



NM OIL CONSERVATION
ARTESIA DISTRICT

OCT 18 2018

RECEIVED

EOG Resources - Artesia

Eddy County (NAD83)

Badboy

Badboy #1H

30-015-45358

Lateral

Plan: Plan #1

Standard Planning Report

17 October, 2018



Planning Report

Database: EDM 5000.14
Company: EOG Resources - Artesia
Project: Eddy County (NAD83)
Site: Badboy
Well: Badboy #1H
Wellbore: Lateral
Design: Plan #1

Local Co-ordinate Reference: Well Badboy #1H
TVD Reference: KB @ 3489.000usft (Planning Rig)
MD Reference: KB @ 3489.000usft (Planning Rig)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project	Eddy County (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Badboy			
Site Position:		Northing:	602,809.00 usft	Latitude: 32° 39' 25.525 N
From:	Map	Easting:	498,104.00 usft	Longitude: 104° 28' 25.725 W
Position Uncertainty:	0.000 usft	Slot Radius:	13-3/16 "	Grid Convergence: -0.08 "

Well	Badboy #1H			
Well Position	+N/-S	-829.000 usft	Northing:	601,980.00 usft
	+E/-W	-288.000 usft	Easting:	497,816.00 usft
Position Uncertainty	0.000 usft	Wellhead Elevation:	3,489.000 usft	Ground Level: 3,471.000 usft

Wellbore	Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/17/2018	7.26	60.29	47,957.93508813

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.000
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.000	0.000	0.000	90.547

Plan Survey Tool Program	Date 10/17/2018			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.000	8,333.767 Plan #1 (Lateral)	MWD	
			OWSG MWD - Standard	

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
0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	
1,250.000	0.00	0.000	1,250.000	0.000	0.000	0.00	0.00	0.00	0.00	
2,093.833	0.00	0.000	2,093.833	0.000	0.000	0.00	0.00	0.00	0.00	
2,760.500	60.00	93.850	2,645.162	-21.373	317.592	8.00	9.00	0.00	93.85	
2,835.500	60.00	93.850	2,682.662	-25.734	382.397	0.00	0.00	0.00	0.00	
3,076.026	88.66	80.246	2,746.973	-33.407	611.405	12.00	11.92	-1.50	-7.48	
8,334.108	88.66	80.246	2,870.000	-56.000	5,868.000	0.00	0.00	0.00	0.00	[BB#1H]BHL1



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 MD Reference: KB @ 3489.000usft (Planning Rig)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
100.000	0.00	0.000	100.000	0.000	0.000	0.000	0.00	0.00	0.00
200.000	0.00	0.000	200.000	0.000	0.000	0.000	0.00	0.00	0.00
300.000	0.00	0.000	300.000	0.000	0.000	0.000	0.00	0.00	0.00
400.000	0.00	0.000	400.000	0.000	0.000	0.000	0.00	0.00	0.00
500.000	0.00	0.000	500.000	0.000	0.000	0.000	0.00	0.00	0.00
600.000	0.00	0.000	600.000	0.000	0.000	0.000	0.00	0.00	0.00
700.000	0.00	0.000	700.000	0.000	0.000	0.000	0.00	0.00	0.00
800.000	0.00	0.000	800.000	0.000	0.000	0.000	0.00	0.00	0.00
900.000	0.00	0.000	900.000	0.000	0.000	0.000	0.00	0.00	0.00
1,000.000	0.00	0.000	1,000.000	0.000	0.000	0.000	0.00	0.00	0.00
1,100.000	0.00	0.000	1,100.000	0.000	0.000	0.000	0.00	0.00	0.00
1,200.000	0.00	0.000	1,200.000	0.000	0.000	0.000	0.00	0.00	0.00
1,250.000	0.00	0.000	1,250.000	0.000	0.000	0.000	0.00	0.00	0.00
1,300.000	0.00	0.000	1,300.000	0.000	0.000	0.000	0.00	0.00	0.00
1,400.000	0.00	0.000	1,400.000	0.000	0.000	0.000	0.00	0.00	0.00
1,500.000	0.00	0.000	1,500.000	0.000	0.000	0.000	0.00	0.00	0.00
1,600.000	0.00	0.000	1,600.000	0.000	0.000	0.000	0.00	0.00	0.00
1,700.000	0.00	0.000	1,700.000	0.000	0.000	0.000	0.00	0.00	0.00
1,800.000	0.00	0.000	1,800.000	0.000	0.000	0.000	0.00	0.00	0.00
1,900.000	0.00	0.000	1,900.000	0.000	0.000	0.000	0.00	0.00	0.00
2,000.000	0.00	0.000	2,000.000	0.000	0.000	0.000	0.00	0.00	0.00
2,093.833	0.00	0.000	2,093.833	0.000	0.000	0.000	0.00	0.00	0.00
KOP 9°/100' BUILD RATE									
2,100.000	0.58	93.850	2,100.000	-0.002	0.030	0.030	9.00	9.00	0.00
2,150.000	5.08	93.850	2,149.927	-0.168	2.471	2.472	9.00	9.00	0.00
2,200.000	9.58	93.850	2,199.508	-0.593	8.812	8.817	9.00	9.00	0.00
2,250.000	14.06	93.850	2,248.438	-1.280	19.016	19.027	9.00	9.00	0.00
2,300.000	18.56	93.850	2,296.415	-2.222	33.018	33.037	9.00	9.00	0.00
2,350.000	23.06	93.850	2,343.143	-3.414	50.733	50.763	9.00	9.00	0.00
2,400.000	27.56	93.850	2,388.333	-4.849	72.051	72.094	9.00	9.00	0.00
2,450.000	32.06	93.850	2,431.708	-8.517	96.841	96.899	9.00	9.00	0.00
2,500.000	36.56	93.850	2,473.000	-8.409	124.950	125.024	9.00	9.00	0.00
2,550.000	41.06	93.850	2,511.954	-10.512	156.205	156.298	9.00	9.00	0.00
2,600.000	45.56	93.850	2,548.331	-12.814	190.413	190.526	9.00	9.00	0.00
2,650.000	50.06	93.850	2,581.905	-15.301	227.363	227.498	9.00	9.00	0.00
2,700.000	54.56	93.850	2,612.470	-17.957	266.827	266.988	9.00	9.00	0.00
2,750.000	59.06	93.850	2,639.837	-20.765	308.563	308.747	9.00	9.00	0.00
2,760.500	60.00	93.850	2,645.162	-21.373	317.592	317.781	9.00	9.00	0.00
START 75° TANGENT									
2,800.000	60.00	93.850	2,684.912	-23.670	351.723	351.932	0.00	0.00	0.00
2,835.500	60.00	93.850	2,682.662	-25.734	382.397	382.825	0.00	0.00	0.00
END 60° TANGENT/BEGIN 12°/100' BR									
2,850.000	61.73	93.593	2,689.722	-26.556	395.035	395.270	12.00	11.90	-1.77
2,875.000	64.70	93.168	2,700.987	-27.871	417.311	417.558	12.00	11.90	-1.70
2,900.000	67.68	92.764	2,711.079	-29.053	440.150	440.407	12.00	11.91	-1.62
2,925.000	70.66	92.377	2,719.989	-30.100	463.489	463.756	12.00	11.91	-1.55
2,950.000	73.64	92.003	2,727.633	-31.009	487.265	487.539	12.00	11.92	-1.49
2,975.000	76.62	91.641	2,734.050	-31.776	511.413	511.693	12.00	11.92	-1.45
3,000.000	78.60	91.288	2,739.202	-32.401	535.865	536.150	12.00	11.92	-1.41
3,025.000	82.58	90.941	2,743.076	-32.881	560.556	560.844	12.00	11.92	-1.39
3,050.000	85.56	90.599	2,745.660	-33.215	585.417	585.707	12.00	11.92	-1.37
3,076.024	88.66	90.246	2,746.973	-33.407	611.403	611.694	12.00	11.92	-1.36



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[BB#1H]EOC1 3076' MD (2747' TVD)									
3,076.028	88.66	90.246	2,746.973	-33.407	611.405	611.696	12.00	11.92	-1.35
3,100.000	88.66	90.246	2,747.534	-33.510	635.373	635.664	0.00	0.00	0.00
3,200.000	88.66	90.246	2,749.874	-33.940	735.344	735.635	0.00	0.00	0.00
3,214.677	88.66	90.246	2,750.217	-34.003	750.017	750.308	0.00	0.00	0.00
[BB#1H]UMP1 3215' MD (2750' TVD)									
3,300.000	88.66	90.246	2,752.213	-34.369	835.316	835.606	0.00	0.00	0.00
3,400.000	88.66	90.246	2,754.553	-34.798	935.268	935.577	0.00	0.00	0.00
3,500.000	88.66	90.246	2,756.893	-35.229	1,035.259	1,035.549	0.00	0.00	0.00
3,600.000	88.66	90.246	2,759.233	-35.658	1,135.231	1,135.520	0.00	0.00	0.00
3,700.000	88.66	90.246	2,761.573	-36.088	1,235.203	1,235.491	0.00	0.00	0.00
3,800.000	88.66	90.246	2,763.912	-36.518	1,335.175	1,335.462	0.00	0.00	0.00
3,900.000	88.66	90.246	2,766.252	-36.947	1,435.146	1,435.433	0.00	0.00	0.00
4,000.000	88.66	90.246	2,768.592	-37.377	1,535.118	1,535.405	0.00	0.00	0.00
4,100.000	88.66	90.246	2,770.932	-37.807	1,635.090	1,635.378	0.00	0.00	0.00
4,200.000	88.66	90.246	2,773.271	-38.236	1,735.061	1,735.347	0.00	0.00	0.00
4,300.000	88.66	90.246	2,775.611	-38.666	1,835.033	1,835.318	0.00	0.00	0.00
4,400.000	88.66	90.246	2,777.951	-39.096	1,935.005	1,935.290	0.00	0.00	0.00
4,500.000	88.66	90.246	2,780.291	-39.525	2,034.976	2,035.261	0.00	0.00	0.00
4,600.000	88.66	90.246	2,782.630	-39.955	2,134.948	2,135.232	0.00	0.00	0.00
4,700.000	88.66	90.246	2,784.970	-40.385	2,234.920	2,235.203	0.00	0.00	0.00
4,800.000	88.66	90.246	2,787.310	-40.814	2,334.892	2,335.175	0.00	0.00	0.00
4,900.000	88.66	90.246	2,789.650	-41.244	2,434.863	2,435.146	0.00	0.00	0.00
5,000.000	88.66	90.246	2,791.990	-41.674	2,534.835	2,535.117	0.00	0.00	0.00
5,100.000	88.66	90.246	2,794.329	-42.104	2,634.807	2,635.088	0.00	0.00	0.00
5,200.000	88.66	90.246	2,796.669	-42.533	2,734.778	2,735.060	0.00	0.00	0.00
5,300.000	88.66	90.246	2,799.009	-42.963	2,834.750	2,835.031	0.00	0.00	0.00
5,400.000	88.66	90.246	2,801.349	-43.393	2,934.722	2,935.002	0.00	0.00	0.00
5,500.000	88.66	90.246	2,803.688	-43.822	3,034.693	3,034.973	0.00	0.00	0.00
5,600.000	88.66	90.246	2,806.028	-44.252	3,134.665	3,134.945	0.00	0.00	0.00
5,700.000	88.66	90.246	2,808.368	-44.682	3,234.637	3,234.916	0.00	0.00	0.00
5,800.000	88.66	90.246	2,810.708	-45.111	3,334.608	3,334.887	0.00	0.00	0.00
5,900.000	88.66	90.246	2,813.047	-45.541	3,434.580	3,434.858	0.00	0.00	0.00
6,000.000	88.66	90.246	2,815.387	-45.971	3,534.552	3,534.830	0.00	0.00	0.00
6,100.000	88.66	90.246	2,817.727	-46.400	3,634.524	3,634.801	0.00	0.00	0.00
6,200.000	88.66	90.246	2,820.067	-46.830	3,734.495	3,734.772	0.00	0.00	0.00
6,300.000	88.66	90.246	2,822.406	-47.260	3,834.467	3,834.743	0.00	0.00	0.00
6,400.000	88.66	90.246	2,824.746	-47.689	3,934.439	3,934.715	0.00	0.00	0.00
6,500.000	88.66	90.246	2,827.086	-48.119	4,034.410	4,034.686	0.00	0.00	0.00
6,600.000	88.66	90.246	2,829.426	-48.549	4,134.382	4,134.657	0.00	0.00	0.00
6,700.000	88.66	90.246	2,831.766	-48.978	4,234.354	4,234.628	0.00	0.00	0.00
6,800.000	88.66	90.246	2,834.105	-49.408	4,334.325	4,334.600	0.00	0.00	0.00
6,900.000	88.66	90.246	2,836.445	-49.838	4,434.297	4,434.571	0.00	0.00	0.00
7,000.000	88.66	90.246	2,838.785	-50.268	4,534.269	4,534.542	0.00	0.00	0.00
7,100.000	88.66	90.246	2,841.125	-50.697	4,634.241	4,634.513	0.00	0.00	0.00
7,200.000	88.66	90.246	2,843.464	-51.127	4,734.212	4,734.485	0.00	0.00	0.00
7,300.000	88.66	90.246	2,845.804	-51.557	4,834.184	4,834.456	0.00	0.00	0.00
7,400.000	88.66	90.246	2,848.144	-51.986	4,934.156	4,934.427	0.00	0.00	0.00
7,500.000	88.66	90.246	2,850.484	-52.416	5,034.127	5,034.398	0.00	0.00	0.00
7,600.000	88.66	90.246	2,852.823	-52.846	5,134.099	5,134.370	0.00	0.00	0.00
7,700.000	88.66	90.246	2,855.163	-53.275	5,234.071	5,234.341	0.00	0.00	0.00
7,800.000	88.66	90.246	2,857.503	-53.705	5,334.042	5,334.312	0.00	0.00	0.00
7,900.000	88.66	90.246	2,859.843	-54.135	5,434.014	5,434.283	0.00	0.00	0.00



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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)
8,000.000	88.66	90.246	2,862.183	-54.564	5,533.988	5,534.254	0.00	0.00	0.00
8,100.000	88.66	90.246	2,864.522	-54.894	5,633.957	5,634.226	0.00	0.00	0.00
8,200.000	88.66	90.246	2,866.862	-55.424	5,733.929	5,734.197	0.00	0.00	0.00
8,300.000	88.66	90.246	2,869.202	-55.853	5,833.901	5,834.168	0.00	0.00	0.00
8,333.859	88.66	90.246	2,869.994	-55.999	5,867.750	5,868.017	0.00	0.00	0.00
[BB#1H]BHL1 8334' MD (2870' TVD)									
8,334.108	88.66	90.246	2,870.000	-56.000	5,868.000	5,868.267	0.00	0.00	0.00

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									
[BB#1H]JUMP1	0.00	0.000	2,750.000	-34.000	750.000	601,946.00	498,566.00	32° 39' 16.991 N	104° 28' 20.308 W
- plan misses target center by 0.217usft at 3214.655usft MD (2750.217 TVD, -34.003 N, 749.995 E)									
- Point									
[BB#1H]BHL1	0.00	0.000	2,870.000	-56.000	5,868.000	601,924.00	503,684.00	32° 39' 16.836 N	104° 27' 20.441 W
- plan hits target center									
- Point									

Plan Annotations

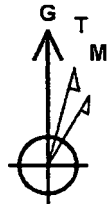
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,093.833	2,093.833	0.000	0.000	KOP 6°/100' BUILD RATE
2,760.500	2,645.162	-21.373	317.592	START 75' TANGENT
2,835.500	2,682.662	-25.734	382.397	END 60° TANGENT/BEGIN 12°/100' BR
3,076.024	2,746.973	-33.407	611.403	[BB#1H]EOC1 3076' MD (2747' TVD)
3,214.677	2,750.217	-34.003	750.017	[BB#1H]JUMP1 3215' MD (2750' TVD)
8,333.859	2,869.994	-55.999	5,867.750	[BB#1H]BHL1 8334' MD (2870' TVD)

Project: Eddy County (NAD83)
 Site: Badboy
 Well: Badboy #1H
 Wellbore: Lateral
 Design: Plan #1
 Ground Elevation 3471.000
 Northing 601980.00
 Easting 497816.00

PROJECT DETAILS: Eddy County (NAD83)

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

System Datum: Mean Sea Level



Azimuths to Grid North
 True North: 0.08°
 Magnetic North: 7.34°
 Magnetic Field
 Strength: 47957.9snT
 Dip Angle: 60.29°
 Date: 10/17/2018
 Model: IGRF2015

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.000
2	1250.000	0.00	0.000	1250.000	0.000	0.000	0.00	0.00	0.000
3	2093.833	0.00	0.000	2093.833	0.000	0.000	0.00	0.00	0.000
4	2760.500	60.00	93.850	2645.162	-21.373	317.592	9.00	93.85	317.781
5	2835.500	60.00	93.850	2682.662	-25.734	382.397	0.00	0.00	382.625
6	3076.026	88.66	90.246	2746.973	-33.407	611.405	12.00	-7.48	611.696
7	8334.109	88.66	90.246	2870.000	-56.000	5868.000	0.00	0.00	5868.267

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[BB#1H]UMP1	2750.000	-34.000	750.000	601946.00	498566.00
- plan misses target center by 0.217usft at 3214.655usft MD (2750.217 TVD, -34.003 N, 749.995 E)					
[BB#1H]BHL1	2870.000	-56.000	5868.000	601924.00	503684.00
- plan hits target center					

