Form 3160-3 (April 2004)	OCD Artesia UNITED STATES					
DEPARTMENT OF THE BUREAU OF LAND MA APPLICATION FOR PERMIT TO	5 Lease Serial No. NMLC-028731 6. If Indian, Allotee N/A					
Ia. Type of work.	NTER		7 If Unit or CA Agre	ement, Name and No		
lb. Type of Well Oil Well Gas Well Other	Single Zone Multi	ple Zone	8. Lease Name and V	Well No 919 H RAL UNIT #149H 2388		
2. Name of Operator COG Operating LLC	<229137.	>	9. API Well No. 30-015-	40635		
3a Address 550 W. Texas Ave., Suite 100 Midland, TX 79701	3b Phone No. (include area code) 432-685-4384		10. Field and Pool, of Dodd; Gloriet	Exploratory a-Upper Yeso < 979/7-		
4 Location of Well (Report location clearly and in accordance with	h arry State requirements*)	1	11 Sec, T R M or B	lk and Survey or Area		
At surface SHL: 2345' FNL & 330' FEL, Ur At proposed prod zone BHL: 2310' FNL & 330' EXCL, Ur			Sec 14 T17S	R29E		
14 Distance in miles and direction from nearest town or post office* 2 miles from Loco Hills,	s, NM		12 County or Parish EDDY	13 State NM		
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig, unit line, if any) 330'	16 No. of acres in lease	17 Space	ing Unit dedicated to this well			
(Also to hearest drig, unit tine, if any) 18 Distance from proposed location*	19. Proposed Depth	20 BLM	I/BIA Bond No on file			
to nearest well, drilling, completed, applied for, on this lease, fit.	TVD: 4778' MD: 9270'		B000740; NMB000215			
21 Elevations (Show whether DF, KDB, RT, GL, etc.) 3621' GL	22 Approximate date work will st 08/30/2012	art*	23 Estimated duration 15	n days		
	24. Attachments					
The following, completed in accordance with the requirements of Ons 1 Well plat certified by a registered surveyor. 2 A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest Syste SUPO shall be filed with the appropriate Forest Service Office)	4 Bond to cover Item 20 above) tem Lands, the 5 Operator certif	the operation cation		existing bond on file (see		
25. Signature	Name (Printed/Typed) Kelly J. Holly	Name (Printed/Typed)				
Title Permitting Tech	- 1					
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)			PAUG 2 8 2012		
Title FIELD MANAGER CARLSBAD FIELD OFFICE						
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon Conditions of approval, if any, are attached APPROVAL FOR TWO YEARS						
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it States any false, fictitious or fraudulent statements or representations	a crime for any person knowingly and is as to any matter within its jurisdiction.	willfully to	make to any department	or agency of the United		

*(Instructions on page 2)

Roswell Controlled Water Basin

RECEIVED
AUG 3 0 2012
NMOCD ARTESIA

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Surface Use Plan COG Operating, LLC Dodd Federal Unit #144H

SL: 2345' FNL & 330' FEL UL H BHL: 2310' FNL & 330' FWL UL E

Section 14, T-17-S, R-29-E Eddy County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements make in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or COG Operating, LLC, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 3rd day of March, 2012.

Signed:

Printed Name: Carl Bird

Position: Drilling Engineer

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

Telephone: (432) 683-7443

Field Representative (if not above signatory): Same

E-mail: cbird@conchoresources.com

Surface Use Plan Page 8



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

NIDDY MOTICES	AND DEDODTO	ONIMELIC

	FORM APPROVED OMB NO 1004-0135 Expires. July 31, 2010
OCD Artesia	5 Lease Serial No NMLC028731B

SUNDRY	NMLC028731B				
Do not use the abandoned we	6 If Indian, Allottee o	r Tribe Name			
SUBMIT IN TRI	7. If Unit or CA/Agree NMNM111789X	ement, Name and/or No			
1 Type of Well ☐ Gas Well ☐ Otl	ner			8 Well Name and No DODD FEDERAL	UNIT 919H
2 Name of Operator COG OPERATING LLC		KACIE CONNALLY ©concho.com		9. API Well No	
3a Address 550 WEST TEXAS AVENUE MIDLAND, TX 79701		3b Phone No (include area code) Ph: 432.221.0336		. • •	ETA-UPPER YESO
4 Location of Well (Footage, Sec., 7	, R, M, or Survey Description	7)		11. County or Parish,	and State
Sec 14 T17S R29E SENE 234	45FNL 330FEL			EDDY COUNTY	′, NM
12. CHECK APPI	ROPRIATE BOX(ES) TO	O INDICATE NATÚRE OF N	OTICE, RE	EPORT, OR OTHE	R DATA
TYPE OF SUBMISSION		TYPE OF	ACTION		
Notice of Intent	☐ Acidize	□ Deepen	□ Producti	on (Start/Resume)	□ Water Shut-Off
_	☐ Alter Casing	☐ Fracture Treat	□ Reclama	nation Well Integri	
☐ Subsequent Report	Casing Repair	☐ New Construction	□ Recomp	lete	Other
☐ Final Abandonment Notice	☐ Change Plans	Plug and Abandon	☐ Tempora	porarily Abandon Change to Ori	
_	Convert to Injection	□ Plug Back	□ Water D	-	
13 Describe Proposed or Completed Opt If the proposal is to deepen directions Attach the Bond under which the wor following completion of the involved testing has been completed. Final Ab- determined that the site is ready for fi	ally or recomplete horizontally, rk will be performed or provide operations If the operation re- pandonment Notices shall be fil	give subsurface locations and measure the Bond No. on file with BLM/BIA sults in a multiple completion or reco	ed and true ve Required sub mpletion in a r	rtical depths of all pertir osequent reports shall be new interval, a Form 316	ent markers and zones. filed within 30 days 0-4 shall be filed once
COG Operating respectfully re	equests permission to cha	ange the name and number of	this well to:		
Dodd Federal Unit #919H					
A revised C-102 is attached for					
WAS THE Dodo	l FEDERAL U	n:7 1444			

14 Thereby certify that t	he foregoing is true and correct Electronic Submission #145143 verifie For COG OPERATING LI Committed to AFMSS for processing by BEVERL	C, ser	nt to the Carlsbad	
Name (Printed/Typed)	KACIE CONNALLY	Title	PERMITTING TECH	
Signature	(Electronic Submission)	Date	08/07/2012	
	THIS SPACE FOR FEDERA	L OR	STATE OFFICE USE	
Approved By DUNCA	N WHITLOCK	Title	EAD PETROLEUM ENGINEERING TECH	Date 08/20/2012
Conditions of approval, if any, are attached Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon			e Carlsbad	
	01 and Title 43 U.S.C. Section 1212, make it a crime for any p or fraudulent statements or representations as to any matter w			ncy of the United

DISTRICT 1 1625 N French Dr., Hobbs, NM 88240 Phone (575) 393-6161 Fax: (575) 393-0720 DISTRICT II 811 S Furt St., Artesia, NM 88210 Phone: (575) 748-1283 Fax (575) 748-9720 DISTRICT III 1000 Rio Brazos Road, Aziec, 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, New Mexico 87505

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

□ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30015	7-406	35	979	Pool Code		Todd. 6	-L- Opp	1	100	
308/9	Property Code DODD FEDERAL UNIT Well Number 919H									
22913	37	Operator Name Elevation COG OPERATING, LLC 3621'								
	•				Surface Locati	on				
UL or lot No	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East	West line	County
Н	14	17-S	29-E		2345	NORTH	330	E	AST	EDDY
Bottom Hole Location If Different From Surface										
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East	West line	County
E	14	17-S	29-E		2310	NORTH	330	V	VEST	EDDY
Dedicated Acres	Joint or	Infill C	onsolidation Co	ode Ord	ler No.	J		L		
9270 8/28										

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

2310'	DE 3626 7'	 			2345'	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division
⊗	3619 2'	3619 8'		' 	(B)	Signature Date Printed Name
330' B.H.		= 270°27'21" 67 = 4625.0'		SEE DET/	S.L 330'	E-mail Address SURVEYOR CERTIFICATION
CORNER COOR	 DINATES TABLE	 	NAD 2	COORDINATES 77 NME		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. FEBRUARY 10, 2012
	N, X=585935.5 E N, X=591219.1 E	 	Y=667	LOCATION 698 3 N 891,5 E		Date of Survey Signature & Sal Officessonal Surveyor:
	N, X=585945 4 E 3 N, X=591222 1 E	}	LONG. = 104	835239° N 1.037417° W		ME + COZ
<i>y - 1-00740.</i> 3	 		Y=667	LE LOCATION 735.1 N 2678 E 		3239 Son San San San San San San San San San Sa

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 VI
DISTRICT ST. Santa Fc. 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, New Mexico 87505

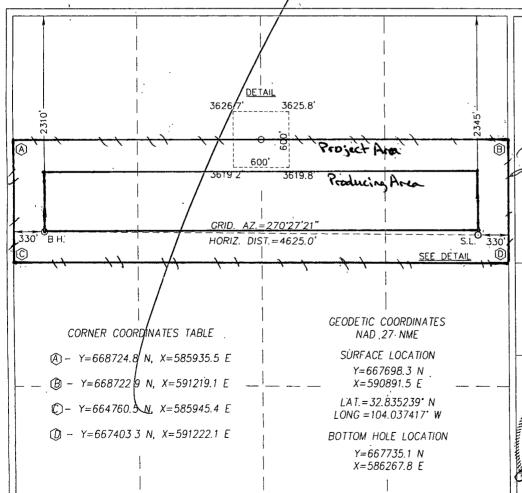
Form C-10: Revised August 1, 201 Submit one copy to appropriat District Offic

□ AMENDED REPOR'

WELL LOCATION AND ACREAGE DEDICATION PLAT

Al	PI Number		Pool Code Pool Name						
30-015	- -			97918		Burch Kee	ĺy:_Glori	eta-Upper	Yeso
Property C	ode				Property Name	/	3	We	ll Number
308086			•	DOI	OD FEDERA	L UNIT/			144H
OGRJÐ N	lo.				Operator Name			F	levation
229137	7			COC	G OPERATIN	IG,ĽLC			3621'
Surface Location									
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Н	14	17-S	29-E		2345	NORTH	330	EAST	EDDY
				Bottom Ho	le Location If Diffe	rent From Surface		'	
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Е	14	17-S	29-E		2310	NORTH	330	WEST	EDDY
Dedicated Acres	Joint on	Infill C	onsolidation C	ode Ord	ier/No		`	·,	
160					/				*
1	<u>l</u>	_,	······································	/_					1

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL/INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Signature M. Odom

Robyn M. Odom
Printed Name

Rodom@concho.com
E-mail Address

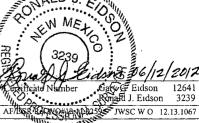
SURVEYOR CERTIFICATION

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

FEBRUARY 10, 2012

Date of Survey

Signature & Seal of Professional Surveyor.



ATTACHMENT TO FORM 3160-3 COG Operating, LLC **DODD FEDERAL UNIT #144H** SHL: 2345' FNL & 330' FEL, Unit H

BHL: 2310' FNL & 330' FWL. Unit E Sec 14, T17S, R29E **Eddy County, NM**

1. Proration Unit Spacing: 160 Acres

2. Ground Elevation: '3621'

3. Proposed Depths: Horizontal TVD = 4778', MD =9270'.

4. Estimated tops of geological markers:

Quaternary	Surfac
Rustler	300'
Top of Salt	500'
Base of Salt	850'
Yatës	1003'
Seven Rivers	1283'
Queen	1891'
Grayburg	2382'
San Andres	2586' 4006'
Glorieta	4006'
Paddock	4069'
Blinebry	4489'
Tubb	5456

5. Possible mineral bearing formations:

Water Sand	150'	Fresh Water
Grayburg	2382'	Oil/Gas
San Andres	2586'	Oil/Gas
Glorieta	4006'	Oil/Gas
Paddock	4069'	Oil/Gas
Blinebry	4489'	Òil/Gas
Tubb	5456'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 325 and circulating cement back to the surface will protect the surface fresh water sand. The Salt Section will be protected by setting 9 5/8" casing to 1350' and circulating cement, in a single or multi-stage job and/or with an ECP, back to the surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them. This will be achieved by cementing, with a single or multi-stage job, the 7" x 5 1/2" production casing back 200' into the intermediate casing (although cement volume is actually calculated to surface), to be run at TD. If wellbore conditions arise that require immediate action and/or a change to this program, COG Operating LLC personnel will always react to protect the wellbore and/or environment.

ATTACHMENT TO FORM 3160-3 COG Operating, LLC DODD FEDERAL UNIT #144H Page 2 of 4

6. Casing Program - Proposed

	<u>Hole size</u>	<u> İnterval</u>	OD of Casing	<u>Weight</u>	Cond.	<u>Collar</u>	Grade
See COA	17-1/2" Collapse sf	0' - +/-3 25 ' - 4.36, Burst sf –	13-3/8" 9.79, Tension sf	48# - 16.77	New	STC	H-40 or Hybrid J-55
		0' - +/-1350' - 3.16, Burst šf –	9-5/8" 5.51, Tension sf	36# - 9.32	New	STC	J/K-55
	7" Çşg - Col	8" 0' – 9270' lapse sf – 2.37, B Collapse sf – 2.50	urst sf - 1.91, To			LTC	L-80

Production string will be a tapered string with 7" 26# L-80 LTC ran from surface to kick off point and then crossed over to 5 $\frac{1}{2}$ " 17# L-80 LTC.

7. Cement Program

13 3/8" Surface Csq: Set at +/- 325'MD, 400sx Class "C" w/ 2% CaCl2 & 0.25 pps CF, yield 1.32 culft./sk:, wt.14.8 ppg. 190% excess, calculated to surface.

9:5/8" Intrmd. Csg: Set at +/- 1350'MD.

Option #1: Single Stage (TD to Surface): Lead Slurry: 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1, 0.25 pps CF; yield 2.45 cu.ft./sk., 11.8 ppg. Tail Slurry: 200 sx Class "C" w/ 2% CaCl2, yield 1.32 cu.ft./sk., wt. 14.8 ppg. 185% excess, calculated to surface.

See COA Option #2: Multi Stage: Stage 1 (TD to DV Tool @ 450'): 200 sx Class "C" w/ 2% CaCl2, yield 1.32 cu.ft./sk., wt. 14.8 ppg. 45% excess. Stage 2 (DV Tool to surface): 300 sx 50:50:10:C:Poz:Gel w/ 5% salt, 5 pps LCM-1, 0.25 pps CF, yield 2.45 cu.ft./sk., wt. 14.8 ppg calculated to surface; 185% excess; assumption for tool is lost circulation. Multi stage tool to be set at approximately, depending on hole conditions, 450' (50' below the surface casing). Cement volumes will be adjusted proportionately for depth changes of multi stage tool.

7" x 5 1/2" Production Csg: Set at +/- 9270'MD.

Option#1: Single Stage (KOP to surface): Lead Slurry: 400 sx 35:65:6:C:Poz:Gel w/ 5% salt, 5 pps LCM, 0.2% SMS, 0.3% FL-52A, 0.125 pps CF, yield 2.01 cu.ft./sk., wt. 12.5 ppg. Tail Slurry: 300 sx 50:50:2:C:Poz:Gel w/ 5% salt, 3 pps LCM, 0.6% SMS, 1% FL-25, 1% BA-58, 0.125 pps CF, 0.3% FL-52A; yield 1.37 cu.ft./sk., wt. 14.0 ppg. DV Tool and ECP to be set at kick off point with 7" cemented to surface and 5 ½" run with +/- 18 isolation packers and sliding sleeves in uncemented lateral. 118% excess in open hole, from kick off point, calculated to surface. This is a minimum volume and will be adjusted up after caliper is run.

Option #2: Multi Stage (DV Tool & ECP (external csg. packer)@ KOP and DV Tool at 3000'): Stage 1: (KOP To DV Tool at 3000'): 200 sx 50:50:2:C:Poz:Gel W/ 5% salt, 3 pps LCM, 0.6% SMS, 1% FL-25, 1% BA-58, .125 pps CF, 0.3% FL-52A; yield 1.37 cu.ft./sk., wt.14.00 ppg. 33% excess. This is a minimum volume and will be adjusted up after caliper is run. Stage 2 (DV Tool to surface) Lead Slurry: 400 sx 50:50:2:C:Poz:Gel W/ 5% salt, 3 pps LCM, 0.6% SMS, 1% FL-25, 1% BA-58, 0.125 pps CF, 0.3% FL-52A; yield 1.37 cu.ft./sk., wt. 14.0 ppg. Tail Slurry: 300 sx Class C w/ 0.3% R-3 + 1.5% CD-32, yield 1.02 cu.ft./sk., wt. 16.8 ppg. 154% excess calculated back to surface (no need for excess in casing overlap). This is a minimum volume and will be adjusted up after caliper is run.

ATTACHMENT TO FORM 3160-3 COG Operating, LLC DODD FEDERAL UNIT #144H Page 3 of 4

You will note that in option #2 the Multi stage tool (DV Tool) will be set at approximately 3000', depending on hole conditions. Cement volumes will be adjusted proportionately for depth changes of multi stage tool; assumption for use of tool is water flow.

8. Pressure Control Equipment:

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

9. Proposed Mud Circulating System

Interval	_Mud Wt.	Visc	FL	Type Mud System
0' - 32 5' 300	8.5	28	NC .	Fresh water native mud w/ paper for seepage and sweeps. Lime for PH.
325'- 1350'	10	30	NC	Brine mud, lime for PH and paper for seepage and sweeps.
1350'- `9270'	9.1	29	NC	Drill section with fresh water/cut brine circulating the reserve utilizing periodic sweeps of paper as needed for seepage control and solids removal.

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

10. Production Hole Drilling Summary:

Drill 8 ¼" hole and kick off at +/- 4373', building curve over +/- 750' to horizontal at 4850' TVD.

Drill 7 7/8" lateral section in a westerly direction for +/-4624' lateral to TD at +/-9270' MD, 4778'

TVD Run 7" x 5-1/2" production casing. 7" to be ran from surface to kickoff point and changed over to 5 ½" with DV Tool and ECP at kickoff point. 5 ½" casing will be ran from kickoff point to td and isolation packers set throughout lateral. 7" to be cemented from kickoff point to surface.

11. Auxiliary Well Control and Monitoring Equipment

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

ATTACHMENT TO FORM 3160-3 COG Operating, LLC DODD FEDERAL UNIT #144H Page 4 of 4

12. Logging, Testing and Coring Program: See COA

- A. No electric logs to be run.
- B. The mud logging program will consist of lagged 10' samples from intermediate casing point to T.D. in vertical pilot hole and from Kick off point to TD in Horizontal hole.
- C. Drill Stem test is not anticipated.
- D. No conventional coring is anticipated.
- E. Further testing procedures will be determined after the 7" x 5 ½" production casing has been cemented at TD based on drill shows and log evaluation.

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

No abnormal pressures or temperatures are anticipated. The estimated bottom hole temperature at TD is 90 degrees and estimated maximum bottom hole pressure is 2102 psi. Measurable gas volumes or Hydrogen Sulfide levels have not been encountered during drilling operations in this area, however an H2S plan is attached to the Drilling Program. No major loss of circulation zones has been reported in offsetting wells.

14. Anticipated Starting Date

Drilling operations will commence approximately on September 30, 2012 with drilling and completion operations lasting approximately 90 days.



COG Operating LLC

Eddy County, NM (NAN27 NME) Dodd Federal Unit #144H

OH

Plan: Plan #1 - 8-3/4" Hole SHL = 2345' FNL & 330' FEL BHL = 2310' FNL & 330' FWL

Standard Planning Report

28 June, 2012





SDI Planning Report



EDM 5000 1 Single User Db Local Co-ordinate Reference: Site Dodd Federal Unit, #144H Database: COG Operating LLC Company: GL @ 3621 00usft TVD Reference: Ēddy Ćounty ŅM (NAÑ2) ŃME) Project: MD Reference: GL @ 3621 00usft Site:∴ Dodg Federal Unit #144H North Reference: Grid Dodd Federal Unit #144H Well: Survey Calculation Method: Minimum Curvature Wellbore: ЮH Plan #1 = 8-3/4" Hole Design:

Project Eddy County; NM: (NAN27:NME)

Map System: US State Plane 1927 (Exact solution) System Datum: Mean Sea Level

Geo Datum: NAD 1927 (NADCON CONÚS)
Map Zone: New Mexico East 3001

Dodd Federal Unit #144H Site Northing: 667,698 30 usft Site Position: Latitude: 32° 50' 6 860 N Easting: 104° 2' 14 700 W From: 590,891 50 usft Мар Longitude: **Position Uncertainty:** Slot Radius: 0 00 usft 13-3/16 " Grid Convergence: 0 16°

Well Dodd Federal Unit #144H Well Position +N/-S 0.00 usft Northing: 667,698 30 usft Latitude: 32° 50' 6.860 N 0.00 usft +E/-W Èasting: 590,891 50 usft Longitude: 104° 2' 14.700 W **Position Uncertainty** 0 00 usft Wellhead Elevation: 3,621.00 usft **Ground Level:**

Wellbore OH

Magnetics Model Name Sample Date Declination Dip Angle Field Strength
(*) (*) (*) (*)

IGRF2010 03/09/12 7.76 60.65 48,858

Plan #1 -/8-3/4", Hole Design **Audit Notes:** Version: Tie On Depth: Phase: PLAN 0.00 Depth From (TVD) Vertical Section: +N/-S +E/-W Direction 🏄 (usft) (usft) (usft) (°) . 🛊 0 00 0 00 0 00 270 46

Plan Sections Measured Depth Incl	ination A	zimuth.	Vertical Depth (usft)	+Ñ/-S (üsft)	+È/-W (usft)	Dogleg Rate (°/100usff)	Build / Rate (9/100usft)	Turn Rate (°/100usft)	TFO (9)	Target
0.00	0 00	0 00	0.00	0.00	0 00	0 00	, 0 00	. 0 00	0 00	,
4,372 61	0 00	0 00	4,372 61	0 00	0 00	0.00	0 00	.00,00	. 0 00	
5,130 94	91 00	270 46	4,850 00	3 87	-485 78	12 00	· 12·00	. 0 00	. 270.46	
9,269 62	91 00	270 46	. 4,777 77	36 80	-4,623 70	0,00	0 00	0 00	0,00	PBHL-Dodd Fed #144H



SDI Planning Report



Database: EDM 5000.1 Single, UseraDb Company: COG Operating LLC Project: Eddy County, NM (NAN27 NME)
Site: Dodd:Federal Unit #144H Wellbore: OH.
Design: Plan #1 =8-3/4" Hole

Local Co-ordinate Reference TVD Reference MD Reference North Reference Survey Calculation Method:

Stie Dodd Federal Unit #144H Gu @ 3621 00usft Gu @ 3621 00usft Grid Minimum Curvature

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SDI Planning Report



Database: Company: Project: Site: Well:

Wellbore: Design:

EDM 5000 1/Single User Db COG Operating LLC Eddy County NM (NAN27 NME) Dodd Federal Unit 14 #4H

Dodd Federal Unit 14 #4H

Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Dodd Federal Unit 14 GL @ 3621 00ush GL @ 3621 00ush Grid Minimum Curvature

	Measured	**			Vertical		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Vertical	Dogleg		Βί
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	Measured Depth (usft)	linclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+Ē/W (usft)	Vertical Section (usft)	Dogleg Rate (*/100usft)	Build Rate (°/100usft)	Turn, Rate (°/100usft)	· .
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Design Targets Target Name hit/miss target Shape	Dip		ρĎir.	TVD (usft)	+N/-S (usft)	/+E/-W	Northing (usft)	Easting (usft)	Latitude	Longitude
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-	Measured Depth (usft)	Vertical Depth (usft)	Local Coon	dinates +E/-W (usft)	Comment	
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Dodd Federal.Unit #14H Eddy County, NM (NAN27 NME) Northing (Y) 667698:30 Easting (X) 590891.50 Plan #1 - 8-3/4" Hole

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PROJECT DETAILS Eddy County NM (NAN27 NME) WELL DETAILS' Dodd Federal Unit #144H

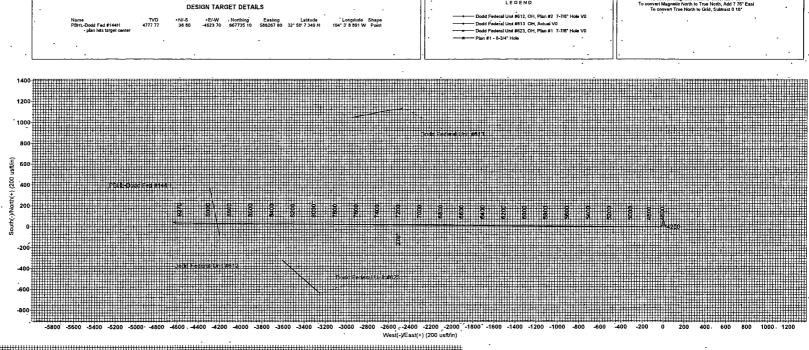
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Ellipsoid Clarke 1868
Zone New Mexico East 3001

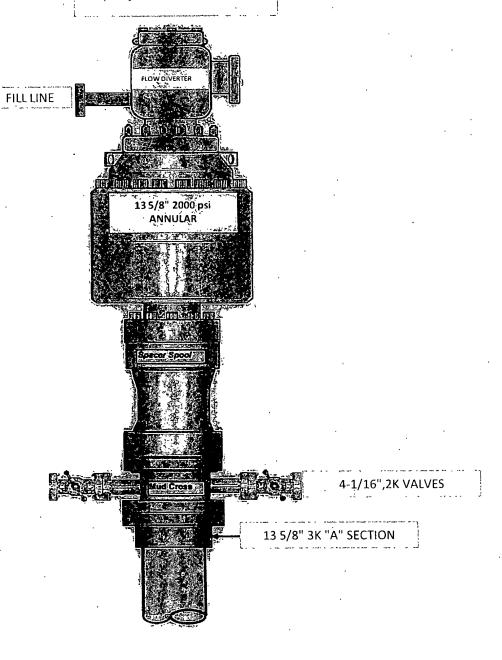
SITE DETAILS Dodd Federal Unit 14 #4H

LEGEND



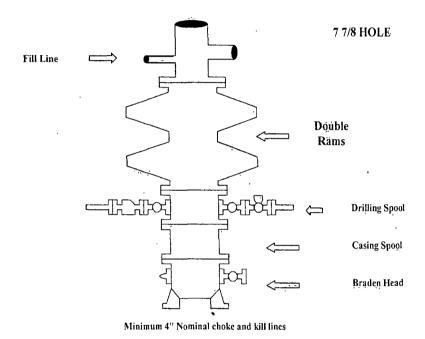
Julio C. Piña Scientific Drilling 2034 Trade Drive Midland, TX 79703

13 5/8" 2K ANNULAR



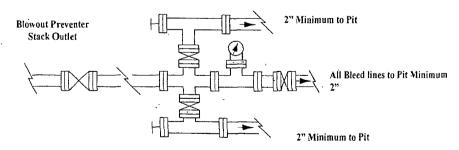
COG Operating LLC

Exhibit #9 BOPE and Choke Schematic



Choke Manifold Requirement (2000 psi WP) No Annular Required

Adiustable Choke



Adjustable Choke (or Positive)

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

- 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
- 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

Blowout Preventers Page 2

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.

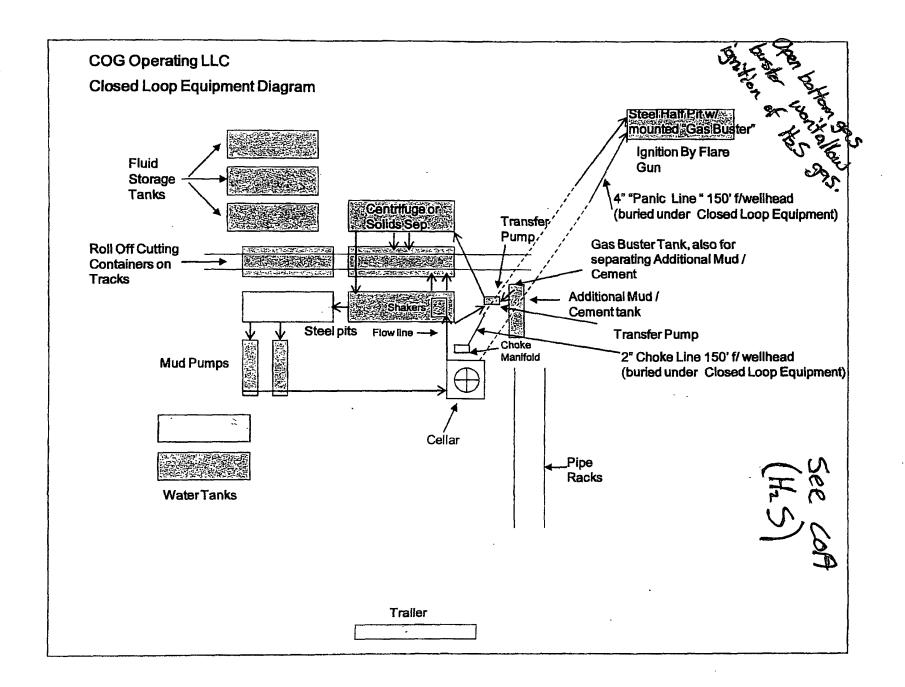
Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

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

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.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

2. Protective equipment for essential personnel:

A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

3. H2S detection and monitoring equipment:

A. 1 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 (Exhibit #8).
- 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

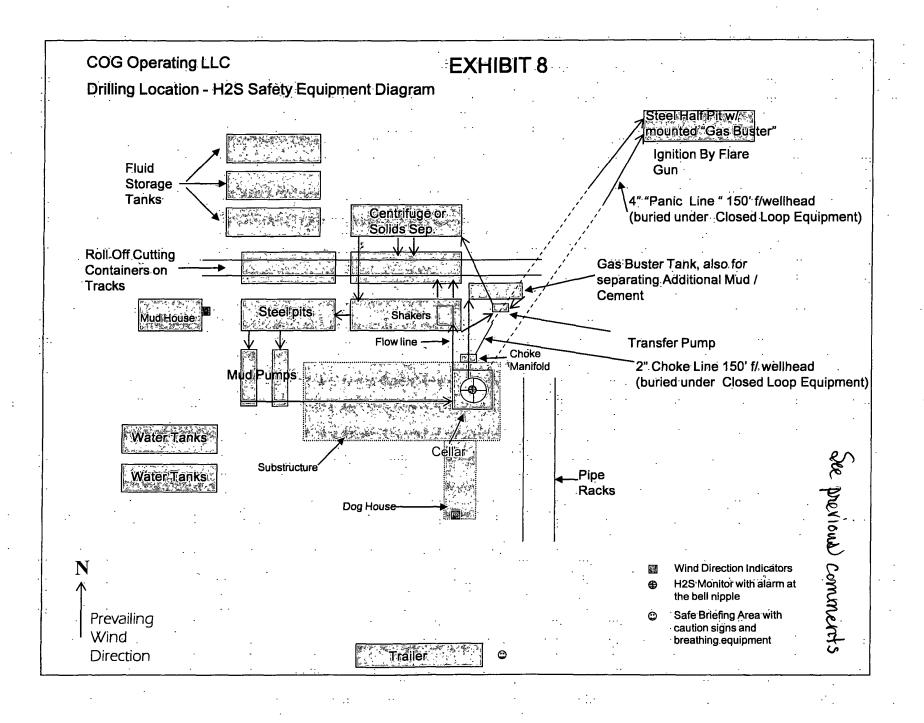
- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK WITH COG OPERATING FOREMAN AT

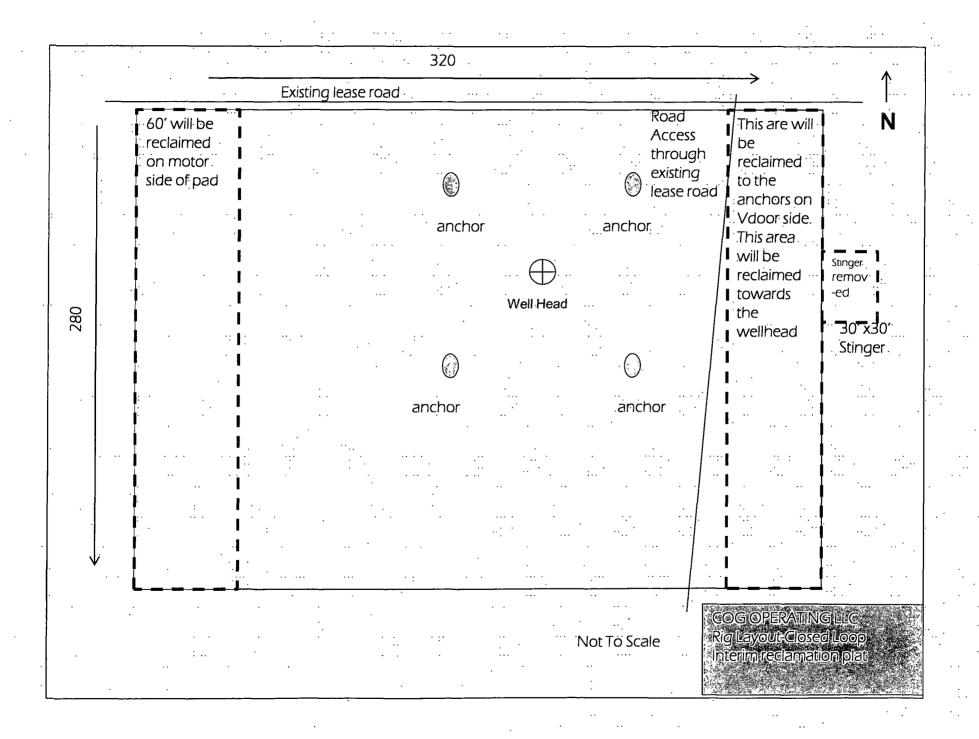
COG OPERATING LLC 1-432-683-7443 1-575-746-2010

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





PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
COUNTY:
COG OPERATING, LLC
NMLC028731B
919H-DODD FEDERAL
2345'/N. & 0330'/E.
2310'/N. & 0330'/W.
Section 14, T. 17 S., R. 29 E., NMPM
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.

General Provisions
Permit Expiration
Archaeology, Paleontology, and Historical Sites
☐ Noxious Weeds
Special Requirements
Lesser Prairie-Chicken Timing Stipulations
Ground-level Abandoned Well Marker
⊠ Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
☐ Road Section Diagram
Drilling
H2S requirement
Logging requirement
Waste Material and Fluids
☑ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Interim Reclamation
Final Abandonment & Reclamation