



ConocoPhillips

**Lea County, New Mexico (NAD 27)
East Vacuum GBSA Unit
3202-514**

Wellbore #1

Plan: Design #1

Standard Planning Report

30 March, 2017



Database:	EDM 5000.14 Conroe DB	Local Co-ordinate Reference:	Well 3202-514
Company:	ConocoPhillips	TVD Reference:	WELL @ 3969.50usft (Trinidad 417)
Project:	Lea County, New Mexico (NAD 27)	MD Reference:	WELL @ 3969.50usft (Trinidad 417)
Site:	East Vacuum GBSA Unit	North Reference:	Grid
Well:	3202-514	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project	Lea County, New Mexico (NAD 27)		
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		

Well	3202-514			
Well Position	+N/-S	652,186.70 usft	Northing:	652,186.70 usft
	+E/-W	765,530.18 usft	Easting:	765,530.18 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	
			Latitude:	32° 47' 23.895 N
			Longitude:	103° 28' 9.456 W
			Ground Level:	3,952.00 usft

Wellbore	Wellbore #1			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2016	3/29/2017	6.99	60.64	48,389

Design	Design #1			
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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	283.49

Plan Survey Tool Program		Date	3/29/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	5,289.09	Design #1 (Wellbore #1)	MWD - OWSG R1	
				MWD - OWSG R1	

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,006.67	19.60	283.49	2,981.33	51.63	-215.22	1.50	1.50	0.00	283.49	PBHL - EVGBSA 3
5,289.09	19.60	283.49	5,131.50	230.25	-959.73	0.00	0.00	0.00	0.00	

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Wellbore:	Wellbore #1		
Design:	Design #1		

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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
249.50	0.00	0.00	249.50	0.00	0.00	0.00	0.00	0.00	0.00
Red Beds									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,506.50	0.00	0.00	1,506.50	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,531.50	0.00	0.00	1,531.50	0.00	0.00	0.00	0.00	0.00	0.00
Surf. Casing									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,634.50	0.00	0.00	1,634.50	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 1.50°/100' Build									
1,800.00	1.50	283.49	1,799.99	0.31	-1.27	1.31	1.50	1.50	0.00
1,900.00	3.00	283.49	1,899.91	1.22	-5.09	5.23	1.50	1.50	0.00
2,000.00	4.50	283.49	1,999.69	2.75	-11.45	11.77	1.50	1.50	0.00
2,100.00	6.00	283.49	2,099.27	4.88	-20.35	20.92	1.50	1.50	0.00
2,200.00	7.50	283.49	2,198.57	7.62	-31.78	32.68	1.50	1.50	0.00
2,300.00	9.00	283.49	2,297.54	10.97	-45.73	47.03	1.50	1.50	0.00
2,400.00	10.50	283.49	2,396.09	14.92	-62.20	63.96	1.50	1.50	0.00
2,500.00	12.00	283.49	2,494.16	19.47	-81.17	83.47	1.50	1.50	0.00
2,600.00	13.50	283.49	2,591.70	24.62	-102.63	105.54	1.50	1.50	0.00
2,700.00	15.00	283.49	2,688.62	30.36	-126.56	130.15	1.50	1.50	0.00
2,721.64	15.32	283.49	2,709.50	31.68	-132.07	135.81	1.50	1.50	0.00
Tansill									
2,800.00	16.50	283.49	2,784.86	36.70	-152.96	157.30	1.50	1.50	0.00
2,846.64	17.20	283.49	2,829.50	39.85	-166.10	170.82	1.50	1.50	0.00
Yates									
2,900.00	18.00	283.49	2,880.36	43.61	-181.79	186.95	1.50	1.50	0.00
3,006.67	19.60	283.49	2,981.33	51.63	-215.22	221.32	1.50	1.50	0.00
Hold 19.60° Inc, 283.49° Azm									
3,100.00	19.60	283.49	3,069.26	58.94	-245.66	252.63	0.00	0.00	0.00
3,148.03	19.60	283.49	3,114.50	62.69	-261.33	268.74	0.00	0.00	0.00
Seven Rivers									
3,200.00	19.60	283.49	3,163.46	66.76	-278.28	286.18	0.00	0.00	0.00
3,300.00	19.60	283.49	3,257.67	74.59	-310.90	319.72	0.00	0.00	0.00
3,400.00	19.60	283.49	3,351.87	82.41	-343.52	353.27	0.00	0.00	0.00
3,500.00	19.60	283.49	3,446.08	90.24	-376.14	386.81	0.00	0.00	0.00
3,600.00	19.60	283.49	3,540.28	98.06	-408.76	420.36	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Design #1		

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)
3,700.00	19.60	283.49	3,634.49	105.89	-441.38	453.90	0.00	0.00	0.00
3,741.41	19.60	283.49	3,673.50	109.13	-454.89	467.79	0.00	0.00	0.00
Queen									
3,800.00	19.60	283.49	3,728.70	113.72	-474.00	487.45	0.00	0.00	0.00
3,900.00	19.60	283.49	3,822.90	121.54	-506.62	520.99	0.00	0.00	0.00
4,000.00	19.60	283.49	3,917.11	129.37	-539.24	554.54	0.00	0.00	0.00
4,100.00	19.60	283.49	4,011.31	137.19	-571.86	588.08	0.00	0.00	0.00
4,121.43	19.60	283.49	4,031.50	138.87	-578.85	595.27	0.00	0.00	0.00
Grayburg									
4,200.00	19.60	283.49	4,105.52	145.02	-604.48	621.63	0.00	0.00	0.00
4,300.00	19.60	283.49	4,199.73	152.84	-637.10	655.17	0.00	0.00	0.00
4,400.00	19.60	283.49	4,293.93	160.67	-669.72	688.72	0.00	0.00	0.00
4,471.73	19.60	283.49	4,361.50	166.28	-693.11	712.78	0.00	0.00	0.00
San Andres									
4,500.00	19.60	283.49	4,388.14	168.49	-702.34	722.27	0.00	0.00	0.00
4,600.00	19.60	283.49	4,482.34	176.32	-734.96	755.81	0.00	0.00	0.00
4,700.00	19.60	283.49	4,576.55	184.15	-767.58	789.36	0.00	0.00	0.00
4,800.00	19.60	283.49	4,670.75	191.97	-800.20	822.90	0.00	0.00	0.00
4,900.00	19.60	283.49	4,764.96	199.80	-832.81	856.45	0.00	0.00	0.00
5,000.00	19.60	283.49	4,859.17	207.62	-865.43	889.99	0.00	0.00	0.00
5,100.00	19.60	283.49	4,953.37	215.45	-898.05	923.54	0.00	0.00	0.00
5,200.00	19.60	283.49	5,047.58	223.27	-930.67	957.08	0.00	0.00	0.00
5,278.47	19.60	283.49	5,121.50	229.42	-956.27	983.40	0.00	0.00	0.00
Prod. Casing									
5,289.09	19.60	283.49	5,131.50	230.25	-959.73	986.97	0.00	0.00	0.00
PBHL									

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									
PBHL - EVGBSA 320:	0.00	0.00	5,131.50	202.74	-845.08	652,389.44	764,685.10	32° 47' 25.969 N	103° 28' 19.336 W
- plan misses target center by 111.07usft at 5249.53usft MD (5094.24 TVD, 227.15 N, -946.83 E)									
- Circle (radius 150.00)									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,531.50	1,531.50	Surf. Casing	9-5/8	12-1/4
5,278.47	5,121.50	Prod. Casing	5-1/2	7-7/8

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Well:	3202-514	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
249.50	249.50	Red Beds			
1,506.50	1,506.50	Rustler			
1,634.50	1,634.50	Salado			
2,721.64	2,709.50	Tansill			
2,846.64	2,829.50	Yates			
3,148.03	3,114.50	Seven Rivers			
3,741.41	3,673.50	Queen			
4,121.43	4,031.50	Grayburg			
4,471.73	4,361.50	San Andres			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,700.00	1,700.00	0.00	0.00	KOP, 1.50°/100' Build
3,006.67	2,981.33	51.63	-215.22	Hold 19.60° Inc, 283.49° Azm
5,289.09	5,131.50	230.25	-959.73	PBHL