

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

OCB Hobbs

5. Lease Serial No.
NMLC063798

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

HOBBS OCB

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
COG OPERATING LLC

Contact: MAYTE X REYES
E-Mail: mreyes1@concho.com

JUN 18 2014

8. Well Name and No.
DECKARD FEDERAL COM 4H

3a. Address
ONE CONCHO CENTER 600 W ILLINOIS AVENUE
MIDLAND, TX 79701-4287

3b. Phone No. (include area code)
Ph: 575-748-6945

RECEIVED

9. API Well No.
30-025-41384-00-X1

10. Field and Pool, or Exploratory
RED HILLS

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

Sec 13 T24S R33E NENE 190FNL 660FEL
32.224179 N Lat, 103.519171 W Lon

11. County or Parish, and State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

COG Operating LLC respectfully requests approval to add a Flex Hose Variance Report and for the following drilling changes to the original approved APD.

* TD MD @ 15,584'/TD TVD @ 11,065'
Attached is new well plan.

* We will Drill 8-3/4" hole from intermediate casing point to the EOC +/-11,300'. Then we will reduce hole size to 7-7/8" after landing the curve and drill to TD +/-15,584' with 7-7/8" hole size.

* We will not run a DVT in our 5-1/2" production casing.

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #246774 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Hobbs

Committed to AFMSS for processing by CHRISTOPHER WALLS on 06/12/2014 (14CRW0185SE)

Name (Printed/Typed) MAYTE X REYES

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 05/23/2014

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

Date

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

Office

APPROVED

JUN 12 2014

/s/ Chris Walls

BUREAU OF LAND MANAGEMENT
CANYON DEFEAT OFFICE

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

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

MSB/OCB 6/18/2014

JUN 18 2014

Additional data for EC transaction #246774 that would not fit on the form

32. Additional remarks, continued

* We will pump a 1 stage production cement job with the following cmt plan:

Lead: 1000 sx Halliburton Tuned Light

(10.4 ppg - 2.85 cf/sk - 14.83 gal/sk)

Tail: 1025 sx 50:50:2 H Blend

(14.4 ppg - 1.24 cf/sk - 5.65 gal/sk)

Operator will pump 2 stage from APD

Flex Hose Variance attached.

Flex Hose Variance Request

HOBBS OCD

JUN 18 2014

RECEIVED

Flex Hose Variance Statement

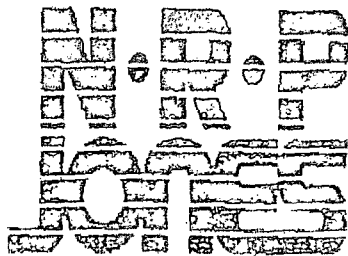
COG (operator) requests a variance if Basir 46 (rig name) is used to drill this well to use a co-flex line between the BOP and choke manifold.

Manufacturer: N. R. P. Jones

Serial Number: MA3113 Repair

Length: 23 Size: 3 1/2 Ends - flanges/clamps

WP rating: 5000 psi Anchors required by manufacturer - Yes/No



HOBBS OCD

JUN 18 2014

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Certificate of Conformance

DATE ~~8/13~~ 3/11/13

SERIAL NO. MA31113 REPAIR PART NO. _____

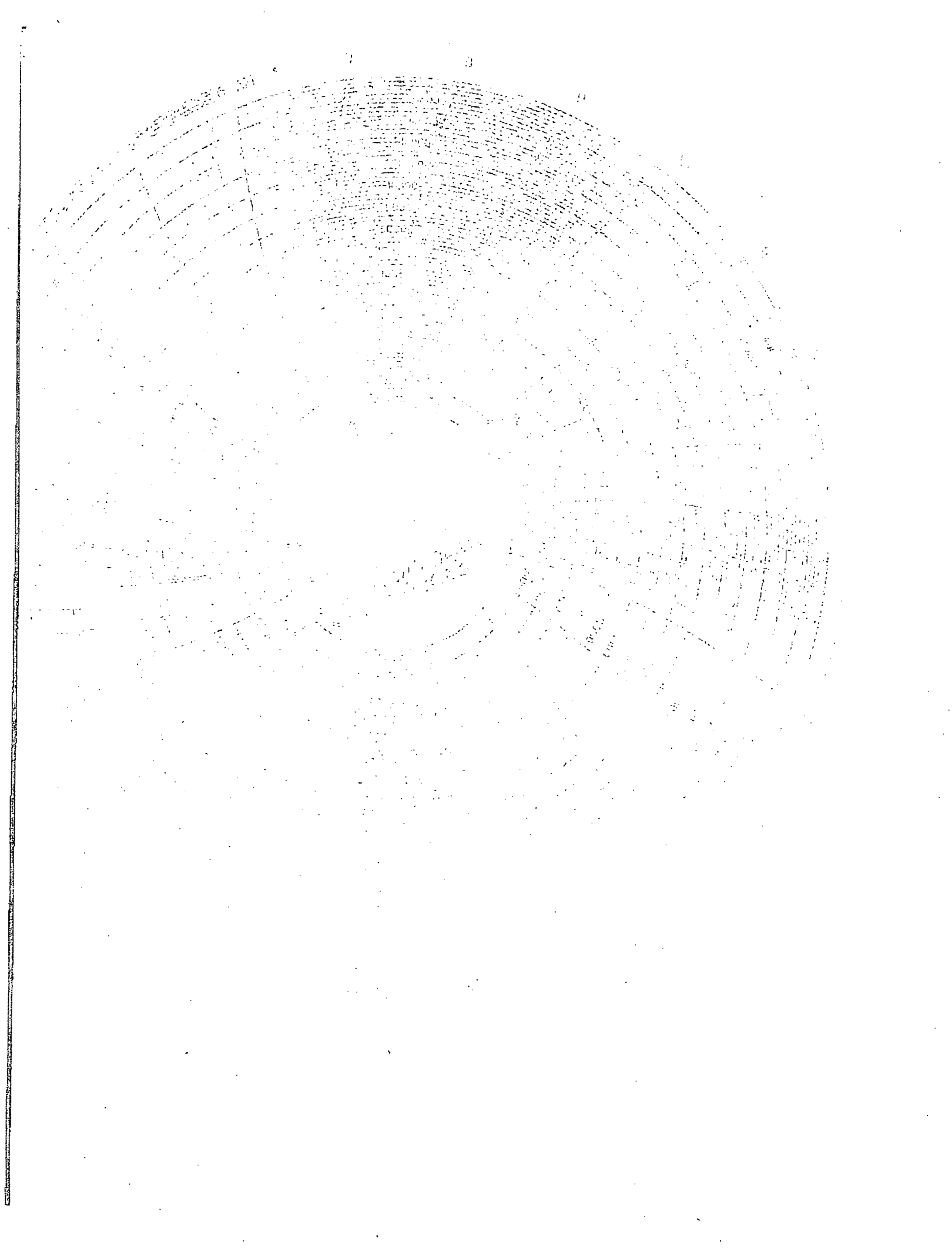
SIZE 3 1/2 LENGTH 23

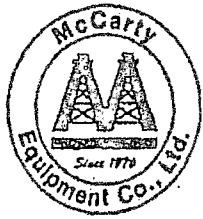
HYDROSTATICALLY TESTED AT 5000

BY Chance Perkins QA. Allen Casey

NEPHI RUBBER PRODUCTS CORP.

Corporate Office: P.O. Box 310 • LaPorte, Indiana 46352 • (800)348-8868 • (219)362-9908 • Fax Number (219)324-0815
Manufacturing: 255 West 11th North • Nephi, Utah 84648 • (800)453-1480 • (435)623-1740 • Fax Number (435)623-2638





Product Specification 3 1/2" CHOKE AND KILL LINE

Catalog Item? Yes **Design Factor** 2:1

Scope Hydraulic control line between BOP control system and Manifold Equipment

Tube High grade abrasion resistant synthetic HNBR for H₂S service

Cover High grade Neoprene with high ozone, abrasion and heat resistance

Fluids Oil based drilling fluids, glycols and polyglycols, and hydraulic oil

Reinforcement Multiple plies of Nylon Cord, with 2 high tensile spiraled wound cables

Pressure 5000 PSI Working Pressure 10,000 PSI Burst Test Pressure

Thermal Barrier Layer of thermal insulation material rated from -250° F to +1500° F
1/16" Chemical Resistant, Non-Flammable Industrial grade braided yarn

Outer Armor Interlocking stainless steel armor heat resistant +1500° F

Fittings Hose fitting is an Integral Swage Coupling with 4 1/6" RX-39 Flanges
Coupling combines locking features of the insulation and armor.

Lengths Lengths vary by request.

Testing Hydrostatically tested at 2 times working pressure for 5 minutes.

Conformity Manufactured to meet or exceed API 16C Specifications.
A prototype of each control line manufactured is then fire tested per API 16C.
Each control line is hydrostatically tested per API 16C Specifications.
Each control line is issued a serial number which is etched on the completed assembly and documented with a Certificate of Proof Test.

<u>ID</u>	<u>OD</u>	<u>WEIGHT FT/LBS</u>	<u>BEND RADIUS</u>	<u>W.P PSI</u>	<u>BURST PSI</u>
3 1/2"	5.75"	18.6	54"	5,000 PSI	10,000PSI

Construction

Tube: Black, oil and abrasion resistant HNBR for H₂S service.

Reinforcement: Multiple plies of bias laid textile cord for extra strength and flexibility. Spirally wound, high tensile, multiple strand cables to provide unsurpassed ruggedness and reliability to withstand sudden high pressure.

Cover: Special flame resistant red Neoprene (CR) with optional stainless steel armor.

Fittings: Integral connection flanged or hubbed.

Temperature: -40 to 212°F (-40 to 100°C)

Branding: NRP Choke & Kill Hose. MADE IN USA.

Choke & Kill Specifications

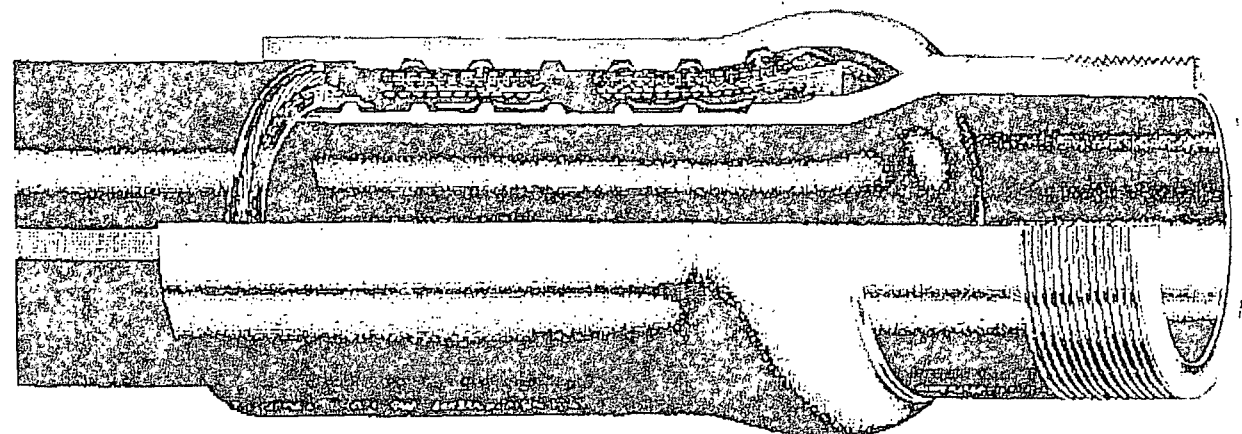
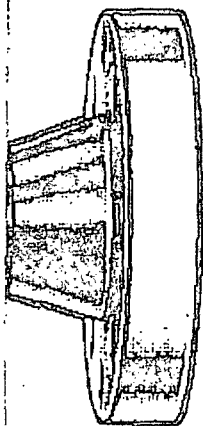
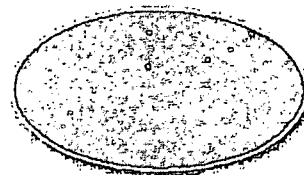
NRP Part Number	Hose ID (in)	Hose OD (in)	Rated WP (psi)	Test Pressure (psi)	Minimum Bend Radius	Weight per Foot (lbs)
5035-32	2.00	4.45	5,000	10,000	44	12.9
5035-40	2.50	4.60	5,000	10,000	48	13.9
5035-48	3.00	5.10	5,000	10,000	52	16.1
5040-32	2.00	4.68	10,000	15,000	48	22.4
5040-40	2.50	5.34	10,000	15,000	52	27.4
5040-48	3.00	5.84	10,000	15,000	56	28.8

Super Choke & Kill Specifications

5085-40	2.50	5.84	15,000	22,500	60	28.2
5085-48	3.00	6.34	15,000	22,500	60	34.1

Specifications

NRP Rotary Number	NRP Vibrator Number	Hose ID (in)	Hose OD (in)	Grade	Rated WP (psi)	Test Pressure (psi)	Minimum Bend Radius	Weight per Foot (lbs)	Weight of 2 Cplgs (lbs)	Cplg Thread API (in)
5501-40	5502-40	2.50	4.45	C	4,000	8,000	36	12.9	54	3
5501-48	5502-48	3.00	4.95	C	4,000	8,000	48	14.9	74	4
5501-56	5502-56	3.50	5.45	C	4,000	8,000	54	16.6	94	4
5603-40	5604-40	2.50	4.60	D	5,000	10,000	36	13.6	54	3
5603-48	5604-48	3.00	5.10	D	5,000	10,000	48	15.5	74	4
5603-56	5604-56	3.50	5.75	D	5,000	10,000	54	18.6	94	4
5603-64	5604-64	4.00	6.25	D	5,000	10,000	54	19.8	105	5





COG Operating LLC

Lea County, NM

Deckard Federal Com

#4H

OH

Plan: Plan #2

Standard Planning Report

20 May, 2014



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3622.5usft (Original Well Elev)
Project:	Lea County, NM	MD Reference:	WELL @ 3622.5usft (Original Well Elev)
Site:	Deckard Federal Com	North Reference:	Grid
Well:	#4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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

Site		Deckard Federal Com				
Site Position:		Northing:	446,229.30 usft	Latitude:	32° 13' 27.045 N	
From:	Map	Easting:	751,773.80 usft	Longitude:	103° 31' 9.014 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.43 °

Well	#4H					
Well Position	+N/-S	0.0 usft	Northing:	446,229.30 usft	Latitude:	32° 13' 27.045 N
	+E/-W	0.0 usft	Easting:	751,773.80 usft	Longitude:	103° 31' 9.014 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,600.5 usft

Wellbore	OH		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/19/2014	7.20	60.12	48,328

Design	Plan #2		
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Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.56

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,554.5	0.00	0.00	10,554.5	0.0	0.0	0.00	0.00	0.00	0.00	
11,300.9	89.56	179.56	11,032.0	-473.8	3.6	12.00	12.00	0.00	179.56	
15,584.5	89.56	179.56	11,064.9	-4,757.2	36.5	0.00	0.00	0.00	0.00	PBHL(DFC#4)



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Site:	Deckard Federal Com	North Reference:	Grid
Well:	#4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	



Wellplanning
Planning Report

Database:	EDM 5000.1 Single User Db	Local-Co-ordinate Reference:	Well #4H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3622.5usft (Original Well Elev)
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Well:	#4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,554.5	0.00	0.00	10,554.5	0.0	0.0	0.0	0.00	0.00	0.00



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3622.5usft (Original Well Elev)
Project:	Lea County, NM	MD Reference:	WELL @ 3622.5usft (Original Well Elev)
Site:	Deckard Federal Com	North Reference:	Grid
Well:	#4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
KOP - 10554.5' MD, 0.00° INC, 0.00° AZI										
10,575.0	2.46	179.56	10,575.0	-0.4	0.0	0.4	12.00	12.00	0.00	
10,600.0	5.46	179.56	10,599.9	-2.2	0.0	2.2	12.00	12.00	0.00	
10,625.0	8.46	179.56	10,624.7	-5.2	0.0	5.2	12.00	12.00	0.00	
10,650.0	11.46	179.56	10,649.4	-9.5	0.1	9.5	12.00	12.00	0.00	
10,675.0	14.46	179.56	10,673.7	-15.1	0.1	15.1	12.00	12.00	0.00	
10,700.0	17.46	179.56	10,697.8	-22.0	0.2	22.0	12.00	12.00	0.00	
10,725.0	20.46	179.56	10,721.4	-30.1	0.2	30.1	12.00	12.00	0.00	
10,750.0	23.46	179.56	10,744.6	-39.5	0.3	39.5	12.00	12.00	0.00	
10,775.0	26.46	179.56	10,767.2	-50.0	0.4	50.0	12.00	12.00	0.00	
10,800.0	29.46	179.56	10,789.3	-61.7	0.5	61.7	12.00	12.00	0.00	
10,825.0	32.46	179.56	10,810.8	-74.6	0.6	74.6	12.00	12.00	0.00	
10,850.0	35.46	179.56	10,831.5	-88.5	0.7	88.6	12.00	12.00	0.00	
10,875.0	38.46	179.56	10,851.5	-103.6	0.8	103.6	12.00	12.00	0.00	
10,900.0	41.46	179.56	10,870.6	-119.6	0.9	119.6	12.00	12.00	0.00	
10,925.0	44.46	179.56	10,888.9	-136.7	1.0	136.7	12.00	12.00	0.00	
10,950.0	47.46	179.56	10,906.3	-154.6	1.2	154.6	12.00	12.00	0.00	
10,975.0	50.45	179.56	10,922.7	-173.5	1.3	173.5	12.00	12.00	0.00	
11,000.0	53.45	179.56	10,938.1	-193.2	1.5	193.2	12.00	12.00	0.00	
11,025.0	56.45	179.56	10,952.5	-213.6	1.6	213.6	12.00	12.00	0.00	
11,050.0	59.45	179.56	10,965.7	-234.8	1.8	234.8	12.00	12.00	0.00	
11,075.0	62.45	179.56	10,977.9	-256.7	2.0	256.7	12.00	12.00	0.00	
11,100.0	65.45	179.56	10,988.9	-279.1	2.1	279.1	12.00	12.00	0.00	
11,125.0	68.45	179.56	10,998.6	-302.1	2.3	302.1	12.00	12.00	0.00	
11,150.0	71.45	179.56	11,007.2	-325.6	2.5	325.6	12.00	12.00	0.00	
11,175.0	74.45	179.56	11,014.5	-349.5	2.7	349.5	12.00	12.00	0.00	
11,200.0	77.45	179.56	11,020.6	-373.8	2.9	373.8	12.00	12.00	0.00	
11,225.0	80.45	179.56	11,025.4	-398.3	3.1	398.3	12.00	12.00	0.00	
11,250.0	83.45	179.56	11,028.9	-423.0	3.2	423.1	12.00	12.00	0.00	
11,275.0	86.45	179.56	11,031.1	-447.9	3.4	448.0	12.00	12.00	0.00	
11,300.9	89.56	179.56	11,032.0	-473.8	3.6	473.8	12.00	12.00	0.00	
EOC - 11300.9' MD, 89.56° INC, 179.56° AZI										
11,400.0	89.56	179.56	11,032.8	-572.9	4.4	572.9	0.00	0.00	0.00	
11,500.0	89.56	179.56	11,033.5	-672.9	5.2	672.9	0.00	0.00	0.00	
11,600.0	89.56	179.56	11,034.3	-772.9	5.9	772.9	0.00	0.00	0.00	
11,700.0	89.56	179.56	11,035.1	-872.9	6.7	872.9	0.00	0.00	0.00	
11,800.0	89.56	179.56	11,035.8	-972.9	7.5	972.9	0.00	0.00	0.00	
11,900.0	89.56	179.56	11,036.6	-1,072.9	8.2	1,072.9	0.00	0.00	0.00	
12,000.0	89.56	179.56	11,037.4	-1,172.9	9.0	1,172.9	0.00	0.00	0.00	
12,100.0	89.56	179.56	11,038.1	-1,272.9	9.8	1,272.9	0.00	0.00	0.00	
12,200.0	89.56	179.56	11,038.9	-1,372.9	10.5	1,372.9	0.00	0.00	0.00	
12,300.0	89.56	179.56	11,039.7	-1,472.9	11.3	1,472.9	0.00	0.00	0.00	
12,400.0	89.56	179.56	11,040.4	-1,572.9	12.1	1,572.9	0.00	0.00	0.00	
12,500.0	89.56	179.56	11,041.2	-1,672.9	12.8	1,672.9	0.00	0.00	0.00	
12,600.0	89.56	179.56	11,042.0	-1,772.8	13.6	1,772.9	0.00	0.00	0.00	
12,700.0	89.56	179.56	11,042.7	-1,872.8	14.4	1,872.9	0.00	0.00	0.00	
12,800.0	89.56	179.56	11,043.5	-1,972.8	15.2	1,972.9	0.00	0.00	0.00	
12,900.0	89.56	179.56	11,044.3	-2,072.8	15.9	2,072.9	0.00	0.00	0.00	
13,000.0	89.56	179.56	11,045.0	-2,172.8	16.7	2,172.9	0.00	0.00	0.00	
13,100.0	89.56	179.56	11,045.8	-2,272.8	17.5	2,272.9	0.00	0.00	0.00	
13,200.0	89.56	179.56	11,046.6	-2,372.8	18.2	2,372.9	0.00	0.00	0.00	
13,300.0	89.56	179.56	11,047.4	-2,472.8	19.0	2,472.9	0.00	0.00	0.00	
13,400.0	89.56	179.56	11,048.1	-2,572.8	19.8	2,572.9	0.00	0.00	0.00	
13,500.0	89.56	179.56	11,048.9	-2,672.8	20.5	2,672.9	0.00	0.00	0.00	



Wellplanning Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #4H
Company:	COG Operating LLC	TVD Reference:	WELL @ 3622.5usft (Original Well Elev)
Project:	Lea County, NM	MD Reference:	WELL @ 3622.5usft (Original Well Elev)
Site:	Deckard Federal Com	North Reference:	Grid
Well:	#4H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,600.0	89.56	179.56	11,049.7	-2,772.8	21.3	2,772.9	0.00	0.00	0.00
13,700.0	89.56	179.56	11,050.4	-2,872.8	22.1	2,872.9	0.00	0.00	0.00
13,800.0	89.56	179.56	11,051.2	-2,972.8	22.8	2,972.9	0.00	0.00	0.00
13,900.0	89.56	179.56	11,052.0	-3,072.8	23.6	3,072.9	0.00	0.00	0.00
14,000.0	89.56	179.56	11,052.7	-3,172.8	24.4	3,172.9	0.00	0.00	0.00
14,100.0	89.56	179.56	11,053.5	-3,272.8	25.1	3,272.9	0.00	0.00	0.00
14,200.0	89.56	179.56	11,054.3	-3,372.8	25.9	3,372.9	0.00	0.00	0.00
14,300.0	89.56	179.56	11,055.0	-3,472.7	26.7	3,472.8	0.00	0.00	0.00
14,400.0	89.56	179.56	11,055.8	-3,572.7	27.4	3,572.8	0.00	0.00	0.00
14,500.0	89.56	179.56	11,056.6	-3,672.7	28.2	3,672.8	0.00	0.00	0.00
14,600.0	89.56	179.56	11,057.3	-3,772.7	29.0	3,772.8	0.00	0.00	0.00
14,700.0	89.56	179.56	11,058.1	-3,872.7	29.7	3,872.8	0.00	0.00	0.00
14,800.0	89.56	179.56	11,058.9	-3,972.7	30.5	3,972.8	0.00	0.00	0.00
14,900.0	89.56	179.56	11,059.6	-4,072.7	31.3	4,072.8	0.00	0.00	0.00
15,000.0	89.56	179.56	11,060.4	-4,172.7	32.0	4,172.8	0.00	0.00	0.00
15,100.0	89.56	179.56	11,061.2	-4,272.7	32.8	4,272.8	0.00	0.00	0.00
15,200.0	89.56	179.56	11,061.9	-4,372.7	33.6	4,372.8	0.00	0.00	0.00
15,300.0	89.56	179.56	11,062.7	-4,472.7	34.3	4,472.8	0.00	0.00	0.00
15,400.0	89.56	179.56	11,063.5	-4,572.7	35.1	4,572.8	0.00	0.00	0.00
15,500.0	89.56	179.56	11,064.2	-4,672.7	35.9	4,672.8	0.00	0.00	0.00
15,584.5	89.56	179.56	11,064.9	-4,757.2	36.5	4,757.3	0.00	0.00	0.00
TD at 15584.5 - PBHL(DFC#4)									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL(DFC#4)	0.00	0.00	11,065.0	-4,757.2	36.8	441,472.10	751,810.60	32° 12' 39.968 N	103° 31' 9.006 W
- plan misses target center by 0.3usft at 15584.5usft MD (11064.9 TVD, -4757.2 N, 36.5 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
10,554.5	10,554.5	0.0	0.0	KOP - 10554.5 'MD, 0.00° INC, 0.00° AZI
11,300.9	11,032.0	-473.8	3.6	EOC- 11300.9 'MD, 89.56° INC, 179.56° AZI
15,584.5	11,064.9	-4,757.2	36.5	TD at 15584.5



COG Operating LLC
Project: Lea County, NM
Site: Deckard Federal Com
Well: #4H
Wellbore: OH
Plan: Plan #2 (#4H/OH)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	10554.5	0.00	0.00	10554.5	0.0	0.0	0.00	0.00	0.0	
3	11300.9	89.56	179.56	11032.0	-473.8	3.6	12.00	179.56	473.8	
4	15584.5	89.56	179.56	11064.9	-4757.2	36.5	0.00	0.00	4757.3	PBHL(DFC#4)

WELL DETAILS: #4H

Ground Elevation:: 3600.5
RKB Elevation: WELL @ 3622.5usft (Original Well Elev)
Rig Name: Original Well Elev

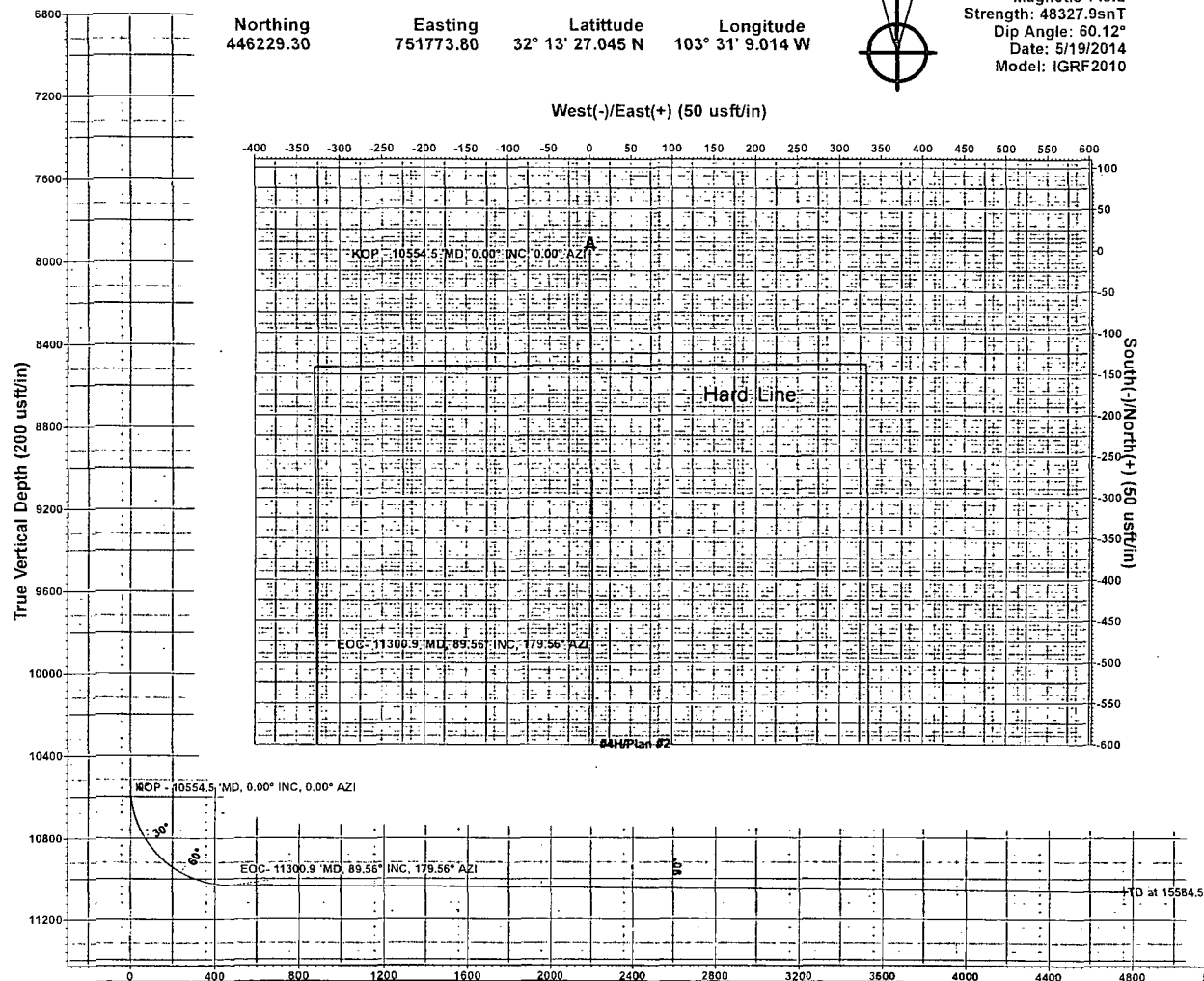
Northing 446229.30 Easting 751773.80 Latitude 32° 13' 27.045 N Longitude 103° 31' 9.014 W



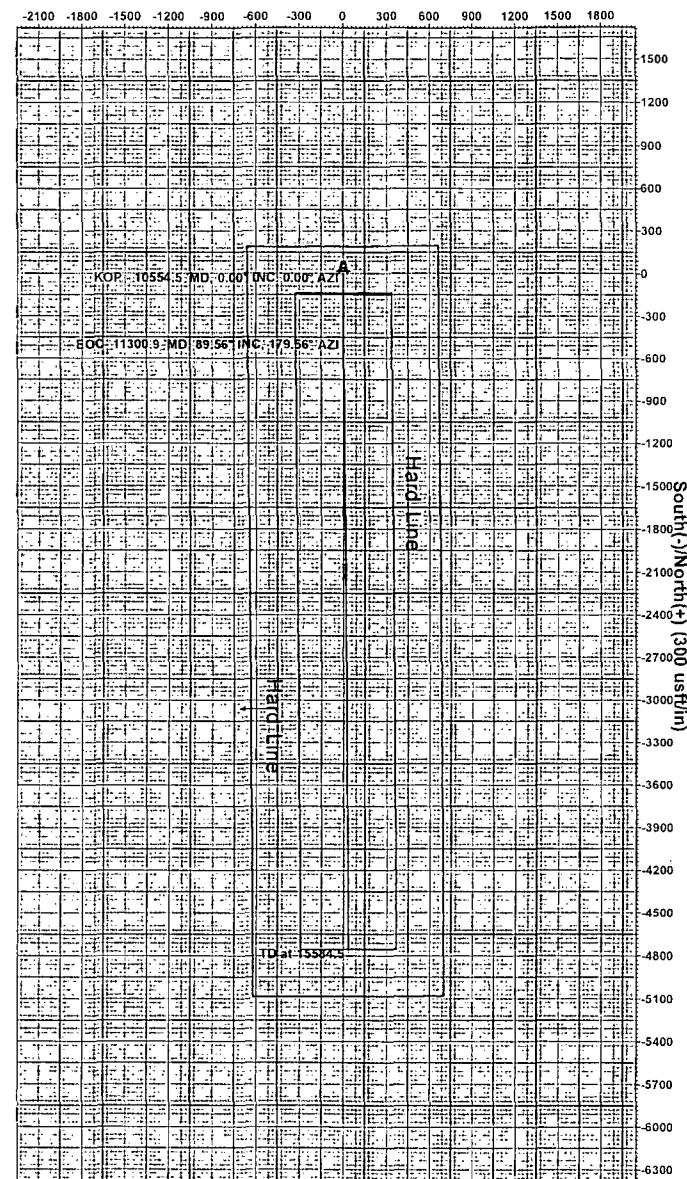
Azimuths to Grid North
True North: -0.43°
Magnetic North: 6.77°

Magnetic Field
Strength: 48327.9snT
Dip Angle: 60.12°
Date: 5/19/2014
Model: IGRF2010

West(-)/East(+) (50 usft/in)



West(-)/East(+) (300 usft/in)



Plan: Plan #2 (#4H/OH)
Created By: Well Planner Date: 18:08, May 20 2014

Vertical Section at 179.56° (200 usft/in)
Terra Directional Services
322 Spring Hill Drive, Suite A100, Spring, Texas 77386
432.425.7532

PROJECT DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Co-Flex line
Conditions of Approval

Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).