



Lea County, NM (NAD 83 NME)

Neptune 10 State Com #601H

Plan #1

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

WELL DETAILS: #601H

KB= 25' @ 3638.0usft 3613.0
 Northing 446556.00 Easting 778863.00 Latitude 32° 13' 31.169 N Longitude 103° 33' 54.785 W



Azimuths to Grid North
 True North: -4.41°
 Magnetic North: 6.50°

Magnetic Field
 Strength: 47903.8nT
 Dip Angle: 60.06°
 Date: 10/17/2017
 Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.50°
 To convert a Magnetic Direction to a True Direction, Add 6.91° East
 To convert a True Direction to a Grid Direction, Subtract 0.41°

SECTION DETAILS

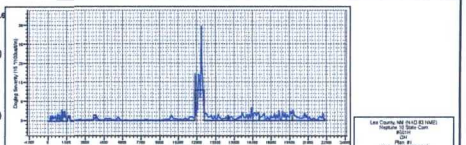
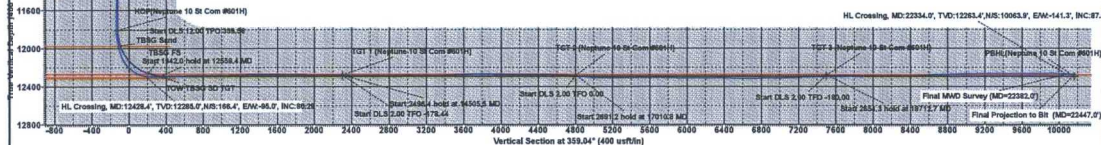
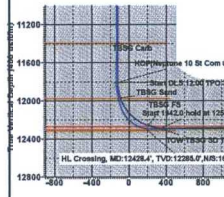
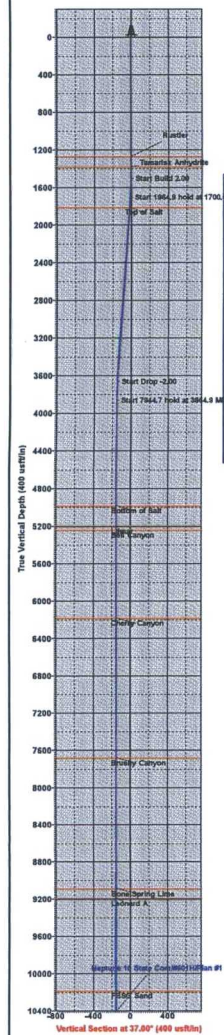
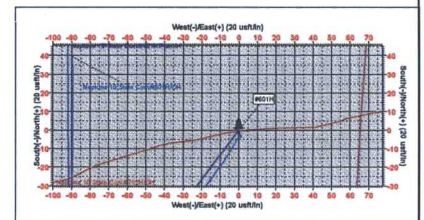
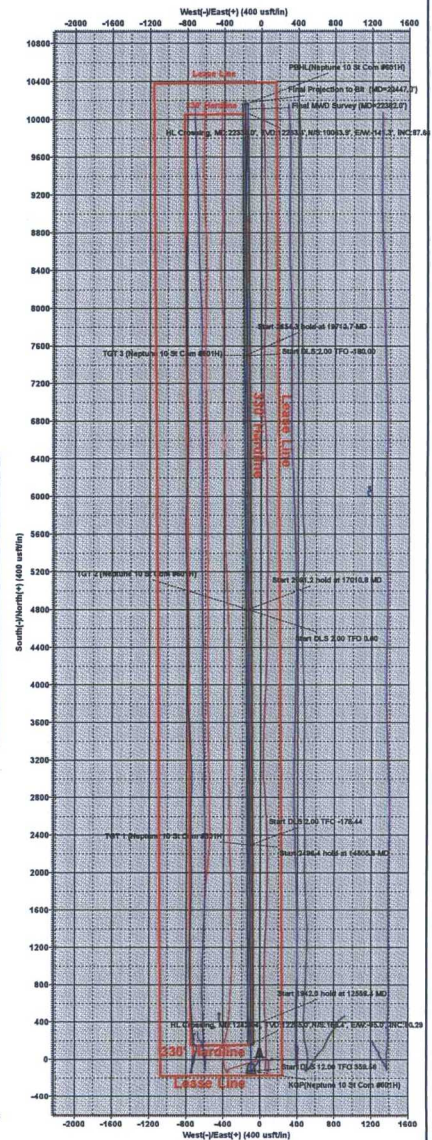
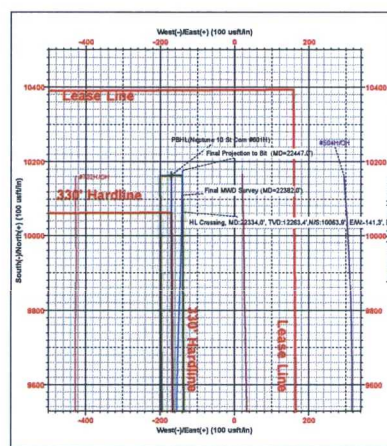
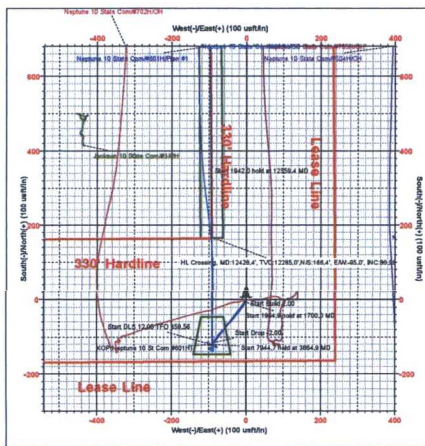
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0
1700.0	4.00	217.00	1699.8	-5.6	-4.2	2.00	217.00	-5.5
3664.9	4.00	217.00	3660.0	-115.0	-86.7	0.00	0.00	-113.6
3864.9	0.00	0.00	3859.8	-120.6	-90.9	2.00	180.00	-119.1
11809.6	0.00	0.00	11804.5	-120.6	-90.9	0.00	0.00	-119.1
12559.4	89.97	359.56	12282.0	356.6	-94.5	12.00	359.56	358.1
14501.3	89.97	359.56	12283.0	2298.5	-109.4	0.00	0.00	2300.0
14505.5	89.89	359.56	12283.0	2302.7	-109.5	2.00	-178.44	2304.2
17001.9	89.89	359.56	12288.0	4799.0	-128.7	0.00	0.00	4800.5
17010.8	90.06	359.56	12288.0	4807.9	-128.8	2.00	0.00	4809.4
19702.0	90.06	359.56	12285.0	7499.0	-149.5	0.00	0.00	7500.5
19712.7	89.85	359.56	12285.0	7509.7	-149.6	2.00	-180.00	7511.2
22367.1	89.85	359.56	12292.0	10164.0	-170.0	0.00	0.00	10165.4

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP COORDINATES)

Name	TVD	+N-S	+E-W	Northing	Easting
KOP(Neptune 10 St Com #601H)	11804.5	-120.6	-94.5	446435.39	778772.11
TGT 1 (Neptune 10 St Com #601H)	12283.0	2298.5	-109.4	448854.50	778753.58
TGT 3 (Neptune 10 St Com #601H)	12285.0	7499.0	-149.5	454055.00	778713.52
TGT 2 (Neptune 10 St Com #601H)	12288.0	4799.0	-128.7	451355.00	778734.32
PBHL(Neptune 10 St Com #601H)	12292.0	10164.0	-170.0	456720.00	778893.00



EOG Resources - Midland

Lea County, NM (NAD 83 NME)

Neptune 10 State Com

#601H

OH

Design: OH

PVA Report

02 January, 2018

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Project	Lea County, NM (NAD 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Neptune 10 State Com		
Site Position:		Northing:	446,557.00 usft
From:	Map	Easting:	778,964.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 31.172 N
		Longitude:	103° 33' 53.609 W
		Grid Convergence:	0.41 °

Well	#601H					
Well Position	+N/-S	0.0 usft	Northing:	446,556.00 usft	Latitude:	32° 13' 31.169 N
	+E/-W	0.0 usft	Easting:	778,863.00 usft	Longitude:	103° 33' 54.785 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	usft	Ground Level:	3,613.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/17/2017	6.91	60.06	47,903.84899127

Design		OH		
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.04

PVA Report

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Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey Program		Date	1/2/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
132.0	1,333.0	Invictus MWD (OH)	MWD	MWD - Standard	
1,448.0	22,447.0	Intrepid MWD (OH)	MWD	MWD - Standard	

Survey											
MD (usft)	Inc (")	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg ("/100usft)	Buidl ("/100usft)	Turn ("/100usft)	High to Plan (usft)	Right to Plan (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0	0.0	0.0
132.0	0.30	93.53	132.0	0.0	0.3	0.23	0.23	0.00	-0.3	0.0	0.0
161.0	0.10	286.53	161.0	0.0	0.4	1.37	-0.69	-575.86	0.4	-0.1	-0.1
190.0	0.50	120.53	190.0	-0.1	0.5	2.06	1.38	-572.41	-0.5	0.2	0.2
218.0	0.30	110.53	218.0	-0.2	0.7	0.75	-0.71	-35.71	-0.7	0.1	0.1
250.0	0.20	106.53	250.0	-0.2	0.8	0.32	-0.31	-12.50	-0.8	0.0	0.0
281.0	0.40	221.53	281.0	-0.3	0.8	1.67	0.65	370.97	0.3	0.8	0.8
312.0	0.60	201.53	312.0	-0.5	0.6	0.85	0.65	-64.52	-0.3	0.8	0.8
343.0	0.40	119.53	343.0	-0.7	0.7	2.17	-0.65	-264.52	-0.9	-0.3	-0.3
405.0	0.30	220.53	405.0	-1.0	0.8	0.88	-0.16	162.90	-0.2	1.2	1.2
437.0	0.70	195.53	437.0	-1.2	0.6	1.40	1.25	-78.12	-1.0	1.0	1.0
476.0	0.70	139.53	476.0	-1.6	0.7	1.69	0.00	-143.59	-1.7	-0.5	-0.5
501.0	0.70	163.53	501.0	-1.9	0.9	1.16	0.00	96.00	-2.1	0.3	0.3
531.0	0.50	196.53	531.0	-2.2	0.9	1.30	-0.67	110.00	-1.9	1.5	1.5
563.0	0.40	95.53	563.0	-2.3	1.0	2.18	-0.31	-315.62	-1.2	-2.2	-2.2
594.0	0.80	138.53	594.0	-2.5	1.2	1.86	1.29	138.71	-2.7	-0.8	-0.8
625.0	0.60	162.53	625.0	-2.8	1.4	1.13	-0.65	77.42	-3.1	0.5	0.5
656.0	0.40	197.53	656.0	-3.1	1.4	1.15	-0.65	112.90	-2.5	2.3	2.3
688.0	0.40	202.53	688.0	-3.3	1.3	0.11	0.00	15.62	-2.5	2.5	2.5
719.0	0.80	216.53	719.0	-3.6	1.2	1.36	1.29	45.16	-2.2	3.1	3.1
751.0	0.50	148.53	751.0	-3.9	1.1	2.40	-0.94	-212.50	-3.9	-1.1	-1.1

PVA Report

Company:	EOG Resources - Midland				Local Co-ordinate Reference:				Well #601H			
Project:	Lea County, NM (NAD 83 NME)				TVD Reference:				KB= 25' @ 3638.0usft			
Site:	Neptune 10 State Com				MD Reference:				KB= 25' @ 3638.0usft			
Well:	#601H				North Reference:				Grid			
Wellbore:	OH				Survey Calculation Method:				Minimum Curvature			
Design:	OH				Database:				EDM 5000.14			
Survey												
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)		
782.0	0.60	49.53	782.0	-3.9	1.3	2.71	0.32	-319.35	1.5	-3.8		
813.0	0.40	65.53	813.0	-3.7	1.5	0.78	-0.65	51.61	0.1	-4.0		
844.0	0.40	294.53	844.0	-3.6	1.5	2.35	0.00	-422.58	2.9	2.7		
875.0	0.30	134.53	875.0	-3.7	1.5	2.22	-0.32	-516.13	-3.6	-1.6		
906.0	0.30	105.53	906.0	-3.7	1.6	0.48	0.00	-93.55	-2.6	-3.2		
937.0	0.40	297.53	937.0	-3.7	1.6	2.25	0.32	-541.94	3.1	2.5		
968.0	0.20	237.53	968.0	-3.7	1.5	1.12	-0.65	-193.55	-0.7	3.9		
1,031.0	0.20	256.53	1,031.0	-3.8	1.3	0.10	0.00	30.16	0.4	4.0		
1,063.0	0.90	269.53	1,063.0	-3.8	1.0	2.21	2.19	40.62	0.9	3.8		
1,094.0	0.50	55.53	1,094.0	-3.7	0.8	4.34	-1.29	470.97	1.4	-3.5		
1,125.0	0.50	52.53	1,125.0	-3.6	1.1	0.08	0.00	-9.68	1.3	-3.5		
1,157.0	0.70	83.53	1,157.0	-3.4	1.4	1.17	0.62	96.87	-1.0	-3.6		
1,188.0	0.60	327.53	1,188.0	-3.3	1.5	3.56	-0.32	-374.19	3.6	0.5		
1,220.0	0.30	268.53	1,220.0	-3.1	1.3	1.61	-0.94	-184.37	1.2	3.2		
1,250.0	1.00	258.53	1,250.0	-3.2	0.9	2.35	2.33	-33.33	0.3	3.3		
1,282.0	0.20	120.53	1,282.0	-3.3	0.7	3.61	-2.50	-431.25	-2.3	-2.5		
1,313.0	0.30	255.53	1,313.0	-3.3	0.7	1.50	0.32	435.48	-0.2	3.4		
1,333.0	0.70	350.53	1,333.0	-3.2	0.6	3.93	2.00	475.00	3.3	-0.1		
1,448.0	0.10	40.30	1,448.0	-2.5	0.6	0.56	-0.52	43.28	1.5	-2.0		
1,635.0	3.20	209.40	1,634.9	-6.9	-1.9	1.76	1.66	90.43	-3.8	2.2		
1,822.0	4.10	213.40	1,821.5	-17.0	-8.1	0.50	0.48	2.14	-3.2	3.5		
2,009.0	4.10	219.50	2,008.0	-27.7	-16.1	0.23	0.00	3.26	-3.1	4.0		
2,197.0	4.30	219.40	2,195.5	-38.4	-24.8	0.11	0.11	-0.05	-3.8	3.4		
2,384.0	4.00	215.00	2,382.0	-49.1	-33.0	0.23	-0.16	-2.35	-4.5	3.1		
2,570.0	4.60	224.20	2,567.5	-59.8	-41.9	0.49	0.32	4.95	-5.0	3.2		
2,757.0	4.40	224.70	2,753.9	-70.3	-52.2	0.11	-0.11	0.27	-6.7	1.5		
2,944.0	4.30	226.90	2,940.4	-80.2	-62.4	0.10	-0.05	1.18	-8.0	-0.2		

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
3,130.0	4.00	220.30	3,125.9	-89.9	-71.6	0.30	-0.16	-3.55	-8.3	-2.7	
3,317.0	3.60	216.40	3,312.5	-99.6	-79.3	0.25	-0.21	-2.09	-7.5	-3.5	
3,503.0	3.00	210.30	3,498.2	-108.5	-85.3	0.37	-0.32	-3.28	-4.8	-3.4	
3,690.0	2.80	200.60	3,684.9	-117.0	-89.3	0.28	-0.11	-5.19	-1.2	-1.3	
3,877.0	0.80	298.60	3,871.9	-120.6	-92.1	1.61	-1.07	52.41	-1.1	0.6	
4,064.0	1.30	310.20	4,058.8	-118.6	-94.9	0.29	0.27	6.20	-4.3	1.1	
4,251.0	1.60	297.90	4,245.8	-116.0	-98.8	0.23	0.16	-6.58	-9.1	-0.3	
4,437.0	1.40	303.10	4,431.7	-113.6	-103.0	0.13	-0.11	2.80	-14.0	0.7	
4,624.0	0.30	82.40	4,618.7	-112.3	-104.4	0.88	-0.59	74.49	12.3	10.1	
4,811.0	1.40	124.80	4,805.7	-113.5	-102.1	0.64	0.59	22.67	13.2	-0.5	
4,997.0	2.90	125.20	4,991.5	-117.5	-96.3	0.81	0.81	0.22	6.2	-0.6	
5,071.0	2.80	121.70	5,065.4	-119.6	-93.3	0.27	-0.14	-4.73	2.6	-0.4	
5,255.0	2.20	115.90	5,249.3	-123.5	-86.3	0.35	-0.33	-3.15	-5.4	-0.5	
5,442.0	2.10	114.50	5,436.1	-126.4	-79.9	0.06	-0.05	-0.75	-12.4	-0.8	
5,630.0	0.40	319.90	5,624.1	-127.4	-77.2	1.31	-0.90	-82.23	14.0	-6.1	
5,816.0	0.40	342.30	5,810.1	-126.3	-77.8	0.08	0.00	12.04	9.3	-10.7	
6,003.0	0.20	333.10	5,997.1	-125.3	-78.2	0.11	-0.11	-4.92	10.0	-9.2	
6,189.0	0.20	344.00	6,183.1	-124.7	-78.4	0.02	0.00	5.86	7.4	-10.8	
6,376.0	0.40	308.50	6,370.1	-124.0	-79.0	0.14	0.11	-18.98	11.4	-4.7	
6,563.0	0.40	305.40	6,557.1	-123.2	-80.1	0.01	0.00	-1.66	10.3	-4.1	
6,750.0	0.60	313.90	6,744.1	-122.2	-81.3	0.11	0.11	4.55	8.0	-5.5	
6,937.0	0.80	305.00	6,931.0	-120.8	-83.1	0.12	0.11	-4.76	6.5	-4.4	
7,123.0	0.60	300.20	7,117.0	-119.5	-85.0	0.11	-0.11	-2.58	4.6	-3.9	
7,310.0	0.70	275.90	7,304.0	-118.9	-87.0	0.16	0.05	-12.99	3.7	-2.1	
7,498.0	0.70	285.50	7,492.0	-118.5	-89.2	0.06	0.00	5.11	1.0	-2.5	
7,685.0	0.80	276.20	7,679.0	-118.0	-91.6	0.08	0.05	-4.97	-1.0	-2.5	
7,872.0	0.50	198.00	7,866.0	-118.7	-93.2	0.46	-0.16	-41.82	1.1	-2.8	

PVA Report

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8,059.0	0.60	158.80	8,053.0	-120.4	-93.1	0.20	0.05	-20.96	1.0	-1.9	
8,246.0	0.50	165.40	8,240.0	-122.1	-92.5	0.06	-0.05	3.53	-1.0	-1.9	
8,434.0	0.60	138.30	8,428.0	-123.6	-91.6	0.15	0.05	-14.41	-1.7	-2.5	
8,619.0	0.50	145.50	8,613.0	-125.0	-90.5	0.07	-0.05	3.89	-3.8	-2.2	
8,806.0	0.60	172.50	8,799.9	-126.6	-89.9	0.15	0.05	14.44	-6.1	0.1	
8,993.0	0.50	148.90	8,986.9	-128.3	-89.4	0.13	-0.05	-12.62	-7.3	-2.7	
9,179.0	0.20	132.70	9,172.9	-129.2	-88.7	0.17	-0.16	-8.71	-7.4	-4.9	
9,371.0	0.50	263.90	9,364.9	-129.5	-89.3	0.34	0.16	68.33	0.6	9.0	
9,558.0	1.50	261.20	9,551.9	-130.0	-92.6	0.54	0.53	-1.44	-3.1	9.0	
9,745.0	2.20	281.40	9,738.8	-129.7	-98.5	0.51	0.37	10.80	-5.7	10.4	
9,932.0	1.70	62.50	9,925.8	-127.7	-99.6	1.97	-0.27	75.45	10.9	-2.3	
10,119.0	1.00	95.60	10,112.7	-126.5	-95.5	0.55	-0.37	17.70	4.0	-6.3	
10,307.0	1.80	141.10	10,300.7	-129.0	-92.0	0.70	0.43	24.20	-5.8	-6.1	
10,494.0	1.60	173.40	10,487.6	-133.9	-89.8	0.52	-0.11	17.27	-13.3	-0.5	
10,680.0	0.40	154.70	10,673.5	-137.0	-89.3	0.66	-0.65	-10.05	-15.5	-5.5	
10,867.0	0.00	217.90	10,860.5	-137.6	-89.0	0.21	-0.21	0.00	17.0	-1.9	
11,054.0	1.80	298.70	11,047.5	-136.2	-91.6	0.96	0.96	0.00	6.9	14.0	
11,241.0	2.10	296.30	11,234.4	-133.3	-97.2	0.17	0.16	-1.28	0.0	14.2	
11,429.0	0.80	90.50	11,422.4	-131.8	-99.0	1.51	-0.69	82.02	8.0	-11.2	
11,616.0	3.10	126.30	11,609.3	-134.8	-93.6	1.33	1.23	19.14	-6.2	-13.0	
11,809.0	1.30	122.00	11,802.1	-139.0	-87.5	0.94	-0.93	-2.23	-12.6	-13.8	
11,812.5	1.05	92.60	11,805.6	-139.1	-87.5	18.34	-7.25	-837.00	-4.2	-18.3	
KOP(Neptune 10 St Com #601H)											
11,856.0	7.90	2.30	11,849.0	-136.1	-87.0	18.34	15.76	-207.64	17.3	-4.6	
11,902.0	11.10	356.10	11,894.3	-128.5	-87.1	7.29	6.96	-13.48	16.4	-2.7	
11,949.0	11.70	353.30	11,940.4	-119.3	-88.0	1.74	1.28	-5.96	17.9	-1.0	
11,996.0	14.00	354.60	11,986.2	-108.9	-89.1	4.93	4.89	2.77	22.5	-0.1	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #801H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#801H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
12,043.0	15.90	356.30	12,031.6	-96.8	-90.0	4.15	4.04	3.62	29.9	0.5	
12,091.0	22.00	359.70	12,077.0	-81.2	-90.5	12.91	12.71	7.08	38.4	-0.8	
12,138.0	30.50	1.30	12,119.1	-60.4	-90.3	18.15	18.09	3.40	45.1	-2.2	
12,184.0	38.00	1.10	12,157.1	-34.6	-89.7	16.31	16.30	-0.43	49.3	-2.8	
12,215.0	42.90	0.80	12,180.7	-14.5	-89.4	15.82	15.81	-0.97	51.1	-3.1	
12,246.0	47.30	359.80	12,202.6	7.5	-89.3	14.38	14.19	-3.23	52.2	-2.7	
12,278.0	50.20	359.50	12,223.7	31.5	-89.5	9.09	9.06	-0.94	53.1	-2.6	
12,309.0	55.70	0.20	12,242.3	56.3	-89.5	17.83	17.74	2.26	53.6	-3.1	
12,340.0	61.60	358.80	12,258.5	82.7	-89.8	19.42	19.03	-4.52	52.9	-2.3	
12,355.0	65.80	357.90	12,265.1	96.2	-90.1	28.51	28.00	-6.00	51.8	-1.7	
12,372.0	69.50	357.30	12,271.6	111.9	-90.8	22.01	21.76	-3.53	50.0	-1.0	
12,382.0	73.10	356.40	12,274.8	121.3	-91.3	37.00	36.00	-9.00	48.5	-0.2	
12,403.0	77.40	355.40	12,280.1	141.6	-92.8	20.99	20.48	-4.76	44.6	1.2	
12,428.4	80.29	354.43	12,285.0	166.4	-95.0	11.99	11.39	-3.84	39.3	3.3	
HL Crossing, MD:12428.4', TVD:12285.0', N/S:166.4', E/W:-95.0', INC:80.29											
12,496.0	88.00	351.90	12,291.9	233.1	-103.0	11.99	11.40	-3.74	25.1	10.3	
12,589.0	89.50	354.30	12,294.0	325.4	-114.2	3.04	1.61	2.58	13.0	19.9	
12,684.0	90.20	356.70	12,294.2	420.1	-121.6	2.63	0.74	2.53	12.2	26.6	
12,778.0	92.10	358.50	12,292.3	514.0	-125.6	2.78	2.02	1.91	10.3	29.8	
12,871.0	90.60	358.80	12,290.1	606.9	-127.7	1.64	-1.61	0.32	8.0	31.3	
12,965.0	90.80	359.90	12,289.0	700.9	-128.8	1.19	0.21	1.17	6.8	31.6	
13,059.0	90.40	1.10	12,288.0	794.9	-128.0	1.35	-0.43	1.28	5.8	30.1	
13,152.0	92.30	1.30	12,285.8	887.9	-126.0	2.05	2.04	0.22	3.5	27.4	
13,246.0	92.90	1.50	12,281.5	981.7	-123.7	0.67	0.64	0.21	-0.8	24.4	
13,340.0	92.70	1.10	12,276.9	1,075.6	-121.6	0.48	-0.21	-0.43	-5.4	21.6	
13,434.0	91.20	1.90	12,273.7	1,169.5	-119.2	1.81	-1.60	0.85	-8.7	18.4	
13,527.0	90.80	1.90	12,272.1	1,262.4	-116.1	0.43	-0.43	0.00	-10.3	14.6	

PVA Report

Company:	EOG Resources - Midland					Local Co-ordinate Reference:		Well #601H		
Project:	Lea County, NM (NAD 83 NME)					TVD Reference:		KB= 25' @ 3638.0usft		
Site:	Neptune 10 State Com					MD Reference:		KB= 25' @ 3638.0usft		
Well:	#601H					North Reference:		Grid		
Wellbore:	OH					Survey Calculation Method:		Minimum Curvature		
Design:	OH					Database:		EDM 5000.14		
Survey										
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)
13,619.0	91.30	2.10	12,270.4	1,354.4	-112.9	0.59	0.54	0.22	-12.1	10.7
13,712.0	89.60	0.60	12,269.7	1,447.3	-110.7	2.44	-1.83	-1.61	-12.8	7.8
13,805.0	88.80	359.90	12,271.0	1,540.3	-110.3	1.14	-0.86	-0.75	-11.6	6.7
13,899.0	89.50	359.10	12,272.4	1,634.3	-111.1	1.13	0.74	-0.85	-10.2	6.8
13,993.0	89.40	359.00	12,273.3	1,728.3	-112.6	0.15	-0.11	-0.11	-9.4	7.6
14,087.0	90.10	359.20	12,273.7	1,822.3	-114.1	0.77	0.74	0.21	-9.0	8.3
14,181.0	89.50	359.40	12,274.0	1,916.3	-115.3	0.67	-0.64	0.21	-8.8	8.8
14,274.0	89.00	358.80	12,275.3	2,009.3	-116.7	0.84	-0.54	-0.65	-7.6	9.5
14,367.0	90.10	359.00	12,276.0	2,102.2	-118.5	1.20	1.18	0.22	-6.9	10.6
14,461.0	90.10	359.00	12,275.8	2,196.2	-120.2	0.00	0.00	0.00	-7.1	11.5
14,554.0	88.50	359.00	12,277.0	2,289.2	-121.8	1.72	-1.72	0.00	-6.0	12.4
14,563.2	88.44	358.97	12,277.2	2,298.4	-121.9	0.72	-0.65	-0.32	-5.8	12.5
TGT 1 (Neptune 10 St Com #601H)										
14,647.0	87.90	358.70	12,279.9	2,382.1	-123.6	0.72	-0.65	-0.32	-3.3	13.6
14,742.0	89.20	358.10	12,282.3	2,477.1	-126.3	1.51	1.37	-0.63	-1.1	15.5
14,836.0	90.00	359.30	12,282.9	2,571.0	-128.4	1.53	0.85	1.28	-0.6	16.9
14,930.0	90.50	359.80	12,282.5	2,665.0	-129.2	0.75	0.53	0.53	-1.2	16.9
15,023.0	90.90	359.80	12,281.4	2,758.0	-129.5	0.43	0.43	0.00	-2.5	16.5
15,116.0	90.40	359.60	12,280.3	2,851.0	-130.0	0.58	-0.54	-0.22	-3.8	16.3
15,210.0	90.70	359.70	12,279.4	2,945.0	-130.6	0.34	0.32	0.11	-4.9	16.2
15,303.0	89.60	359.50	12,279.2	3,038.0	-131.2	1.20	-1.18	-0.22	-5.3	16.1
15,396.0	89.00	359.30	12,280.3	3,131.0	-132.2	0.68	-0.65	-0.22	-4.3	16.3
15,489.0	90.50	359.70	12,280.7	3,224.0	-133.0	1.67	1.61	0.43	-4.1	16.4
15,582.0	89.90	0.40	12,280.4	3,317.0	-132.9	0.99	-0.65	0.75	-4.6	15.6
15,675.0	92.50	1.50	12,278.5	3,409.9	-131.4	3.04	2.80	1.18	-6.8	13.4
15,769.0	92.30	359.90	12,274.5	3,503.8	-130.2	1.71	-0.21	-1.70	-10.9	11.5
15,862.0	91.40	359.70	12,271.5	3,596.8	-130.5	0.99	-0.97	-0.22	-14.1	11.1

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
15,956.0	92.40	359.90	12,268.4	3,690.7	-130.9	1.08	1.06	0.21	-17.4	10.7	
16,049.0	90.20	359.70	12,266.3	3,783.7	-131.2	2.38	-2.37	-0.22	-19.7	10.3	
16,143.0	89.60	359.80	12,266.5	3,877.7	-131.6	0.65	-0.64	0.11	-19.7	10.0	
16,236.0	87.60	358.70	12,268.7	3,970.7	-132.8	2.45	-2.15	-1.18	-17.6	10.5	
16,330.0	87.00	358.20	12,273.2	4,064.5	-135.4	0.83	-0.64	-0.53	-13.4	12.3	
16,423.0	90.40	1.40	12,275.3	4,157.5	-135.7	5.02	3.66	3.44	-11.4	11.9	
16,516.0	90.90	1.50	12,274.2	4,250.4	-133.3	0.55	0.54	0.11	-12.7	8.9	
16,609.0	88.90	359.60	12,274.4	4,343.4	-132.4	2.97	-2.15	-2.04	-12.7	7.3	
16,702.0	91.20	1.50	12,274.3	4,436.4	-131.5	3.21	2.47	2.04	-13.0	5.7	
16,795.0	89.80	2.50	12,273.5	4,529.3	-128.3	1.85	-1.51	1.08	-14.0	1.7	
16,888.0	88.40	0.50	12,275.0	4,622.3	-125.9	2.62	-1.51	-2.15	-12.7	-1.5	
16,981.0	85.80	358.80	12,279.7	4,715.2	-126.4	3.34	-2.80	-1.83	-8.2	-1.6	
17,065.3	84.99	358.17	12,286.4	4,799.1	-128.7	1.21	-0.96	-0.74	-1.6	0.0	
TGT 2 (Neptune 10 St Com #601H)											
17,075.0	84.90	358.10	12,287.3	4,808.8	-129.0	1.21	-0.96	-0.75	-0.7	0.2	
17,169.0	85.60	357.00	12,295.1	4,902.4	-133.0	1.38	0.74	-1.17	7.2	3.5	
17,261.0	86.80	356.30	12,301.2	4,994.0	-138.3	1.51	1.30	-0.76	13.4	8.2	
17,355.0	88.60	356.60	12,304.9	5,087.8	-144.2	1.94	1.91	0.32	17.2	13.2	
17,448.0	90.90	357.90	12,305.3	5,180.7	-148.6	2.84	2.47	1.40	17.8	17.0	
17,542.0	90.50	357.90	12,304.2	5,274.6	-152.1	0.43	-0.43	0.00	16.7	19.7	
17,635.0	90.00	357.70	12,303.8	5,367.5	-155.6	0.58	-0.54	-0.22	16.4	22.6	
17,729.0	90.60	358.80	12,303.3	5,461.5	-158.5	1.33	0.64	1.17	16.0	24.7	
17,822.0	90.90	359.10	12,302.1	5,554.5	-160.2	0.46	0.32	0.32	14.9	25.7	
17,916.0	90.60	359.70	12,300.8	5,648.4	-161.2	0.71	-0.32	0.64	13.8	26.0	
18,010.0	88.70	359.50	12,301.4	5,742.4	-161.8	2.03	-2.02	-0.21	14.5	25.9	
18,103.0	88.20	0.60	12,303.9	5,835.4	-161.8	1.30	-0.54	1.18	17.1	25.1	
18,198.0	87.30	0.10	12,307.7	5,930.3	-161.2	1.08	-0.95	-0.53	20.9	23.8	

PVA Report

Company:		EOG Resources - Midland				Local Co-ordinate Reference:		Well #601H	
Project:		Lea County, NM (NAD 83 NME)				TVD Reference:		KB= 25' @ 3638.0usft	
Site:		Neptune 10 State Com				MD Reference:		KB= 25' @ 3638.0usft	
Well:		#601H				North Reference:		Grid	
Wellbore:		OH				Survey Calculation Method:		Minimum Curvature	
Design:		OH				Database:		EDM 5000.14	

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
18,291.0	89.50	358.80	12,310.3	6,023.3	-162.1	2.75	2.37	-1.40	23.6	24.0	
18,385.0	89.90	359.10	12,310.8	6,117.3	-163.8	0.53	0.43	0.32	24.2	25.0	
18,479.0	91.90	359.50	12,309.3	6,211.2	-164.9	2.17	2.13	0.43	22.8	25.4	
18,573.0	91.40	0.20	12,306.6	6,305.2	-165.2	0.91	-0.53	0.74	20.2	24.9	
18,666.0	88.20	358.80	12,306.9	6,398.2	-166.0	3.76	-3.44	-1.51	20.7	25.0	
18,760.0	88.30	358.80	12,309.8	6,492.1	-168.0	0.11	0.11	0.00	23.6	26.3	
18,853.0	88.10	359.20	12,312.7	6,585.1	-169.6	0.48	-0.22	0.43	26.7	27.2	
18,947.0	91.50	359.80	12,313.0	6,679.0	-170.4	3.67	3.62	0.64	27.1	27.3	
19,042.0	92.50	0.30	12,309.7	6,774.0	-170.3	1.18	1.05	0.53	23.9	26.5	
19,135.0	89.80	0.00	12,307.8	6,866.9	-170.1	2.92	-2.90	-0.32	22.1	25.5	
19,229.0	89.80	0.30	12,308.2	6,960.9	-169.8	0.32	0.00	0.32	22.6	24.5	
19,323.0	91.90	0.90	12,306.8	7,054.9	-168.9	2.32	2.23	0.64	21.3	22.8	
19,417.0	92.00	2.20	12,303.6	7,148.8	-166.3	1.39	0.11	1.38	18.2	19.5	
19,510.0	93.00	3.20	12,299.5	7,241.6	-161.9	1.52	1.08	1.08	14.2	14.5	
19,605.0	89.90	2.00	12,297.1	7,336.5	-157.6	3.50	-3.26	-1.26	11.9	9.4	
19,698.0	92.30	2.50	12,295.3	7,429.4	-154.0	2.64	2.58	0.54	10.2	5.0	
19,767.8	89.52	2.12	12,294.2	7,499.1	-151.2	4.01	-3.98	-0.54	9.2	1.7	
TGT 3 (Neptune 10 St Com #601H)											
19,791.0	88.60	2.00	12,294.6	7,522.3	-150.3	4.01	-3.98	-0.54	9.5	0.7	
19,885.0	90.40	1.50	12,295.4	7,616.3	-147.5	1.99	1.91	-0.53	10.1	-2.9	
19,979.0	92.00	0.90	12,293.4	7,710.2	-145.5	1.82	1.70	-0.64	7.9	-5.6	
20,072.0	90.80	0.50	12,291.2	7,803.2	-144.4	1.36	-1.29	-0.43	5.4	-7.5	
20,166.0	90.90	359.50	12,289.8	7,897.2	-144.4	1.07	0.11	-1.06	3.7	-8.2	
20,260.0	90.60	358.40	12,288.5	7,991.1	-146.1	1.21	-0.32	-1.17	2.3	-7.2	
20,354.0	89.90	358.60	12,288.1	8,085.1	-148.5	0.77	-0.74	0.21	1.6	-5.4	
20,447.0	89.00	358.70	12,289.0	8,178.1	-150.7	0.97	-0.97	0.11	2.3	-4.0	
20,542.0	89.50	358.00	12,290.3	8,273.0	-153.5	0.91	0.53	-0.74	3.3	-2.0	

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Survey											
MD (usft)	Inc (°)	Azi (grid_north_azim)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Build (°/100usft)	Turn (°/100usft)	High to Plan (usft)	Right to Plan (usft)	
20,635.0	90.60	358.50	12,290.2	8,366.0	-156.3	1.30	1.18	0.54	2.9	0.2	
20,729.0	93.40	358.70	12,286.9	8,459.9	-158.6	2.99	2.98	0.21	-0.6	1.7	
20,822.0	94.40	358.90	12,280.6	8,552.7	-160.5	1.10	1.08	0.22	-7.2	3.0	
20,916.0	92.90	0.30	12,274.6	8,646.5	-161.2	2.18	-1.60	1.49	-13.4	2.9	
21,009.0	92.80	0.50	12,270.0	8,739.3	-160.6	0.24	-0.11	0.22	-18.3	1.5	
21,103.0	91.40	0.40	12,266.5	8,833.3	-159.8	1.49	-1.49	-0.11	-22.0	0.1	
21,197.0	90.80	0.20	12,264.7	8,927.2	-159.3	0.67	-0.64	-0.21	-24.0	-1.2	
21,290.0	91.10	0.20	12,263.2	9,020.2	-159.0	0.32	0.32	0.00	-25.8	-2.2	
21,384.0	90.50	0.20	12,261.9	9,114.2	-158.7	0.64	-0.64	0.00	-27.4	-3.2	
21,479.0	89.60	0.60	12,261.8	9,209.2	-158.0	1.04	-0.95	0.42	-27.7	-4.6	
21,572.0	90.10	0.60	12,262.0	9,302.2	-157.0	0.54	0.54	0.00	-27.7	-6.3	
21,665.0	90.40	0.70	12,261.6	9,395.2	-156.0	0.34	0.32	0.11	-28.3	-8.1	
21,758.0	90.60	0.70	12,260.8	9,488.2	-154.8	0.22	0.22	0.00	-29.4	-10.0	
21,852.0	91.30	1.00	12,259.3	9,582.2	-153.4	0.81	0.74	0.32	-31.2	-12.1	
21,945.0	89.80	1.00	12,258.4	9,675.2	-151.8	1.61	-1.61	0.00	-32.4	-14.4	
22,039.0	90.80	1.90	12,257.9	9,769.1	-149.4	1.43	1.06	0.96	-33.1	-17.5	
22,132.0	90.00	2.40	12,257.2	9,862.1	-146.0	1.01	-0.86	0.54	-34.0	-21.7	
22,227.0	87.70	0.90	12,259.1	9,957.0	-143.2	2.89	-2.42	-1.58	-32.3	-25.2	
22,321.0	87.70	1.10	12,262.9	10,050.9	-141.6	0.21	0.00	0.21	-28.8	-27.5	
22,334.0	87.66	1.16	12,263.4	10,063.9	-141.3	0.59	-0.33	0.49	-28.3	-27.9	
HL Crossing, MD:22334.0', TVD:12263.4', N/S:10063.9', E/W:-141.3', INC:87.66											
22,382.0	87.50	1.40	12,265.5	10,111.8	-140.3	0.59	-0.33	0.49	-26.4	-29.3	
Final MWD Survey (MD=22382.0')											
22,434.5	87.50	1.41	12,267.7	10,164.3	-139.0	0.02	0.00	0.02	-24.3	-31.0	
PBHL(Neptune 10 St Com #601H)											
22,447.0	87.50	1.41	12,268.3	10,176.7	-138.7	0.02	0.00	0.02	-25.5	-32.5	
Final Projection to Bit (MD=22447.0')											

PVA Report

Company:	EOG Resources - Midland	Local Co-ordinate Reference:	Well #601H
Project:	Lea County, NM (NAD 83 NME)	TVD Reference:	KB= 25' @ 3638.0usft
Site:	Neptune 10 State Com	MD Reference:	KB= 25' @ 3638.0usft
Well:	#601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.14

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,428.4	12,285.0	166.4	-95.0	HL Crossing, MD:12428.4', TVD:12285.0', N/S:166.4', E/W:-95.0', INC:80.29
22,334.0	12,263.4	10,063.9	-141.3	HL Crossing, MD:22334.0', TVD:12263.4', N/S:10063.9', E/W:-141.3', INC:87.66
22,382.0	12,265.5	10,111.8	-140.3	Final MWD Survey (MD=22382.0')
22,447.0	12,268.3	10,176.7	-138.7	Final Projection to Bit (MD=22447.0')

Checked By: _____ Approved By: _____ Date: _____