2010_14
Sample Date: 06-Nov-13
Magnetic Declination: 7.56°
Dip Angle from Horizontal: 60.61°
Magnetic Field Strength: 48691

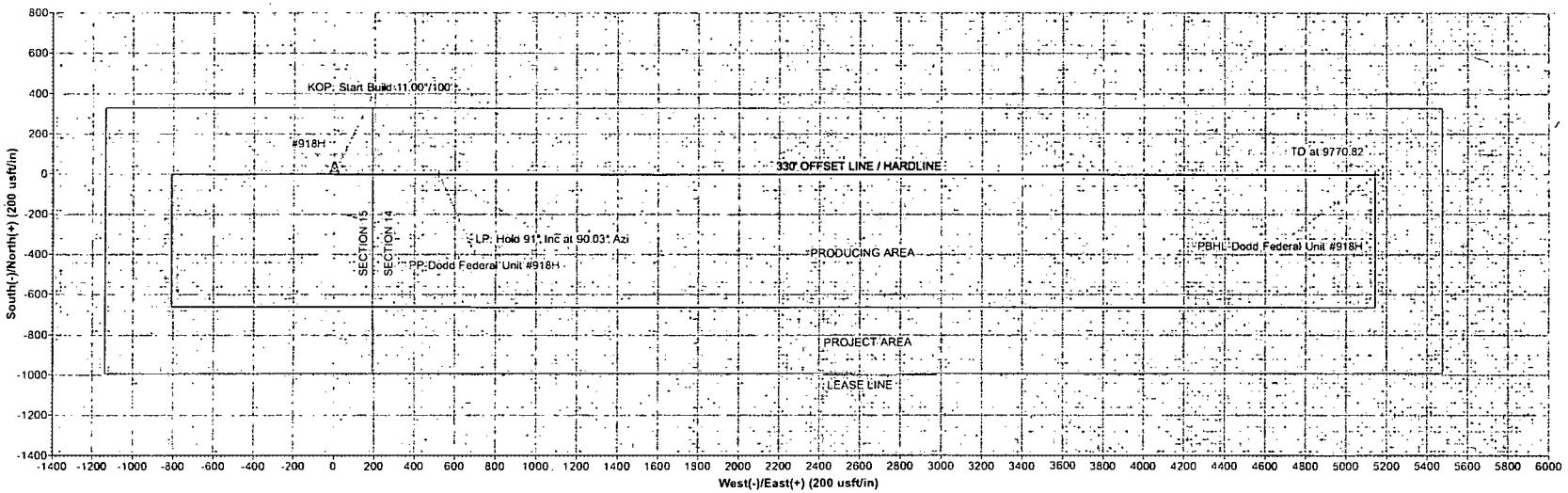
To convert a Magnetic Direction to a Grid Direction, Add 7.41°
To convert a Magnetic Direction to a True Direction, Add 7.56° East
To convert a True Direction to a Grid Direction, Subtract 0.15°

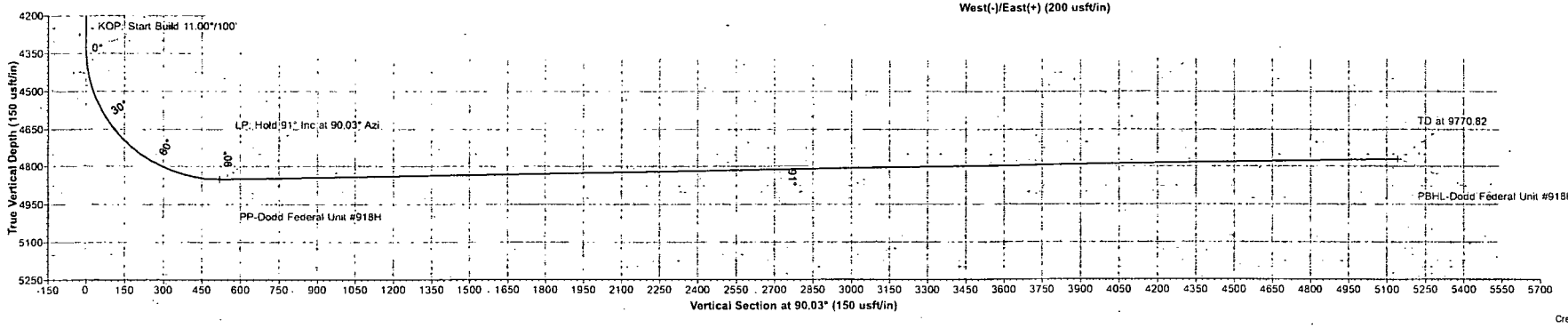
LEGEND

Plan #1 11-06-13





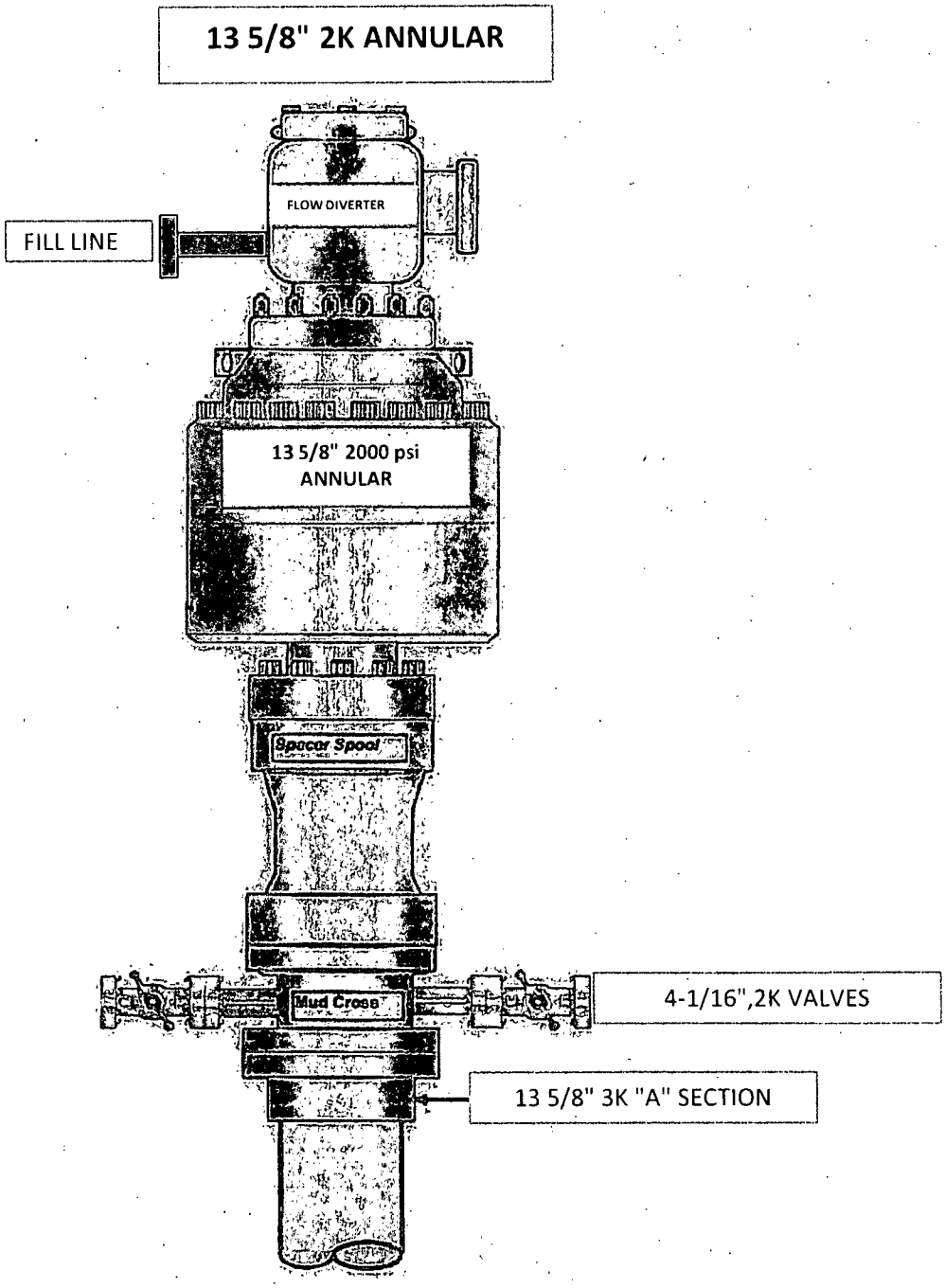




Created By: Justin Andoe Date: 23:46, November 13 2013

Exhibit #10

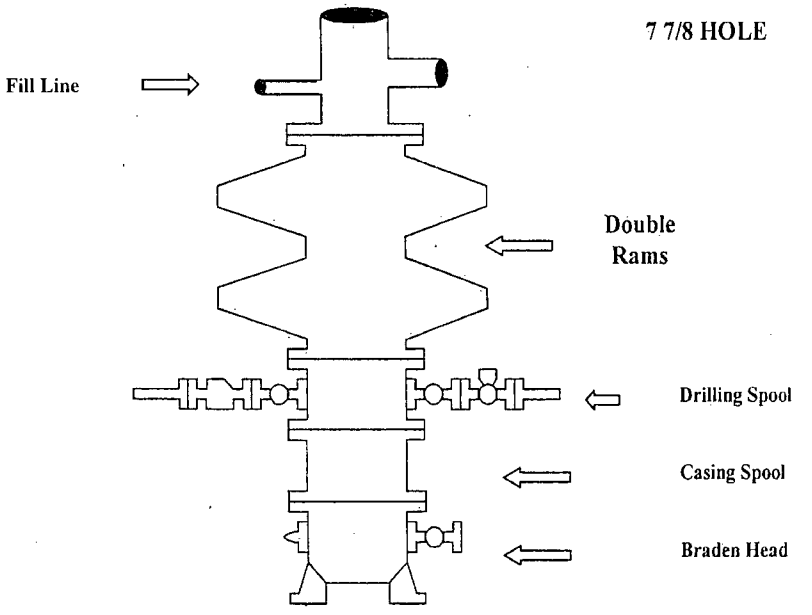
(Choke Manifold Schematic same as Exhibit #9)



COG Operating LLC

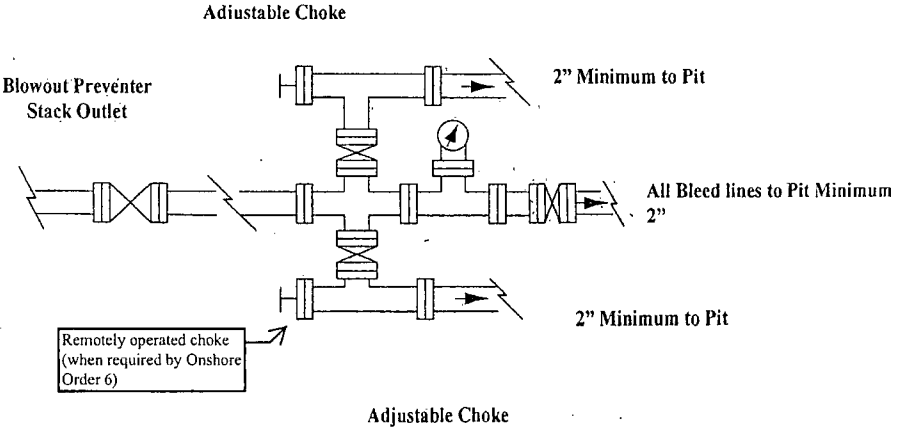
Exhibit #9

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.

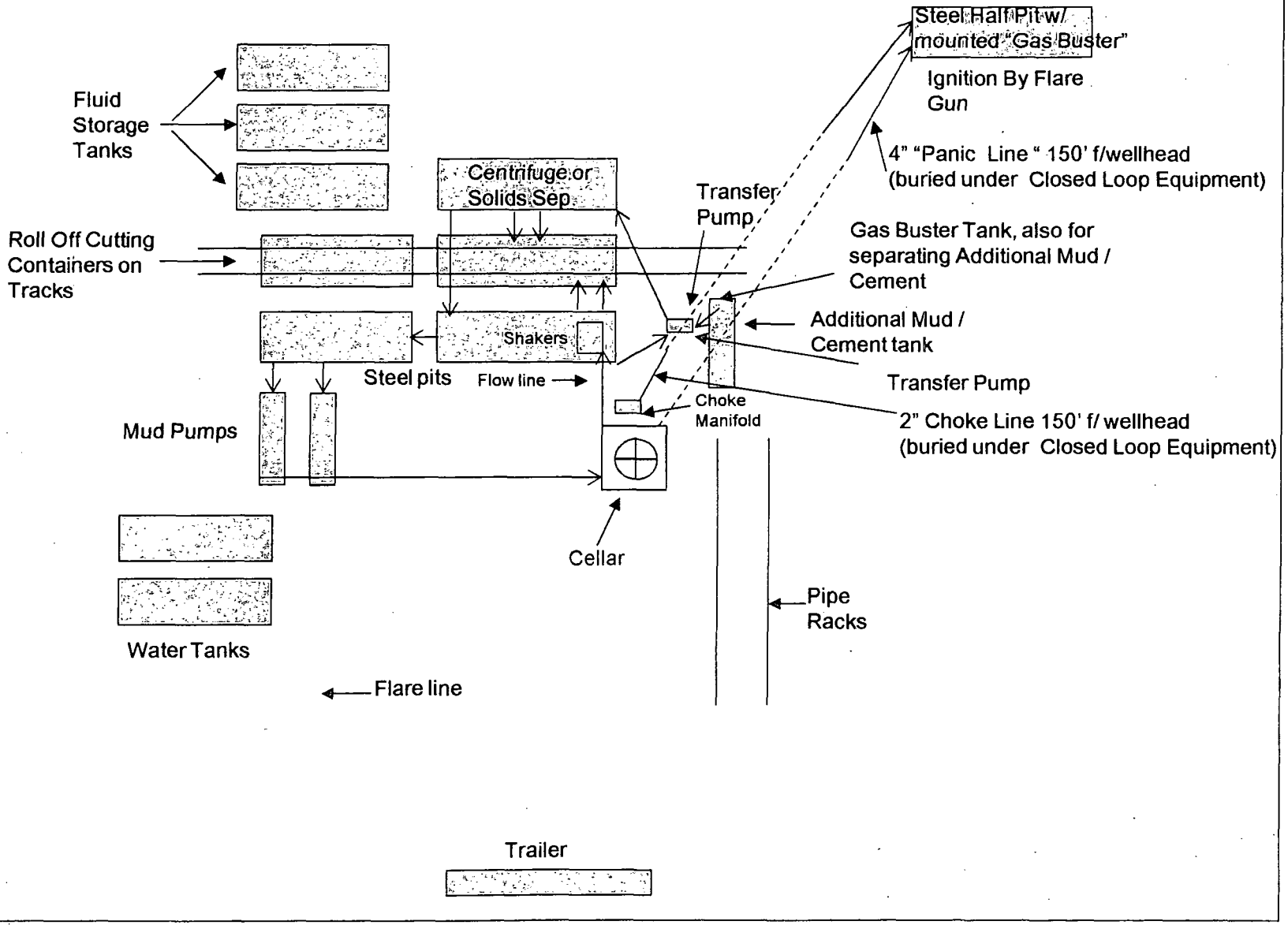
Cuttings will be hauled to either:

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 H2S

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

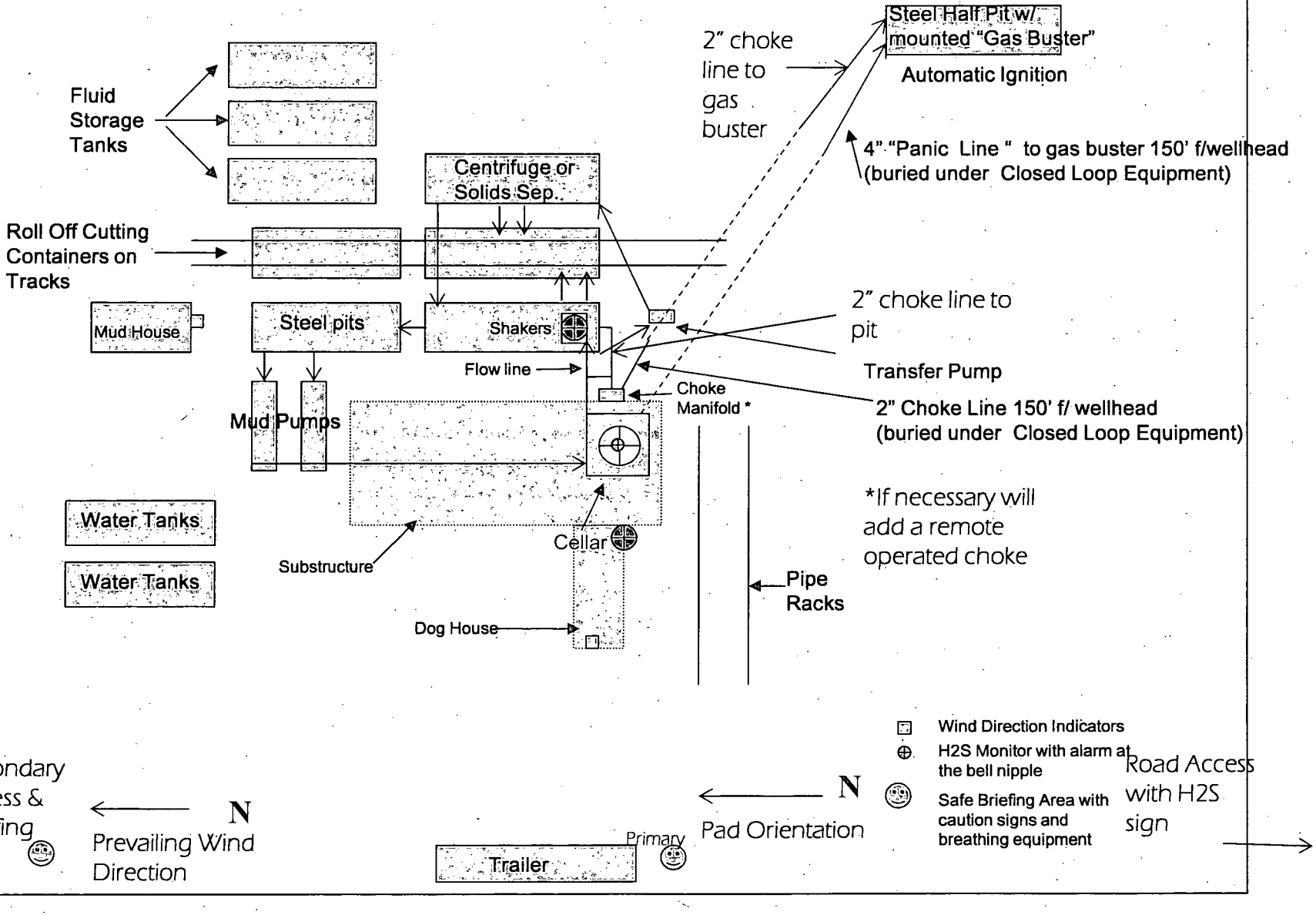
EDDY COUNTY EMERGENCY NUMBERS
ARTESIA FIRE DEPT. 575-746-5050
ARTESIA POLICE DEPT. 575-746-5000
EDDY CO. SHERIFF DEPT. 575-746-9888

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-
Dodd 918H



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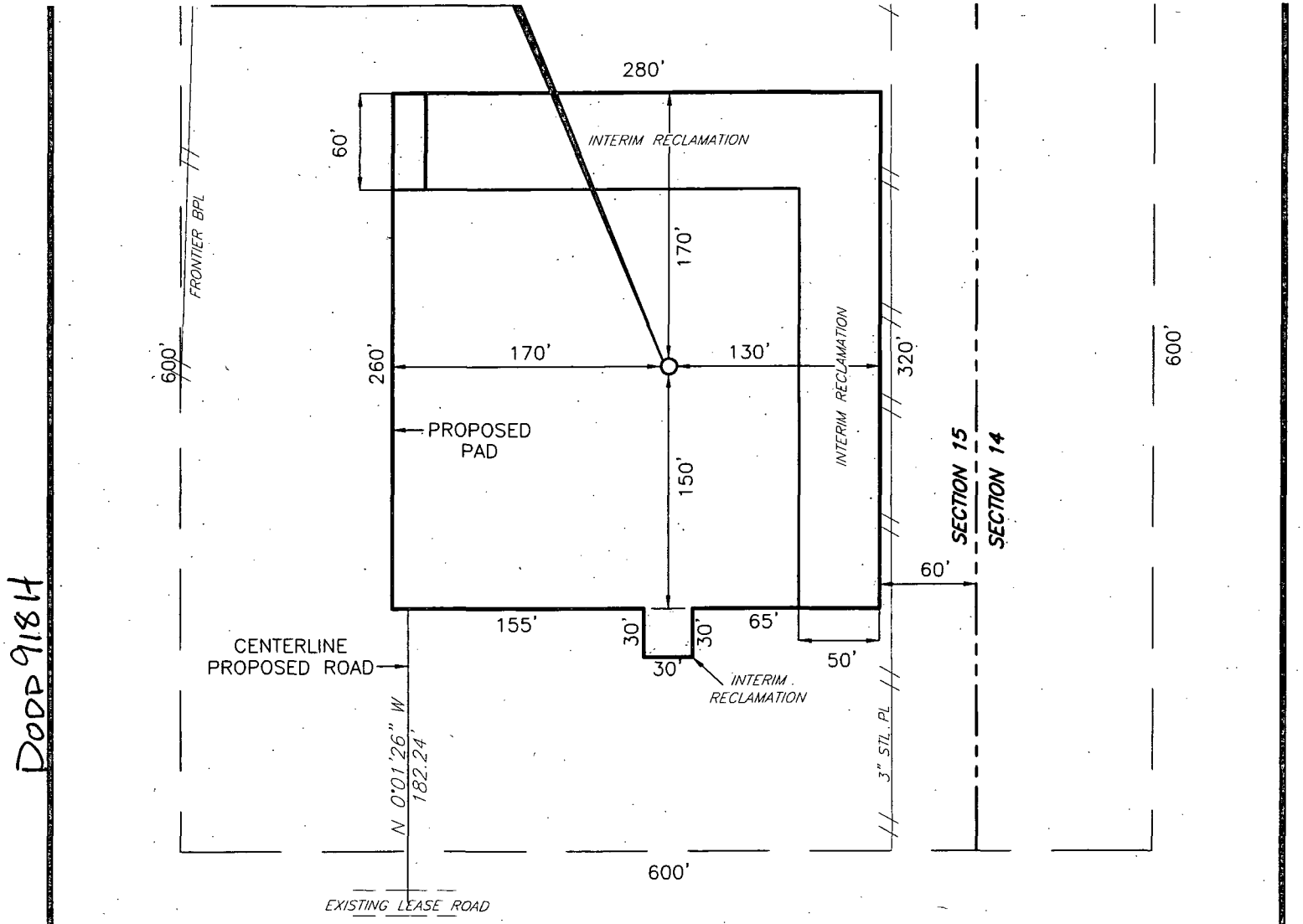
280'
60'
INTERIM RECLAMATION
170'
FRONTIER BPL
600'
260'
170'
130'
320'
INTERIM RECLAMATION
PROPOSED PAD
150'
SECTION 15
SECTION 14
600'
60'
155'
30'
30'
65'
50'
30'
INTERIM RECLAMATION
CENTERLINE PROPOSED ROAD
N 0°01'26" W
182.24'
3" STL. PL
600'
EXISTING LEASE ROAD

Surface Use & Operating Plan

Dodd Federal Unit 918H

- Surface Tenant: Bogle Farms, Lewis Derrick, P O Box 441, Artesia, NM 88211.
- New Road: approx. 182.24'
- Flow Line: approx. 0.6 mi
- Facilities: Dodd 10-B Federal Tank Battery

Well Site Information

V Door: South

Topsoil: North

Interim Reclamation: North/East

Notes

-moved for pipelines

Onsite: 6/27/2013

Tanner 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 182.24' 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 Dodd 10-B Federal Tank Battery to be located in Section 10 at the Dodd Federal Unit #580 well location. 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 Dodd 10-B Federal Tank Battery to be located in Section 10 at the Dodd Federal Unit #580 well location. The flowline will be SDR 7 3" poly line laid on the surface and will be approximately 0.6 miles 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 south. 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
Drilling Superintendent
COG Operating LLC
One Concho Center
600 W. Illinois-
Midland, TX 79701
Phone (432) 685-4304 (office)
(432) 221-0346 (business)

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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating
LEASE NO.:	LC028731B
WELL NAME & NO.:	918H-Dodd Federal Unit
SURFACE HOLE FOOTAGE:	1650'/N & 190'/E
BOTTOM HOLE FOOTAGE	1650'/N & 330/W
LOCATION:	Section 14, T. 17S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

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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)

N/A

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

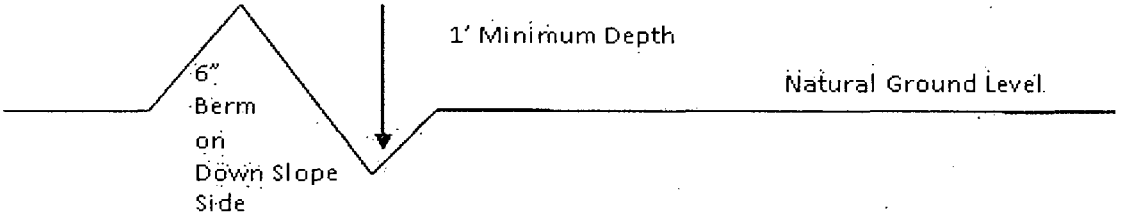
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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:

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

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

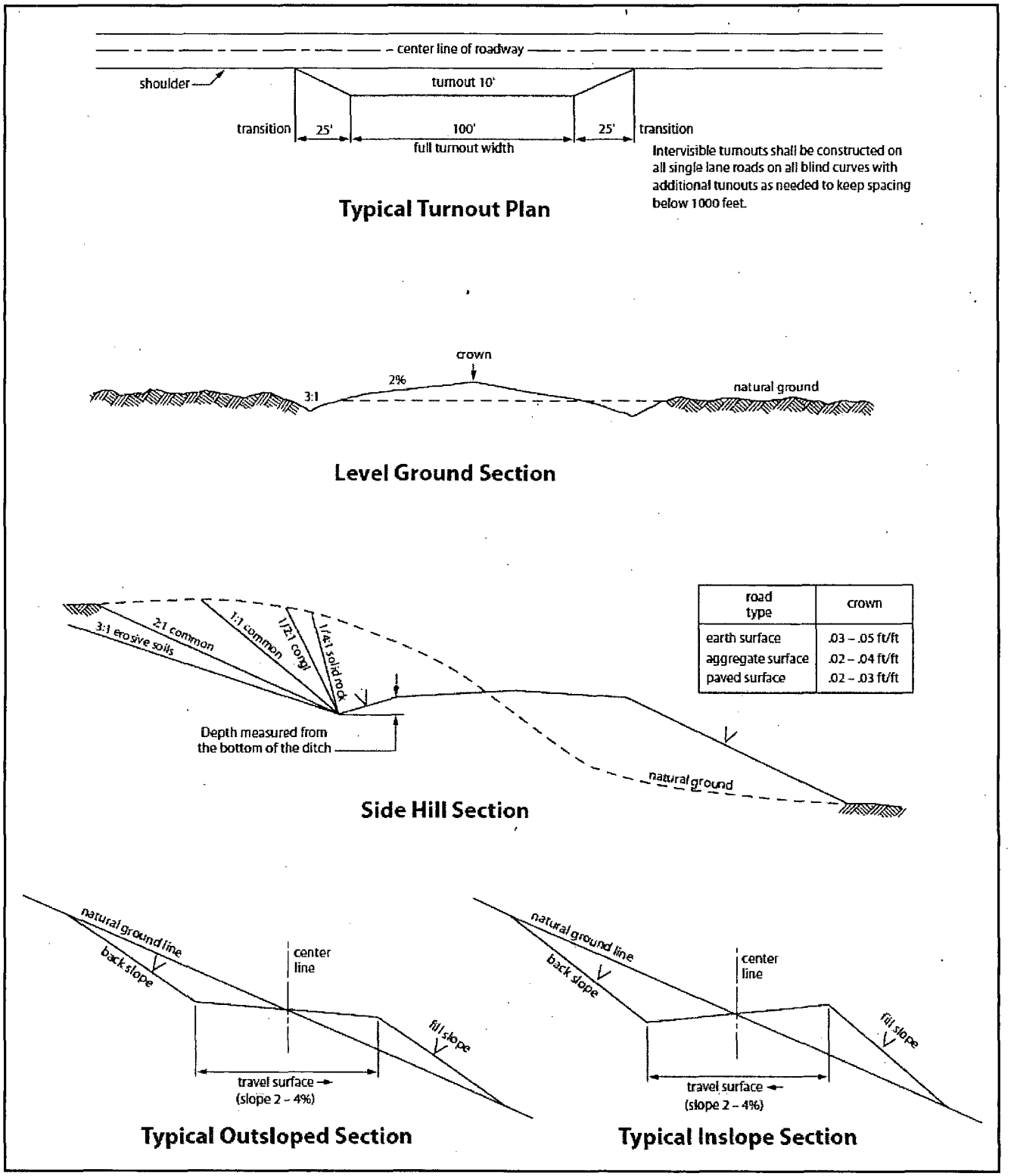


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☐ **Chaves and Roosevelt Counties**
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575) 200-7902.

☐ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(505) 361-2822

☐ **Lea County**
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(505) 393-3612

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the formation.

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.

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

4. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)

B. CASING

1. The inch surface casing shall be set at feet and cemented to the surface.

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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

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 action will be done prior to drilling out that string.

2. The minimum required fill of cement behind the inch intermediate casing is:

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

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

3. The minimum required fill of cement behind the inch production casing is:

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

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

☐ Top of cement to reach at least 500 feet above the top of the uppermost hydrocarbon productive interval.

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.

5. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be 2000 (2M) psi.

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

    a. The tests shall be done by an independent service company.

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

    c. 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.

    d. 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.

    e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the formation. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

    f. A variance to test the surface casing and BOP/BOPE to the reduced pressure of psi with the rig pumps is approved.

D. DRILLING MUD

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

E. DRILL STEM TEST

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

ACS/ (date)

F. 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.

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).

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

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

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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