

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0724

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

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

RECEIVED

JUN 04 2014

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015- 42431	Pool Code 3250	Pool Name Atoka; Glorieta Yeso
Property Code 39962	Property Name BRAGG 10 FEE	Well Number 2H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3333'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	10	19-S	26-E		150	SOUTH	1655	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	10	19-S	26-E		330	NORTH	1672	WEST	EDDY
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

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

Estimated Completed Interval: 330 FSL 1655 FWL	GEODETIC COORDINATES NAD 27 NME BOTTOM HOLE LOCATION Y=611665.1 N X=487934.9 E LAT.=32.681561° N LONG.=104.372546° W.	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. <i>Kelly J. Holly</i> Signature 5-13-14 Date Kelly J. Holly Printed Name kholly@concho.com E-mail Address
	CORNER COORDINATES TABLE NAD 27 NME A - Y=611997.8 N, X=487597.1 E B - Y=611986.9 N, X=488941.2 E C - Y=606633.0 N, X=487722.8 E D - Y=606627.3 N, X=489045.2 E	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. MARCH 27, 2014
	GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=606781.6 N X=488051.6 E LAT.=32.668137° N LONG.=104.372161° W	Date of Survey Signature & Seal of Professional Surveyor: GARY G. EIDSON NEW MEXICO 12641 Surveyor Certificate Number... Gary G. Eidson 12641 Ronald J. Eidson 3239 ACK
		NEW MEXICO W.S.C. W.O.: 14.11.0315



NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 04 2014

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COG Operating LLC

Eddy County, NM (NAD27 NME)

Bragg 10 Fee

#2H

WB1

Plan: Plan #1 05-06-14

Surface: 150' FSL, 1655' FWL, Sec 10, T19S, R26E, Unit N

PP: 330' FSL, 1655' FWL, Sec 10, T19S, R26E, Unit N

BHL: 330' FNL, 1672' FWL, Sec 10, T19S, R26E, Unit C

Standard Planning Report

06 May, 2014





Phoenix Technology Services
Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	KB @ 3333.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3333.00usft (TBD)
Site:	Bragg 10 Fee	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1 05-06-14		

Project:	Eddy County, NM (NAD27 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:	Bragg 10 Fee		
Site Position:		Northing:	606,787.30 usft
From:	Map	Easting:	486,726.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 5.34496 N
		Longitude:	104° 22' 35.28540 W
		Grid Convergence:	-0.02 °

Well:	#2H		
Well Position	+N-S	-5.70 usft	Northing:
	+E-W	1,325.30 usft	Easting:
Position Uncertainty		0.00 usft	Wellhead Elevation:
			Ground Level:
			3,333.00 usft

Wellbore:	WB1		
Magnetics:	Model Name	Sample Date	Declination
			(°)
	IGRF2010_14	05/06/14	7.63
			Dip Angle
			(°)
			60.39
			Field Strength
			(nT)
			48,507

Design:	Plan #1: 05-06-14		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			358.63

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,854.96	0.00	0.00	2,854.96	0.00	0.00	0.00	0.00	0.00	0.00	
3,682.24	91.00	358.63	3,375.76	529.81	-12.66	11.00	11.00	0.00	358.63	
8,037.83	91.00	358.63	3,299.74	4,883.50	-116.70	0.00	0.00	0.00	0.00	PBHL-Bragg 10 Fee #



Phoenix Technology Services

Planning Report



Database:	GCR.DB	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	KB @ 3333.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3333.00usft (TBD)
Site:	Bragg 10 Fee	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1:05-06-14		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,854.96	0.00	0.00	2,854.96	0.00	0.00	0.00	0.00	0.00	0.00	
KOP, 11°/100' Build										
2,900.00	4.95	358.63	2,899.94	1.95	-0.05	1.95	11.00	11.00	0.00	
3,000.00	15.95	358.63	2,998.13	20.06	-0.48	20.06	11.00	11.00	0.00	
3,100.00	26.95	358.63	3,091.06	56.57	-1.35	56.58	11.00	11.00	0.00	
3,200.00	37.95	358.63	3,175.31	110.13	-2.63	110.16	11.00	11.00	0.00	
3,300.00	48.95	358.63	3,247.80	178.78	-4.27	178.83	11.00	11.00	0.00	
3,301.61	49.13	358.63	3,248.85	180.00	-4.30	180.05	11.00	11.00	0.00	
PP-Bragg 10 Fee #2H										
3,400.00	59.95	358.63	3,305.84	260.00	-6.21	260.07	11.00	11.00	0.00	
3,500.00	70.95	358.63	3,347.32	350.80	-8.38	350.90	11.00	11.00	0.00	
3,600.00	81.95	358.63	3,370.71	447.84	-10.70	447.96	11.00	11.00	0.00	
3,679.71	90.72	358.63	3,375.79	527.28	-12.60	527.43	11.00	11.00	0.00	
TL, 3385° TVD @ 0.02°/100' Inc										
3,682.24	91.00	358.63	3,375.76	529.81	-12.66	529.96	11.00	11.00	0.00	
LP, Hold 91° Inc, 358.63° Azm										
3,700.00	91.00	358.63	3,375.45	547.57	-13.09	547.72	0.00	0.00	0.00	
3,800.00	91.00	358.63	3,373.70	647.52	-15.47	647.71	0.00	0.00	0.00	
3,900.00	91.00	358.63	3,371.96	747.48	-17.86	747.69	0.00	0.00	0.00	
4,000.00	91.00	358.63	3,370.21	847.43	-20.25	847.68	0.00	0.00	0.00	
4,100.00	91.00	358.63	3,368.46	947.39	-22.64	947.66	0.00	0.00	0.00	
4,200.00	91.00	358.63	3,366.72	1,047.35	-25.03	1,047.65	0.00	0.00	0.00	
4,300.00	91.00	358.63	3,364.97	1,147.30	-27.42	1,147.63	0.00	0.00	0.00	
4,400.00	91.00	358.63	3,363.23	1,247.26	-29.81	1,247.61	0.00	0.00	0.00	
4,500.00	91.00	358.63	3,361.48	1,347.22	-32.19	1,347.60	0.00	0.00	0.00	
4,600.00	91.00	358.63	3,359.74	1,447.17	-34.58	1,447.58	0.00	0.00	0.00	
4,700.00	91.00	358.63	3,357.99	1,547.13	-36.97	1,547.57	0.00	0.00	0.00	
4,800.00	91.00	358.63	3,356.25	1,647.08	-39.36	1,647.55	0.00	0.00	0.00	
4,900.00	91.00	358.63	3,354.50	1,747.04	-41.75	1,747.54	0.00	0.00	0.00	
5,000.00	91.00	358.63	3,352.76	1,847.00	-44.14	1,847.52	0.00	0.00	0.00	
5,100.00	91.00	358.63	3,351.01	1,946.95	-46.53	1,947.51	0.00	0.00	0.00	
5,200.00	91.00	358.63	3,349.27	2,046.91	-48.91	2,047.49	0.00	0.00	0.00	
5,300.00	91.00	358.63	3,347.52	2,146.86	-51.30	2,147.48	0.00	0.00	0.00	
5,400.00	91.00	358.63	3,345.78	2,246.82	-53.69	2,247.46	0.00	0.00	0.00	
5,500.00	91.00	358.63	3,344.03	2,346.78	-56.08	2,347.45	0.00	0.00	0.00	
5,600.00	91.00	358.63	3,342.29	2,446.73	-58.47	2,447.43	0.00	0.00	0.00	
5,700.00	91.00	358.63	3,340.54	2,546.69	-60.86	2,547.42	0.00	0.00	0.00	
5,800.00	91.00	358.63	3,338.80	2,646.65	-63.25	2,647.40	0.00	0.00	0.00	
5,900.00	91.00	358.63	3,337.05	2,746.60	-65.63	2,747.39	0.00	0.00	0.00	
6,000.00	91.00	358.63	3,335.31	2,846.56	-68.02	2,847.37	0.00	0.00	0.00	
6,100.00	91.00	358.63	3,333.56	2,946.51	-70.41	2,947.36	0.00	0.00	0.00	
6,200.00	91.00	358.63	3,331.81	3,046.47	-72.80	3,047.34	0.00	0.00	0.00	
6,300.00	91.00	358.63	3,330.07	3,146.43	-75.19	3,147.33	0.00	0.00	0.00	
6,400.00	91.00	358.63	3,328.32	3,246.38	-77.58	3,247.31	0.00	0.00	0.00	
6,500.00	91.00	358.63	3,326.58	3,346.34	-79.97	3,347.30	0.00	0.00	0.00	
6,600.00	91.00	358.63	3,324.83	3,446.30	-82.36	3,447.28	0.00	0.00	0.00	
6,700.00	91.00	358.63	3,323.09	3,546.25	-84.74	3,547.26	0.00	0.00	0.00	
6,800.00	91.00	358.63	3,321.34	3,646.21	-87.13	3,647.25	0.00	0.00	0.00	
6,900.00	91.00	358.63	3,319.60	3,746.16	-89.52	3,747.23	0.00	0.00	0.00	
7,000.00	91.00	358.63	3,317.85	3,846.12	-91.91	3,847.22	0.00	0.00	0.00	
7,100.00	91.00	358.63	3,316.11	3,946.08	-94.30	3,947.20	0.00	0.00	0.00	
7,200.00	91.00	358.63	3,314.36	4,046.03	-96.69	4,047.19	0.00	0.00	0.00	
7,300.00	91.00	358.63	3,312.62	4,145.99	-99.08	4,147.17	0.00	0.00	0.00	



Phoenix Technology Services
Planning Report



Database:	GCR DB	Local Co-ordinate Reference:	Well #2H
Company:	COG Operating LLC	TVD Reference:	KB @ 3333.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3333.00usft (TBD)
Site:	Bragg 10 Fee	North Reference:	Grid
Well:	#2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1 05-06-14		

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)
7,400.00	91.00	358.63	3,310.87	4,245.95	-101.46	4,247.16	0.00	0.00	0.00
7,500.00	91.00	358.63	3,309.13	4,345.90	-103.85	4,347.14	0.00	0.00	0.00
7,600.00	91.00	358.63	3,307.38	4,445.86	-106.24	4,447.13	0.00	0.00	0.00
7,700.00	91.00	358.63	3,305.64	4,545.81	-108.63	4,547.11	0.00	0.00	0.00
7,800.00	91.00	358.63	3,303.89	4,645.77	-111.02	4,647.10	0.00	0.00	0.00
7,900.00	91.00	358.63	3,302.15	4,745.73	-113.41	4,747.08	0.00	0.00	0.00
8,000.00	91.00	358.63	3,300.40	4,845.68	-115.80	4,847.07	0.00	0.00	0.00
8,037.83	91.00	358.63	3,299.74	4,883.50	-116.70	4,884.89	0.00	0.00	0.00
TD at 8037.83 - PBHL-Bragg 10 Fee #2H									

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP-Bragg 10 Fee #2H	- plan hits target center	0.00	0.00	3,248.85	180.00	-4.30	606,961.60	488,047.30	32° 40' 7.07483 N	104° 22' 19.83215 W
PBHL-Bragg 10 Fee #2H	- plan hits target center	0.00	0.00	3,299.74	4,883.50	-116.70	611,665.10	487,934.90	32° 40' 53.61867 N	104° 22' 21.16741 W
	- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,679.71	3,375.79	TL, 3385' TVD @ 0 VZ, 91.0° Inc		-1.00	358.63

Plan Annotations

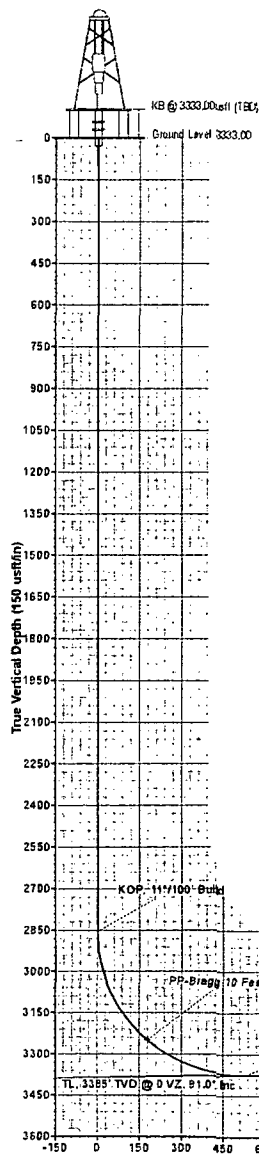
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment
2,854.96	2,854.96	0.00	KOP, 11°/100' Build
3,682.24	3,375.76	529.81	LP, Hold 91° Inc, 358.63° Azm
8,037.83	3,299.74	4,883.50	TD at 8037.83



Project: Eddy County, NM (NAD27 NME)
Site: Bragg 10 Fee
Well: #2H
Wellbore: WB1
Design: Plan #1 05-06-14



North
Azimuths to Grid North
True North: 0.02°
Magnetic North: 7.65°
Magnetic Field
Strength: 48506.9 nT
Dip Angle: 60.39°
Date: 05/06/2014
Model: IGRF2010_14



WELL DETAILS									
	-N/S	-E/W	Nothing	Ground Level	3333.00				
				Easting	488051.60	Latitude	Longitude		
						32° 40' 5.29362 N	104° 22' 19.78106 W		

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	-N/S	-E/W	Diag	Tface	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2854.96	0.00	0.00	2854.96	0.00	0.00	0.00	0.00	0.00
3	3682.24	91.00	358.63	3375.75	529.81	-12.66	11.00	358.63	529.86
4	8037.83	91.00	358.63	3299.74	4893.50	-115.70	0.00	0.00	4894.89

DESIGN TARGET DETAILS									
Name	TVD	-N/S	-E/W	Nothing	Easting	Latitude	Longitude	Shape	
PP-Bragg 10 Fee #2H	3249.85	180.00	-4.30	506861.60	489047.20	32° 40' 7.07433 N	104° 22' 19.83015 W	Point	
- plan nbs target center									
PBHL-Bragg 10 Fee #2H	3299.74	4893.50	-115.70	511665.10	487934.90	32° 40' 53.61867 N	104° 22' 21.16741 W	Point	
- plan nbs target center									

LEGEND									
—	#2H, WB1/Job #1311177, Surveys (Silver Oak 3) VO								
—	#2H, WB2/Job #1311177, Surveys (Silver Oak 3) VO								
—	Plan #1 05-06-14								

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 #2H, Grid North
Latitude: 32° 40' 5.29362 N
Longitude: 104° 22' 19.78106 W
Grid East: 488051.60
Grid North: 506781.60
Scale Factor: 1.000
Geomagnetic Model: IGRF2010_14
Sample Date: 05-May-14
Magnetic Declination: 7.63°
Dip Angle from Horizontal: 60.39°
Magnetic Field Strength: 48507
To convert a Magnetic Direction to a Grid Direction, Add 7.65°
To convert a Magnetic Direction to a True Direction, Add 7.63° East
To convert a True Direction to a Grid Direction, Add 0.02°

FORMATION TOP DETAILS									
TVDPath	MDPath	Formation	DipAngle	Depth					
3275.79	3579.71	TL 3385 TVD @ 0 VZ, 91.0° Inc	-1.00	358.63					

