

30-025-42006

HOBBS OCD

JUL 30 2014

RECEIVED



COG Operating LLC

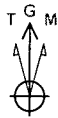
Well: Queso State Well No. 3H
 Site: Queso State
 Project: Lea County, New Mexico
 Design: rev0
 Rig: Independence 205

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	10472.54	0.00	0.00	10472.54	0.00	0.00	0.00	0.00	0.00	KOP Begin 12°/100' build
3	11222.54	90.00	358.44	10950.00	477.29	-13.03	12.00	358.44	477.46	Begin 90.00° lateral
4	15295.27	90.00	358.44	10950.00	4548.50	-124.20	0.00	0.00	4550.20	PBHL/TD

Surface Location: RKB=3644.2+26 @ 3670.20usft (Independence 205)
 US State Plane 1927 (Exact solution)
 New Mexico East 3001

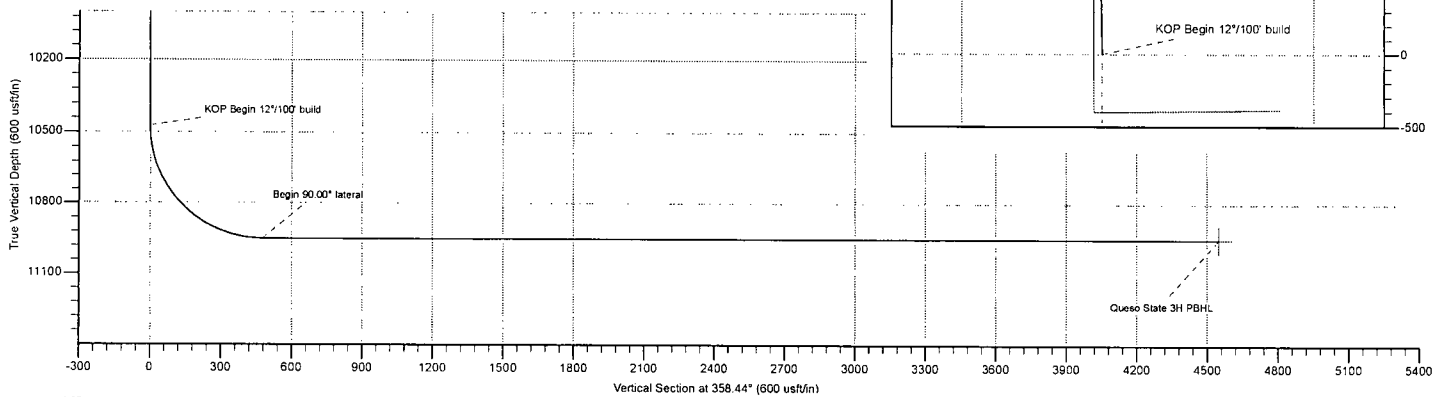
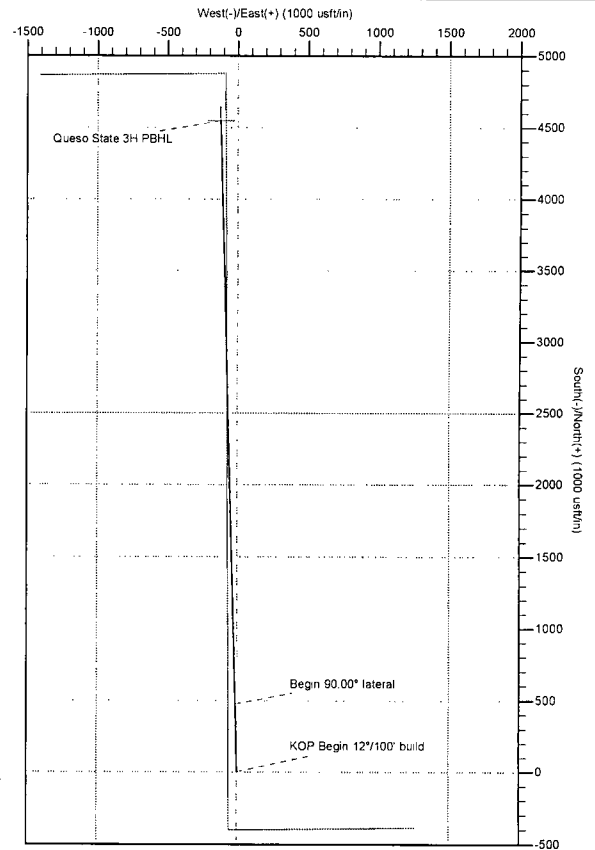
Northing: 457191.00 Easting: 719477.50 Latitude: 32.25493958 Longitude: -103.62336572
 Total Correction (M => G) To convert a Magnetic Direction to a Grid Direction, Add 6.85°



Azimuths to Grid North
 True North: -0.38°
 Magnetic North: 6.85°

Magnetic Field
 Strength: 48315.2nT
 Dip Angle: 66.13°
 Date: 7/30/2014
 Model: IGRF2010

N-ZONE



8/27, July 30 2014

AUG 01 2014



COG Operating LLC

Lea County, New Mexico

Queso State

Queso State Well No. 3H

Original Hole

SHL: 400 FSL 1260 FEL

BHL: 330 FNL 1360 FEL

Plan: rev0

Standard_report

30 July, 2014



Standard_report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Queso State Well No. 3H
Project:	Lea County, New Mexico	TVD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Site:	Queso State	MD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Well:	Queso State Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	EDM 5000.1 Ddatabase

Project:	Lea County, New Mexico		
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:	Queso State				
Site Position:		Northing:	457,191.00 usft	Latitude:	32.25493998
From:	Map	Easting:	719,477.50 usft	Longitude:	-103.62336572
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.38 "

Well:	Queso State Well No. 3H, Surf Loc: 400 FSL 1260 FEL Sect 36					
Well Position	+N-S	0.00 usft	Northing:	457,191.00 usft	Latitude:	32.25493998
	+E-W	0.00 usft	Easting:	719,477.50 usft	Longitude:	-103.62336572
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,644.20 usft	

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	7/30/2014	7.23	60.13	48,315

Design	rev0			
Audit Notes:				
Version:	Phase: PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	358.44

Survey Tool Program	Date	7/30/2014		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.00	15,294.73	rev0 (Original Hole)	MWD	MWD - Standard



Standard_report

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Site:	Queso State	MD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Well:	Queso State Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	EDM 5000.1 Ddatabase

Planned Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50



Standard_report

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Project:	Lea County, New Mexico	TVD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Site:	Queso State	MD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Well:	Queso State Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	EDM 5000.1 Ddatabase

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2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	



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5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50	



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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,200.00	0.00	0.00	10,200.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,300.00	0.00	0.00	10,300.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,400.00	0.00	0.00	10,400.00	0.00	0.00	0.00	0.00	457,191.00	719,477.50
10,472.54	0.00	0.00	10,472.54	0.00	0.00	0.00	0.00	457,191.00	719,477.50
KOP Begin 12 3/100' build									
10,500.00	3.30	358.44	10,499.98	0.79	-0.02	12.00	0.79	457,191.79	719,477.48



Standard_report

Company: COG Operating LLC
Project: Lea County, New Mexico
Site: Queso State
Well: Queso State Well No. 3H
Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference: Well Queso State Well No. 3H
TVD Reference: RKB=3644.2+26 @ 3670.20usft (Independence 205)
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100ft)	V. Sec (usft)	Northing (usft)	Easting (usft)
10,600.00	15.30	358.44	10,598.49	16.91	-0.46	12.00	16.91	457,207.91	719,477.04
10,700.00	27.30	358.44	10,691.49	53.14	-1.45	12.00	53.16	457,244.14	719,476.05
10,800.00	39.30	358.44	10,774.93	107.92	-2.95	12.00	107.96	457,298.92	719,474.55
10,900.00	51.30	358.44	10,845.14	178.84	-4.88	12.00	178.90	457,369.84	719,472.62
11,000.00	63.30	358.44	10,899.08	262.80	-7.18	12.00	262.90	457,453.80	719,470.32
11,100.00	75.30	358.44	10,934.37	356.13	-9.72	12.00	356.27	457,547.13	719,467.78
11,200.00	87.30	358.44	10,949.47	454.76	-12.42	12.00	454.93	457,645.76	719,465.08
11,222.54	90.00	358.44	10,950.00	477.29	-13.03	12.00	477.46	457,668.29	719,464.47
Begin 90.00° lateral									
11,300.00	90.00	358.44	10,950.00	554.72	-15.15	0.00	554.93	457,745.72	719,462.35
11,400.00	90.00	358.44	10,950.00	654.68	-17.88	0.00	654.93	457,845.68	719,459.62
11,500.00	90.00	358.44	10,950.00	754.64	-20.61	0.00	754.93	457,945.64	719,456.89
11,600.00	90.00	358.44	10,950.00	854.61	-23.34	0.00	854.93	458,045.61	719,454.16
11,700.00	90.00	358.44	10,950.00	954.57	-26.07	0.00	954.93	458,145.57	719,451.43
11,800.00	90.00	358.44	10,950.00	1,054.53	-28.79	0.00	1,054.93	458,245.53	719,448.71
11,900.00	90.00	358.44	10,950.00	1,154.50	-31.52	0.00	1,154.93	458,345.50	719,445.98
12,000.00	90.00	358.44	10,950.00	1,254.46	-34.25	0.00	1,254.93	458,445.46	719,443.25
12,100.00	90.00	358.44	10,950.00	1,354.42	-36.98	0.00	1,354.93	458,545.42	719,440.52
12,200.00	90.00	358.44	10,950.00	1,454.38	-39.71	0.00	1,454.93	458,645.38	719,437.79
12,300.00	90.00	358.44	10,950.00	1,554.35	-42.44	0.00	1,554.93	458,745.35	719,435.06
12,400.00	90.00	358.44	10,950.00	1,654.31	-45.17	0.00	1,654.93	458,845.31	719,432.33
12,500.00	90.00	358.44	10,950.00	1,754.27	-47.90	0.00	1,754.93	458,945.27	719,429.60
12,600.00	90.00	358.44	10,950.00	1,854.23	-50.63	0.00	1,854.93	459,045.23	719,426.87
12,700.00	90.00	358.44	10,950.00	1,954.20	-53.36	0.00	1,954.93	459,145.20	719,424.14
12,800.00	90.00	358.44	10,950.00	2,054.16	-56.09	0.00	2,054.93	459,245.16	719,421.41
12,900.00	90.00	358.44	10,950.00	2,154.12	-58.82	0.00	2,154.93	459,345.12	719,418.68
13,000.00	90.00	358.44	10,950.00	2,254.09	-61.55	0.00	2,254.93	459,445.09	719,415.95



Standard_report

Company: COG Operating LLC
Project: Lea County, New Mexico
Site: Queso State
Well: Queso State Well No. 3H
Wellbore: Original Hole
Design: rev0

Local Co-ordinate Reference: Well Queso State Well No. 3H
TVD Reference: RKB=3644.2+26 @ 3670.20usft (Independence 205)
MD Reference: RKB=3644.2+26 @ 3670.20usft (Independence 205)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Ddatabase

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100ft)	V: Sec (usft)	Northing (usft)	Easting (usft)
13,100.00	90.00	358.44	10,950.00	2,354.05	-64.28	0.00	2,354.93	459,545.05	719,413.22
13,200.00	90.00	358.44	10,950.00	2,454.01	-67.01	0.00	2,454.93	459,645.01	719,410.49
13,300.00	90.00	358.44	10,950.00	2,553.97	-69.74	0.00	2,554.93	459,744.97	719,407.76
13,400.00	90.00	358.44	10,950.00	2,653.94	-72.47	0.00	2,654.93	459,844.94	719,405.03
13,500.00	90.00	358.44	10,950.00	2,753.90	-75.20	0.00	2,754.93	459,944.90	719,402.30
13,600.00	90.00	358.44	10,950.00	2,853.86	-77.93	0.00	2,854.93	460,044.86	719,399.57
13,700.00	90.00	358.44	10,950.00	2,953.82	-80.66	0.00	2,954.93	460,144.82	719,396.84
13,800.00	90.00	358.44	10,950.00	3,053.79	-83.39	0.00	3,054.93	460,244.79	719,394.11
13,900.00	90.00	358.44	10,950.00	3,153.75	-86.12	0.00	3,154.93	460,344.75	719,391.38
14,000.00	90.00	358.44	10,950.00	3,253.71	-88.84	0.00	3,254.93	460,444.71	719,388.66
14,100.00	90.00	358.44	10,950.00	3,353.68	-91.57	0.00	3,354.93	460,544.68	719,385.93
14,200.00	90.00	358.44	10,950.00	3,453.64	-94.30	0.00	3,454.93	460,644.64	719,383.20
14,300.00	90.00	358.44	10,950.00	3,553.60	-97.03	0.00	3,554.93	460,744.60	719,380.47
14,400.00	90.00	358.44	10,950.00	3,653.56	-99.76	0.00	3,654.93	460,844.56	719,377.74
14,500.00	90.00	358.44	10,950.00	3,753.53	-102.49	0.00	3,754.93	460,944.53	719,375.01
14,600.00	90.00	358.44	10,950.00	3,853.49	-105.22	0.00	3,854.93	461,044.49	719,372.28
14,700.00	90.00	358.44	10,950.00	3,953.45	-107.95	0.00	3,954.93	461,144.45	719,369.55
14,800.00	90.00	358.44	10,950.00	4,053.41	-110.68	0.00	4,054.93	461,244.41	719,366.82
14,900.00	90.00	358.44	10,950.00	4,153.38	-113.41	0.00	4,154.93	461,344.38	719,364.09
15,000.00	90.00	358.44	10,950.00	4,253.34	-116.14	0.00	4,254.93	461,444.34	719,361.36
15,100.00	90.00	358.44	10,950.00	4,353.30	-118.87	0.00	4,354.93	461,544.30	719,358.63
15,200.00	90.00	358.44	10,950.00	4,453.27	-121.60	0.00	4,454.93	461,644.27	719,355.90
15,295.27	90.00	358.44	10,950.00	4,548.50	-124.20	0.00	4,550.20	461,739.50	719,353.30
PBHL/TD									



Standard_report

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well Queso State Well No. 3H
Project:	Lea County, New Mexico	TVD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Site:	Queso State	MD Reference:	RKB=3644.2+26 @ 3670.20usft (Independence 205)
Well:	Queso State Well No. 3H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	rev0	Database:	EDM 5000.1 Ddatabase

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,472.54	10,472.54	0.00	0.00	KOP Begin 12"/100' build
11,222.54	10,950.00	477.29	-13.03	Begin 90.00° lateral
15,295.27	10,950.00	4,548.50	-124.20	PBHL/TD