

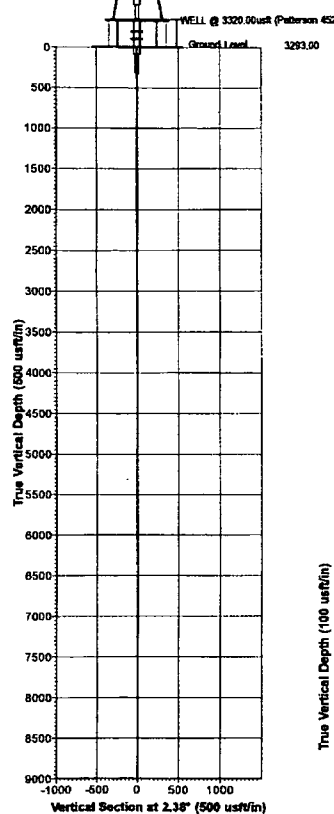
DETAILS			
Level	3293.00		
Existing		Latitude	Longitude
33.00		32° 0' 53.7140 N	103° 33' 15.21704 W

LOW DETAILS				
	TFace	VSeet	Target	Annotation
	0.00	0.00		
	0.00	0.00		KCP: Start Build 12.00"/100
	17.30	465.40		LP: Start Turn 3.00"/100
	-48.81	1050.78		EOT: 90.5° line at 359.57' Azi
	0.00	4835.18	BHL Ophelia 27 #2H	TD at 14531.87



Azimuths to Grid North
True North: -0.41°
Magnetic North: 0.83°

Magnetic Field
Strength: 48230.7 nT
Dip Angle: 59.93°
Date: 01/28/2014
Model: IGRF2010_14



WELL DETAILS					
		Ground Level	3293.00		
N/E/S	+E/W	Northing	Easting	Latitude	Longitude
0.00	0.00	370625.00	741463.00	32° 0' 53.71140 N	103° 33' 15.21704 W

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/A-S	+E/W	Dip	TFace	V-Sect	Target	Annotation
1	0.00	0.00	0.00	0.00							
2	9397.55	0.00	0.00	9397.55			0.00	0.00	0.00		KOP: Start Build 12.00"/100'
3	10151.72	90.50	17.30	9875.00	459.84	143.23	12.00	17.30	465.40		LP: Start Turn 3.00"/100'
4	10742.78	90.50	359.57	9869.78	1042.14	229.56	3.00	-89.91	1050.78		EOT: 90.5° Inc at 359.57° Azi
5	14531.87	90.50	359.57	9839.50	4831.00	201.00	0.00	0.00	4835.18	BHL Ophelia 27 #2H	EOT: 14531.87

DESIGN TARGET DETAILS								
Name	TVD	+N+S	+E+W	Northing	Easting	Latitude	Longitude	Shape
BH1, Ophelia 27 62H	9839.50	4831.00	201.00	740856.00	741684.00	32° 1' 41.50359 N	103° 33' 12.47700 W	Point
Lar Port Ophelia 27 62H	9837.40	4731.00	232.00	740758.00	741685.00	32° 0' 40.51304 N	103° 33' 12.47446 W	Point
Upr Port Ophelia 27 62H	9877.85	4111.00	206.00	737013.00	741719.50	32° 0' 54.79299 N	103° 33' 12.46886 W	Point

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

Local Origin: Well #2H, Grid North

Latitude: 32° 0' 53.71140 N
Longitude: 103° 33' 15.21704 W

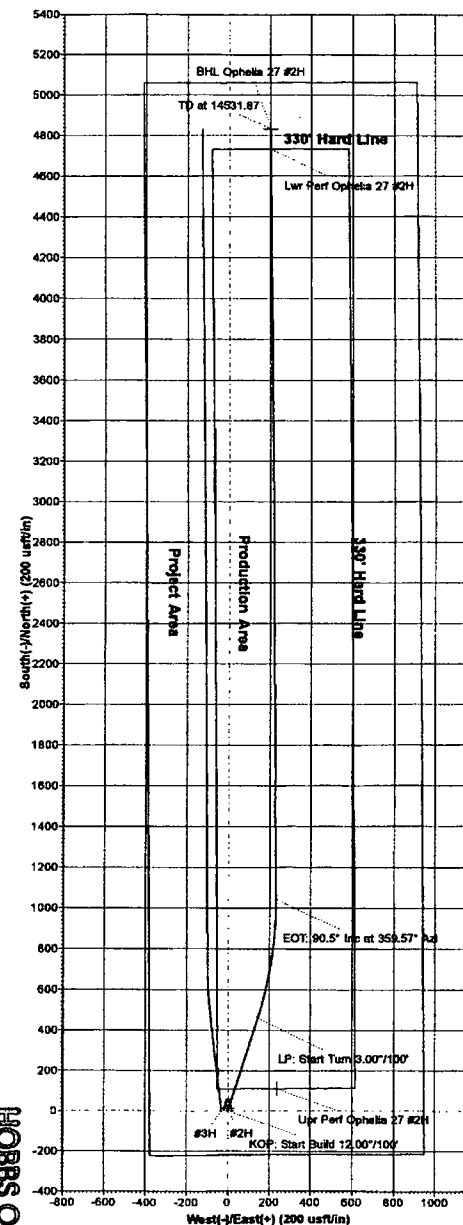
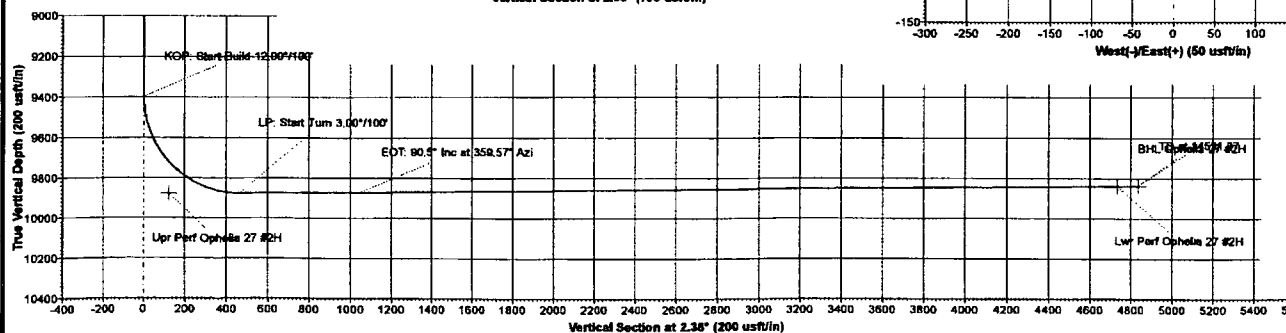
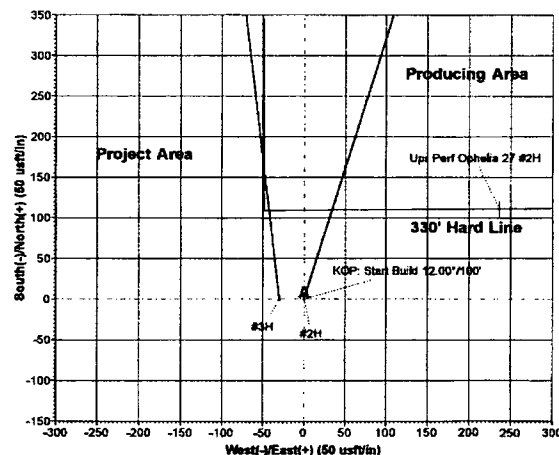
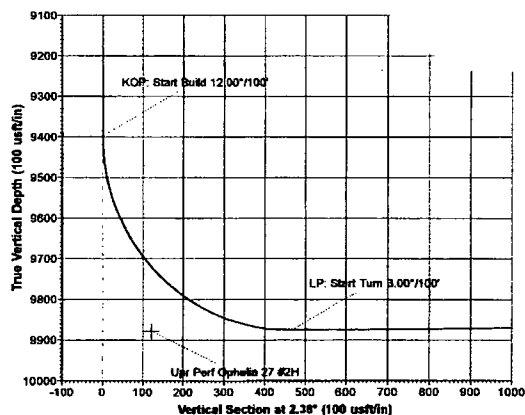
Grid East: 741483.00
Grid North: 370025.00
Scale Factor: 1.000

Geomagnetic Model: IGRF2010_14
Sample Date: 28-Jan-14
Magnetic Declination: 7.24°
Angle from Horizontal: 58.93°
Magnetic Field Strength: 48231

To convert a Magnetic Direction to a Grid Direction, Add 6.83°
To convert a Magnetic Direction to a True Direction, Add 7.24° East
To convert a True Direction to a Grid Direction, Subtract 0.41°

LEGEND

_____ #3H, Wellbore #1 Job #1410184, Plan #1 01-28-14 VO
_____ Plan #1 01-28-14



Created By: Justin Andon Date: 15:48, January 28 2014

30-025-41635

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JAN 29 2014



EOG Resources

Lea County, NM (NAD27 NME)

Ophelia 27

#2H

Wellbore #1 Job #1410183

Plan: Plan #1 01-28-14

Planning Report

28 January, 2014





Phoenix Technology Services
Planning Report



Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Ophelia 27
Well: #2H
Wellbore: Wellbore #1 Job #1410183
Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3320.00usft (Patterson 452)
MD Reference: WELL @ 3320.00usft (Patterson 452)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR DB

Project	Lea 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	Ophelia 27		
Site Position:		Northing: 370,025.00 usft	Latitude: 32° 0' 53.71140 N
From: Map		Easting: 741,483.00 usft	Longitude: 103° 33' 15.21704 W
Position Uncertainty: 0.00 usft		Slot Radius: 13-3/16 "	Grid Convergence: 0.41 °

Well	#2H		
Well Position	+N/-S 0.00 usft	Northing: 370,025.00 usft	Latitude: 32° 0' 53.71140 N
	+E/-W 0.00 usft	Easting: 741,483.00 usft	Longitude: 103° 33' 15.21704 W
Position Uncertainty 0.00 usft		Wellhead Elevation: usft	Ground Level: 3,293.00 usft

Wellbore	Wellbore #1 Job #1410183				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	01/28/14	7.24	59.93	48,231

Design	Plan #1 01-28-14			
Audit Notes:				
Version:	Phase: PROTOTYPE	Tie On Depth: 0.00		
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	2.38

Survey Tool Program	Date 01/28/14			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	14,531.87	Plan #1 01-28-14 (Wellbore #1 Job #1410)	MWD	MWD - Standard



Phoenix Technology Services
Planning Report



Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Ophelia 27
Well: #2H
Wellbore: Wellbore #1 Job #1410183
Design: Plan #1 01-28-14

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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR DB

Planned Survey

MD (usft)	Inc (")	Azi (azimuth) (")	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLeg ("/100usft)
0.00	0.00	0.00	-3,320.00	0.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
100.00	0.00	0.00	-3,220.00	100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
200.00	0.00	0.00	-3,120.00	200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
300.00	0.00	0.00	-3,020.00	300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
400.00	0.00	0.00	-2,920.00	400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
500.00	0.00	0.00	-2,820.00	500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
600.00	0.00	0.00	-2,720.00	600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
700.00	0.00	0.00	-2,620.00	700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
800.00	0.00	0.00	-2,520.00	800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
900.00	0.00	0.00	-2,420.00	900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,000.00	0.00	0.00	-2,320.00	1,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,100.00	0.00	0.00	-2,220.00	1,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,200.00	0.00	0.00	-2,120.00	1,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,300.00	0.00	0.00	-2,020.00	1,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,400.00	0.00	0.00	-1,920.00	1,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,500.00	0.00	0.00	-1,820.00	1,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,600.00	0.00	0.00	-1,720.00	1,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,700.00	0.00	0.00	-1,620.00	1,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,800.00	0.00	0.00	-1,520.00	1,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
1,900.00	0.00	0.00	-1,420.00	1,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,000.00	0.00	0.00	-1,320.00	2,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,100.00	0.00	0.00	-1,220.00	2,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,200.00	0.00	0.00	-1,120.00	2,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,300.00	0.00	0.00	-1,020.00	2,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,400.00	0.00	0.00	-920.00	2,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,500.00	0.00	0.00	-820.00	2,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,600.00	0.00	0.00	-720.00	2,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00



Phoenix Technology Services
Planning Report



Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Ophelia 27
Well: #2H
Wellbore: Wellbore #1 Job #1410183
Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
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Database: Compass 5000 GCR DB

Planned Survey

MD (usft)	Inc (")	Azi (azimuth) (")	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLog ("/100usft)
2,700.00	0.00	0.00	-620.00	2,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,800.00	0.00	0.00	-520.00	2,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
2,900.00	0.00	0.00	-420.00	2,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,000.00	0.00	0.00	-320.00	3,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,100.00	0.00	0.00	-220.00	3,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,200.00	0.00	0.00	-120.00	3,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,300.00	0.00	0.00	-20.00	3,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,400.00	0.00	0.00	80.00	3,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,500.00	0.00	0.00	180.00	3,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,600.00	0.00	0.00	280.00	3,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,700.00	0.00	0.00	380.00	3,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,800.00	0.00	0.00	480.00	3,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
3,900.00	0.00	0.00	580.00	3,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,000.00	0.00	0.00	680.00	4,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,100.00	0.00	0.00	780.00	4,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,200.00	0.00	0.00	880.00	4,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,300.00	0.00	0.00	980.00	4,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,400.00	0.00	0.00	1,080.00	4,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,500.00	0.00	0.00	1,180.00	4,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,600.00	0.00	0.00	1,280.00	4,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,700.00	0.00	0.00	1,380.00	4,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,800.00	0.00	0.00	1,480.00	4,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
4,900.00	0.00	0.00	1,580.00	4,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,000.00	0.00	0.00	1,680.00	5,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,100.00	0.00	0.00	1,780.00	5,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,200.00	0.00	0.00	1,880.00	5,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,300.00	0.00	0.00	1,980.00	5,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00



Phoenix Technology Services Planning Report



Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Ophelia 27
Well: #2H
Wellbore: Wellbore #1 Job #1410183
Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
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Planned Survey

MD (usft)	Inc (")	Azi (azimuth) (")	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLeg ("/100usft)
5,400.00	0.00	0.00	2,080.00	5,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,500.00	0.00	0.00	2,180.00	5,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,600.00	0.00	0.00	2,280.00	5,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,700.00	0.00	0.00	2,380.00	5,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,800.00	0.00	0.00	2,480.00	5,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
5,900.00	0.00	0.00	2,580.00	5,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,000.00	0.00	0.00	2,680.00	6,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,100.00	0.00	0.00	2,780.00	6,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,200.00	0.00	0.00	2,880.00	6,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,300.00	0.00	0.00	2,980.00	6,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,400.00	0.00	0.00	3,080.00	6,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,500.00	0.00	0.00	3,180.00	6,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,600.00	0.00	0.00	3,280.00	6,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,700.00	0.00	0.00	3,380.00	6,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,800.00	0.00	0.00	3,480.00	6,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
6,900.00	0.00	0.00	3,580.00	6,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,000.00	0.00	0.00	3,680.00	7,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,100.00	0.00	0.00	3,780.00	7,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,200.00	0.00	0.00	3,880.00	7,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,300.00	0.00	0.00	3,980.00	7,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,400.00	0.00	0.00	4,080.00	7,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,500.00	0.00	0.00	4,180.00	7,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,600.00	0.00	0.00	4,280.00	7,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,700.00	0.00	0.00	4,380.00	7,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,800.00	0.00	0.00	4,480.00	7,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
7,900.00	0.00	0.00	4,580.00	7,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,000.00	0.00	0.00	4,680.00	8,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00



Phoenix Technology Services Planning Report



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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLog (°/100usft)
8,100.00	0.00	0.00	4,780.00	8,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,200.00	0.00	0.00	4,880.00	8,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,300.00	0.00	0.00	4,980.00	8,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,400.00	0.00	0.00	5,080.00	8,400.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,500.00	0.00	0.00	5,180.00	8,500.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,600.00	0.00	0.00	5,280.00	8,600.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,700.00	0.00	0.00	5,380.00	8,700.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,800.00	0.00	0.00	5,480.00	8,800.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
8,900.00	0.00	0.00	5,580.00	8,900.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
9,000.00	0.00	0.00	5,680.00	9,000.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
9,100.00	0.00	0.00	5,780.00	9,100.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
9,200.00	0.00	0.00	5,880.00	9,200.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
9,300.00	0.00	0.00	5,980.00	9,300.00	0.00	0.00	370,025.00	741,483.00	0.00	0.00
9,397.55	0.00	0.00	6,077.55	9,397.55	0.00	0.00	370,025.00	741,483.00	0.00	0.00
KOP: Start Build 12.00°/100'										
9,400.00	0.29	17.30	6,080.00	9,400.00	0.01	0.00	370,025.01	741,483.00	0.01	12.00
9,425.00	3.29	17.30	6,104.98	9,424.98	0.75	0.23	370,025.75	741,483.23	0.76	12.00
9,450.00	6.29	17.30	6,129.89	9,449.89	2.75	0.86	370,027.75	741,483.86	2.78	12.00
9,475.00	9.29	17.30	6,154.66	9,474.66	5.98	1.86	370,030.98	741,484.86	6.06	12.00
9,500.00	12.29	17.30	6,179.22	9,499.22	10.45	3.26	370,035.45	741,486.26	10.58	12.00
9,525.00	15.29	17.30	6,203.49	9,523.49	16.14	5.03	370,041.14	741,488.03	16.34	12.00
9,550.00	18.29	17.30	6,227.42	9,547.42	23.04	7.18	370,048.04	741,490.18	23.32	12.00
9,575.00	21.29	17.30	6,250.94	9,570.94	31.12	9.69	370,056.12	741,492.69	31.50	12.00
9,600.00	24.29	17.30	6,273.99	9,593.99	40.37	12.57	370,065.37	741,495.57	40.86	12.00
9,625.00	27.29	17.30	6,296.49	9,616.49	50.75	15.81	370,075.75	741,498.81	51.37	12.00
9,650.00	30.29	17.30	6,318.40	9,638.40	62.25	19.39	370,087.25	741,502.39	63.00	12.00
9,675.00	33.29	17.30	6,339.65	9,659.65	74.82	23.30	370,099.82	741,506.30	75.73	12.00



Phoenix Technology Services
Planning Report



Company: EOG Resources
Project: Lea County, NM (NAD27 NME)
Site: Ophelia 27
Well: #2H
Wellbore: Wellbore #1 Job #1410183
Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
TVD Reference: WELL @ 3320.00usft (Patterson 452)
MD Reference: WELL @ 3320.00usft (Patterson 452)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR DB

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLog (°/100usft)
9,700.00	36.29	17.30	6,360.18	9,880.18	88.44	27.55	370,113.44	741,510.55	89.51	12.00
9,725.00	39.29	17.30	6,379.93	9,899.93	103.07	32.10	370,128.07	741,515.10	104.31	12.00
9,750.00	42.29	17.30	6,398.85	9,718.85	118.66	36.96	370,143.66	741,519.96	120.09	12.00
9,775.00	45.29	17.30	6,416.90	9,736.90	135.18	42.10	370,160.18	741,525.10	136.81	12.00
9,800.00	48.29	17.30	6,434.01	9,754.01	152.57	47.52	370,177.57	741,530.52	154.42	12.00
9,825.00	51.29	17.30	6,450.15	9,770.15	170.80	53.20	370,195.80	741,536.20	172.87	12.00
9,850.00	54.29	17.30	6,465.26	9,785.26	189.81	59.12	370,214.81	741,542.12	192.10	12.00
9,875.00	57.29	17.30	6,479.31	9,799.31	209.55	65.27	370,234.55	741,548.27	212.08	12.00
9,900.00	60.29	17.30	6,492.27	9,812.27	229.96	71.62	370,254.96	741,554.62	232.74	12.00
9,925.00	63.29	17.30	6,504.08	9,824.08	250.99	78.18	370,275.99	741,561.18	254.03	12.00
9,950.00	66.29	17.30	6,514.73	9,834.73	272.59	84.90	370,297.59	741,567.90	275.88	12.00
9,975.00	69.29	17.30	6,524.17	9,844.17	294.68	91.78	370,319.68	741,574.78	298.24	12.00
10,000.00	72.29	17.30	6,532.40	9,852.40	317.22	98.80	370,342.22	741,581.80	321.05	12.00
10,025.00	75.29	17.30	6,539.37	9,859.37	340.14	105.94	370,365.14	741,588.94	344.25	12.00
10,050.00	78.29	17.30	6,545.08	9,865.08	363.37	113.18	370,388.37	741,596.18	367.77	12.00
10,075.00	81.29	17.30	6,549.51	9,869.51	386.86	120.49	370,411.86	741,603.49	391.54	12.00
10,100.00	84.29	17.30	6,552.65	9,872.65	410.54	127.87	370,435.54	741,610.87	415.50	12.00
10,125.00	87.29	17.30	6,554.48	9,874.48	434.34	135.28	370,459.34	741,618.28	439.59	12.00
10,151.72	90.50	17.30	6,555.00	9,875.00	459.84	143.23	370,484.84	741,626.23	465.40	12.00
LP: Start Turn 3.00°/100'										
10,200.00	90.50	15.85	6,554.57	9,874.57	506.12	157.00	370,531.12	741,640.00	512.21	3.00
10,300.00	90.51	12.85	6,553.70	9,873.70	602.98	181.78	370,627.88	741,664.78	610.02	3.00
10,400.00	90.51	9.85	6,552.81	9,872.81	701.01	201.46	370,726.01	741,684.46	708.78	3.00
10,500.00	90.51	6.85	6,551.93	9,871.93	799.93	215.98	370,824.93	741,698.98	808.22	3.00
10,600.00	90.51	3.85	6,551.04	9,871.04	899.48	225.31	370,924.48	741,708.31	908.07	3.00
10,700.00	90.50	0.85	6,550.16	9,870.16	999.38	229.41	371,024.38	741,712.41	1,008.06	3.00



Phoenix Technology Services
Planning Report



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Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
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Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLog (°/100usft)
10,742.78	90.50	359.57	6,549.78	9,889.78	1,042.14	229.56	371,067.14	741,712.56	1,050.78	3.00
EOT: 90.5° Inc at 359.57° Azi										
10,800.00	90.50	359.57	6,549.28	9,869.28	1,099.38	229.13	371,124.38	741,712.13	1,107.95	0.00
10,900.00	90.50	359.57	6,548.40	9,868.40	1,199.37	228.38	371,224.37	741,711.38	1,207.83	0.00
11,000.00	90.50	359.57	6,547.52	9,867.52	1,299.36	227.63	371,324.36	741,710.63	1,307.70	0.00
11,100.00	90.50	359.57	6,546.64	9,866.64	1,399.36	226.87	371,424.36	741,709.87	1,407.58	0.00
11,200.00	90.50	359.57	6,545.76	9,865.76	1,499.35	226.12	371,524.35	741,709.12	1,507.45	0.00
11,300.00	90.50	359.57	6,544.89	9,864.89	1,599.34	225.36	371,624.34	741,708.36	1,607.33	0.00
11,400.00	90.50	359.57	6,544.01	9,864.01	1,699.34	224.61	371,724.34	741,707.61	1,707.21	0.00
11,500.00	90.50	359.57	6,543.13	9,863.13	1,799.33	223.86	371,824.33	741,706.86	1,807.08	0.00
11,600.00	90.50	359.57	6,542.25	9,862.25	1,899.32	223.10	371,924.32	741,706.10	1,906.96	0.00
11,700.00	90.50	359.57	6,541.37	9,861.37	1,999.32	222.35	372,024.32	741,705.35	2,006.83	0.00
11,800.00	90.50	359.57	6,540.49	9,860.49	2,099.31	221.59	372,124.31	741,704.59	2,106.71	0.00
11,900.00	90.50	359.57	6,539.62	9,859.62	2,199.30	220.84	372,224.30	741,703.84	2,206.58	0.00
12,000.00	90.50	359.57	6,538.74	9,858.74	2,299.30	220.09	372,324.30	741,703.09	2,306.46	0.00
12,100.00	90.50	359.57	6,537.86	9,857.86	2,399.29	219.33	372,424.29	741,702.33	2,406.33	0.00
12,200.00	90.50	359.57	6,536.98	9,856.98	2,499.28	218.58	372,524.28	741,701.58	2,506.21	0.00
12,300.00	90.50	359.57	6,536.10	9,856.10	2,599.28	217.83	372,624.28	741,700.83	2,606.09	0.00
12,400.00	90.50	359.57	6,535.22	9,855.22	2,699.27	217.07	372,724.27	741,700.07	2,705.96	0.00
12,500.00	90.50	359.57	6,534.35	9,854.35	2,799.26	216.32	372,824.26	741,699.32	2,805.84	0.00
12,600.00	90.50	359.57	6,533.47	9,853.47	2,899.26	215.56	372,924.26	741,698.56	2,905.71	0.00
12,700.00	90.50	359.57	6,532.59	9,852.59	2,999.25	214.81	373,024.25	741,697.81	3,005.59	0.00
12,800.00	90.50	359.57	6,531.71	9,851.71	3,099.24	214.06	373,124.24	741,697.06	3,105.46	0.00
12,900.00	90.50	359.57	6,530.83	9,850.83	3,199.24	213.30	373,224.24	741,696.30	3,205.34	0.00
13,000.00	90.50	359.57	6,529.95	9,849.95	3,299.23	212.55	373,324.23	741,695.55	3,305.21	0.00
13,100.00	90.50	359.57	6,529.08	9,849.08	3,399.22	211.79	373,424.22	741,694.79	3,405.09	0.00
13,200.00	90.50	359.57	6,528.20	9,848.20	3,499.22	211.04	373,524.22	741,694.04	3,504.96	0.00



Phoenix Technology Services
Planning Report



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Design: Plan #1 01-28-14

Local Co-ordinate Reference: Well #2H
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR DB

Planned Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	EW (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLog (°/100usft)
13,300.00	90.50	359.57	6,527.32	9,847.32	3,599.21	210.29	373,624.21	741,693.29	3,604.84	0.00
13,400.00	90.50	359.57	6,526.44	9,846.44	3,699.20	209.53	373,724.20	741,692.53	3,704.72	0.00
13,500.00	90.50	359.57	6,525.56	9,845.56	3,799.20	208.78	373,824.20	741,691.78	3,804.59	0.00
13,600.00	90.50	359.57	6,524.68	9,844.68	3,899.19	208.03	373,924.19	741,691.03	3,904.47	0.00
13,700.00	90.50	359.57	6,523.81	9,843.81	3,999.18	207.27	374,024.18	741,690.27	4,004.34	0.00
13,800.00	90.50	359.57	6,522.93	9,842.93	4,099.18	206.52	374,124.18	741,689.52	4,104.22	0.00
13,900.00	90.50	359.57	6,522.05	9,842.05	4,199.17	205.76	374,224.17	741,688.76	4,204.09	0.00
14,000.00	90.50	359.57	6,521.17	9,841.17	4,299.16	205.01	374,324.16	741,688.01	4,303.97	0.00
14,100.00	90.50	359.57	6,520.29	9,840.29	4,399.16	204.26	374,424.16	741,687.26	4,403.84	0.00
14,200.00	90.50	359.57	6,519.41	9,839.41	4,499.15	203.50	374,524.15	741,686.50	4,503.72	0.00
14,300.00	90.50	359.57	6,518.54	9,838.54	4,599.14	202.75	374,624.14	741,685.75	4,603.60	0.00
14,400.00	90.50	359.57	6,517.66	9,837.66	4,699.14	201.99	374,724.14	741,684.99	4,703.47	0.00
14,500.00	90.50	359.57	6,516.78	9,836.78	4,799.13	201.24	374,824.13	741,684.24	4,803.35	0.00
14,531.87	90.50	359.57	6,516.50	9,836.50	4,831.00	201.00	374,856.00	741,684.00	4,835.18	0.00
TD at 14531.87										

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
9,397.55	9,397.55	0.00	0.00	KOP: Start Build 12.00°/100'
10,151.72	9,875.00	459.84	143.23	LP: Start Turn 3.00°/100'
10,742.76	9,869.78	1,042.14	229.56	EOT: 90.5° Inc at 359.57° Azi
14,531.87	9,836.50	4,831.00	201.00	TD at 14531.87

EOG RESOURCES, INC.
OPHELIA 27 #2H

Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H₂S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
 - Well control equipment
 - a. Flare line 150' from wellhead to be ignited by flare gun.
 - b. Choke manifold with a remotely operated choke.
 - c. Mud/gas separator
 - Protective equipment for essential personnel.
 - Breathing apparatus:
 - a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - b. Work/Escapes packs — 4 packs shall be stored on the rig floor th sufficient air hose not to restrict work activity.
 - c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.
 - Auxiliary Rescue Equipment:
 - a. Stretcher
 - b. Two OSHA full body harness
 - c. 100 ft 5/8 inch OSHA approved rope
 - d. 1-20# class ABC fire extinguisher
 - H₂S detection and monitoring equipment:
 - The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
 - (Gas sample tubes will be stored in the safety trailer)
 - Visual warning systems.
 - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - c. Two wind socks will be placed in strategic locations, visible from all angles.

EOG RESOURCES, INC.
OPHELIA 27 #2H

- **Mud program:**
The mud program has been designed to minimize the volume of H₂S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H₂S bearing zones.
- **Metallurgy:**
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- **Communication:**
Communication will be via cell phones and land lines where available.