



ConocoPhillips

Lea County, NM

War Hammer 25 Fed Com

W2 14H

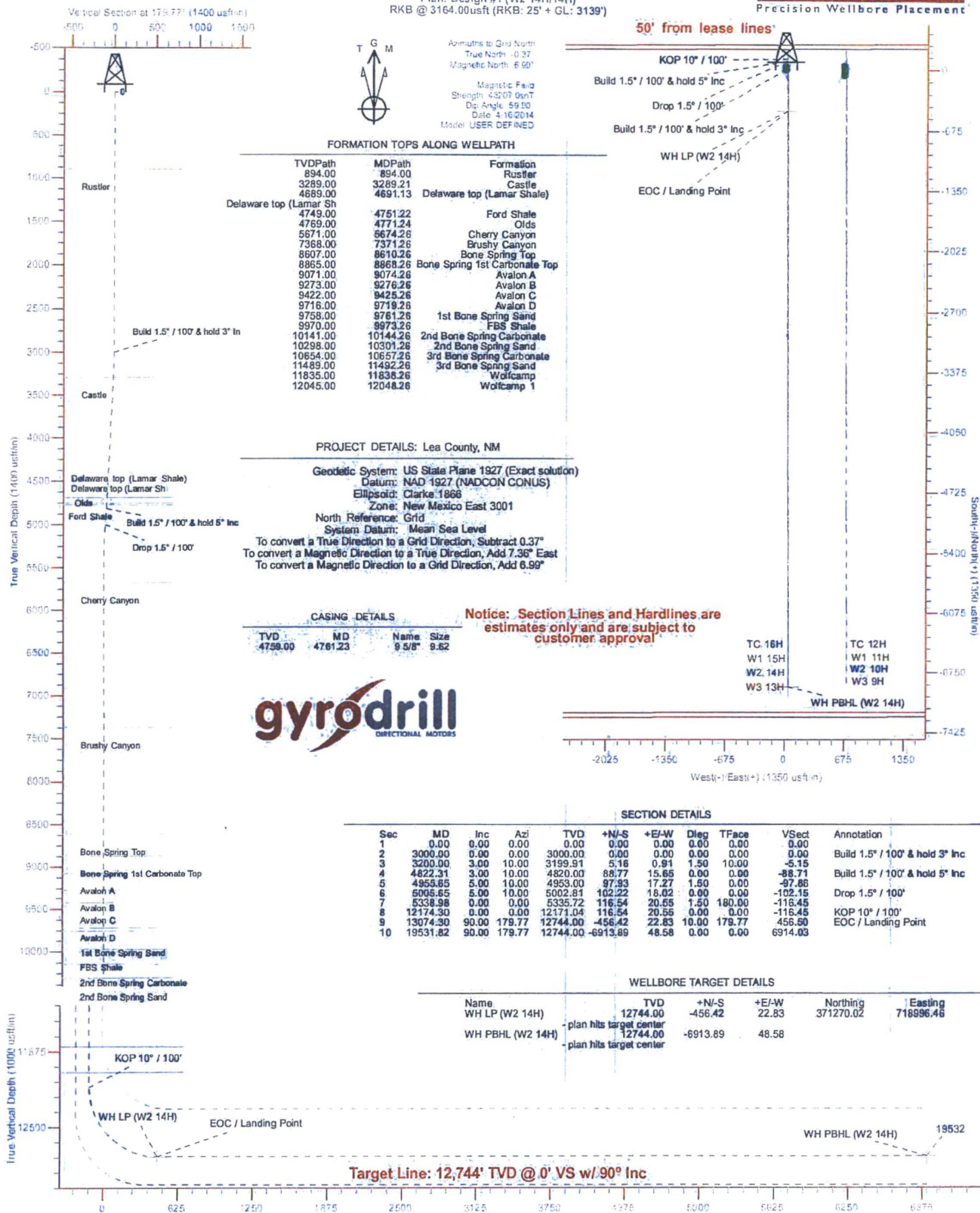
14H

Plan: Design #1

Standard Planning Report

16 April, 2014

gyro/data
Precision Wellbore Placement



Database:	GyrodataNWDB	Local Co-ordinate Reference:	Well W2 14H
Company:	ConocoPhillips	TVD Reference:	RKB @ 3164.00usft (RKB: 25° + GL: 3139°)
Project:	Lea County, NM	MD Reference:	RKB @ 3164.00usft (RKB: 25° + GL: 3139°)
Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Project	Lea County, NM		
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		War Hammer 25 Fed Com			
Site Position:		Northing:	371,782.24 usft	Latitude:	32° 1' 12.49 N
From:	Map	Easting:	721,157.76 usft	Longitude:	103° 37' 11.14 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.38 °

Well	W2 14H					
Well Position	+N/-S	-55.80 usft	Northing:	371,726.44 usft	Latitude:	32° 1' 12.08 N
	+E/-W	-2,184.13 usft	Easting:	718,973.63 usft	Longitude:	103° 37' 36.51 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,139.00 usft

Wellbore	14H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	4/16/2014	7.36	59.90	48,207

Design	Design #1			
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	179.77

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,200.00	3.00	10.00	3,199.91	5.16	0.91	1.50	1.50	0.00	10.00	
4,822.31	3.00	10.00	4,820.00	88.77	15.65	0.00	0.00	0.00	0.00	
4,955.65	5.00	10.00	4,953.00	97.93	17.27	1.50	1.50	0.00	0.00	
5,005.65	5.00	10.00	5,002.81	102.22	18.02	0.00	0.00	0.00	0.00	
5,338.98	0.00	0.00	5,335.72	116.54	20.55	1.50	-1.50	0.00	180.00	
12,174.30	0.00	0.00	12,171.04	116.54	20.55	0.00	0.00	0.00	0.00	
13,074.30	90.00	179.77	12,744.00	-456.42	22.83	10.00	10.00	19.97	179.77	
19,531.82	90.00	179.77	12,744.00	-6,913.89	48.58	0.00	0.00	0.00	0.00	WH PBHL (W2 14H)

Database:	GyrodatabWDB	Local Co-ordinate Reference:	Well W2 14H
Company:	ConocoPhillips	TVD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Project:	Lea County, NM	MD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (")	Azimuth (")	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate ("/100ft)	Build Rate ("/100ft)	Turn Rate ("/100ft)
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
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
1,600.00	0.00	0.00	1,600.00	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
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	1.50	10.00	3,099.99	1.29	0.23	-1.29	1.50	1.50	0.00
3,200.00	3.00	10.00	3,199.91	5.16	0.91	-5.15	1.50	1.50	0.00
3,300.00	3.00	10.00	3,299.77	10.31	1.82	-10.30	0.00	0.00	0.00
3,400.00	3.00	10.00	3,399.63	15.46	2.73	-15.45	0.00	0.00	0.00
3,500.00	3.00	10.00	3,499.50	20.62	3.64	-20.60	0.00	0.00	0.00
3,600.00	3.00	10.00	3,599.36	25.77	4.54	-25.75	0.00	0.00	0.00
3,700.00	3.00	10.00	3,699.22	30.93	5.45	-30.90	0.00	0.00	0.00
3,800.00	3.00	10.00	3,799.09	36.08	6.36	-36.05	0.00	0.00	0.00
3,900.00	3.00	10.00	3,898.95	41.23	7.27	-41.20	0.00	0.00	0.00
4,000.00	3.00	10.00	3,998.81	46.39	8.18	-46.35	0.00	0.00	0.00
4,100.00	3.00	10.00	4,098.68	51.54	9.09	-51.51	0.00	0.00	0.00
4,200.00	3.00	10.00	4,198.54	56.70	10.00	-56.66	0.00	0.00	0.00
4,300.00	3.00	10.00	4,298.40	61.85	10.91	-61.81	0.00	0.00	0.00
4,400.00	3.00	10.00	4,398.26	67.00	11.81	-66.96	0.00	0.00	0.00
4,500.00	3.00	10.00	4,498.13	72.16	12.72	-72.11	0.00	0.00	0.00
4,600.00	3.00	10.00	4,597.99	77.31	13.63	-77.26	0.00	0.00	0.00
4,700.00	3.00	10.00	4,697.85	82.47	14.54	-82.41	0.00	0.00	0.00
4,800.00	3.00	10.00	4,797.72	87.62	15.45	-87.56	0.00	0.00	0.00
4,822.31	3.00	10.00	4,820.00	88.77	15.65	-88.71	0.00	0.00	0.00
4,900.00	4.17	10.00	4,897.53	93.55	16.50	-93.48	1.50	1.50	0.00
4,955.65	5.00	10.00	4,953.00	97.93	17.27	-97.86	1.50	1.50	0.00
5,000.00	5.00	10.00	4,997.19	101.74	17.94	-101.66	0.00	0.00	0.00
5,005.65	5.00	10.00	5,002.81	102.22	18.02	-102.15	0.00	0.00	0.00

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Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,100.00	3.58	10.00	5,096.90	109.18	19.25	-109.10	1.50	-1.50	0.00
5,200.00	2.08	10.00	5,196.77	114.05	20.11	-113.96	1.50	-1.50	0.00
5,300.00	0.58	10.00	5,296.74	116.34	20.51	-116.26	1.50	-1.50	0.00
5,338.98	0.00	0.00	5,335.72	116.54	20.55	-116.45	1.50	-1.50	0.00
5,400.00	0.00	0.00	5,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
5,500.00	0.00	0.00	5,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
5,600.00	0.00	0.00	5,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
5,700.00	0.00	0.00	5,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
5,800.00	0.00	0.00	5,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
5,900.00	0.00	0.00	5,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,000.00	0.00	0.00	5,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,100.00	0.00	0.00	6,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,200.00	0.00	0.00	6,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,300.00	0.00	0.00	6,296.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,400.00	0.00	0.00	6,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,500.00	0.00	0.00	6,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,600.00	0.00	0.00	6,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,700.00	0.00	0.00	6,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,800.00	0.00	0.00	6,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
6,900.00	0.00	0.00	6,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,000.00	0.00	0.00	6,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,100.00	0.00	0.00	7,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,200.00	0.00	0.00	7,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,300.00	0.00	0.00	7,296.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,400.00	0.00	0.00	7,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,500.00	0.00	0.00	7,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,600.00	0.00	0.00	7,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,700.00	0.00	0.00	7,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,800.00	0.00	0.00	7,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
7,900.00	0.00	0.00	7,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,000.00	0.00	0.00	7,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,100.00	0.00	0.00	8,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,200.00	0.00	0.00	8,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,300.00	0.00	0.00	8,296.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,400.00	0.00	0.00	8,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,500.00	0.00	0.00	8,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,600.00	0.00	0.00	8,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,700.00	0.00	0.00	8,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,800.00	0.00	0.00	8,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
8,900.00	0.00	0.00	8,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,000.00	0.00	0.00	8,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,100.00	0.00	0.00	9,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,200.00	0.00	0.00	9,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,300.00	0.00	0.00	9,296.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,400.00	0.00	0.00	9,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,500.00	0.00	0.00	9,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,600.00	0.00	0.00	9,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,700.00	0.00	0.00	9,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,800.00	0.00	0.00	9,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
9,900.00	0.00	0.00	9,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,000.00	0.00	0.00	9,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,100.00	0.00	0.00	10,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,200.00	0.00	0.00	10,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,300.00	0.00	0.00	10,296.74	116.54	20.55	-116.45	0.00	0.00	0.00

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Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,400.00	0.00	0.00	10,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,500.00	0.00	0.00	10,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,600.00	0.00	0.00	10,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,700.00	0.00	0.00	10,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,800.00	0.00	0.00	10,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
10,900.00	0.00	0.00	10,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,000.00	0.00	0.00	10,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,100.00	0.00	0.00	11,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,200.00	0.00	0.00	11,196.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,300.00	0.00	0.00	11,296.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,400.00	0.00	0.00	11,396.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,500.00	0.00	0.00	11,496.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,600.00	0.00	0.00	11,596.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,700.00	0.00	0.00	11,696.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,800.00	0.00	0.00	11,796.74	116.54	20.55	-116.45	0.00	0.00	0.00
11,900.00	0.00	0.00	11,896.74	116.54	20.55	-116.45	0.00	0.00	0.00
12,000.00	0.00	0.00	11,996.74	116.54	20.55	-116.45	0.00	0.00	0.00
12,100.00	0.00	0.00	12,096.74	116.54	20.55	-116.45	0.00	0.00	0.00
12,174.30	0.00	0.00	12,171.04	116.54	20.55	-116.45	0.00	0.00	0.00
12,200.00	2.57	179.77	12,196.73	115.96	20.55	-115.88	10.00	10.00	0.00
12,300.00	12.57	179.77	12,295.73	102.80	20.60	-102.72	10.00	10.00	0.00
12,400.00	22.57	179.77	12,390.95	72.65	20.72	-72.57	10.00	10.00	0.00
12,500.00	32.57	179.77	12,479.48	26.43	20.91	-26.35	10.00	10.00	0.00
12,600.00	42.57	179.77	12,558.64	-34.47	21.15	34.55	10.00	10.00	0.00
12,700.00	52.57	179.77	12,626.02	-108.18	21.44	108.27	10.00	10.00	0.00
12,800.00	62.57	179.77	12,679.58	-192.48	21.78	192.56	10.00	10.00	0.00
12,900.00	72.57	179.77	12,717.69	-284.80	22.15	284.88	10.00	10.00	0.00
13,000.00	82.57	179.77	12,739.19	-382.33	22.54	382.41	10.00	10.00	0.00
13,074.30	90.00	179.77	12,744.00	-456.42	22.83	456.50	10.00	10.00	0.00
13,100.00	90.00	179.77	12,744.00	-482.12	22.94	482.21	0.00	0.00	0.00
13,200.00	90.00	179.77	12,744.00	-582.12	23.33	582.21	0.00	0.00	0.00
13,300.00	90.00	179.77	12,744.00	-682.12	23.73	682.21	0.00	0.00	0.00
13,400.00	90.00	179.77	12,744.00	-782.12	24.13	782.21	0.00	0.00	0.00
13,500.00	90.00	179.77	12,744.00	-882.11	24.53	882.21	0.00	0.00	0.00
13,600.00	90.00	179.77	12,744.00	-982.11	24.93	982.21	0.00	0.00	0.00
13,700.00	90.00	179.77	12,744.00	-1,082.11	25.33	1,082.21	0.00	0.00	0.00
13,800.00	90.00	179.77	12,744.00	-1,182.11	25.73	1,182.21	0.00	0.00	0.00
13,900.00	90.00	179.77	12,744.00	-1,282.11	26.13	1,282.21	0.00	0.00	0.00
14,000.00	90.00	179.77	12,744.00	-1,382.11	26.52	1,382.21	0.00	0.00	0.00
14,100.00	90.00	179.77	12,744.00	-1,482.11	26.92	1,482.21	0.00	0.00	0.00
14,200.00	90.00	179.77	12,744.00	-1,582.11	27.32	1,582.21	0.00	0.00	0.00
14,300.00	90.00	179.77	12,744.00	-1,682.11	27.72	1,682.21	0.00	0.00	0.00
14,400.00	90.00	179.77	12,744.00	-1,782.11	28.12	1,782.21	0.00	0.00	0.00
14,500.00	90.00	179.77	12,744.00	-1,882.11	28.52	1,882.21	0.00	0.00	0.00
14,600.00	90.00	179.77	12,744.00	-1,982.11	28.92	1,982.21	0.00	0.00	0.00
14,700.00	90.00	179.77	12,744.00	-2,082.10	29.31	2,082.21	0.00	0.00	0.00
14,800.00	90.00	179.77	12,744.00	-2,182.10	29.71	2,182.21	0.00	0.00	0.00
14,900.00	90.00	179.77	12,744.00	-2,282.10	30.11	2,282.21	0.00	0.00	0.00
15,000.00	90.00	179.77	12,744.00	-2,382.10	30.51	2,382.21	0.00	0.00	0.00
15,100.00	90.00	179.77	12,744.00	-2,482.10	30.91	2,482.21	0.00	0.00	0.00
15,200.00	90.00	179.77	12,744.00	-2,582.10	31.31	2,582.21	0.00	0.00	0.00
15,300.00	90.00	179.77	12,744.00	-2,682.10	31.71	2,682.21	0.00	0.00	0.00
15,400.00	90.00	179.77	12,744.00	-2,782.10	32.11	2,782.21	0.00	0.00	0.00
15,500.00	90.00	179.77	12,744.00	-2,882.10	32.50	2,882.21	0.00	0.00	0.00

Database:	GyrodataNWDB	Local Co-ordinate Reference:	Well W2 14H
Company:	ConocoPhillips	TVD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139)
Project:	Lea County, NM	MD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139)
Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,600.00	90.00	179.77	12,744.00	-2,982.10	32.90	2,982.21	0.00	0.00	0.00
15,700.00	90.00	179.77	12,744.00	-3,082.10	33.30	3,082.21	0.00	0.00	0.00
15,800.00	90.00	179.77	12,744.00	-3,182.10	33.70	3,182.21	0.00	0.00	0.00
15,900.00	90.00	179.77	12,744.00	-3,282.10	34.10	3,282.21	0.00	0.00	0.00
16,000.00	90.00	179.77	12,744.00	-3,382.09	34.50	3,382.21	0.00	0.00	0.00
16,100.00	90.00	179.77	12,744.00	-3,482.09	34.90	3,482.21	0.00	0.00	0.00
16,200.00	90.00	179.77	12,744.00	-3,582.09	35.30	3,582.21	0.00	0.00	0.00
16,300.00	90.00	179.77	12,744.00	-3,682.09	35.69	3,682.21	0.00	0.00	0.00
16,400.00	90.00	179.77	12,744.00	-3,782.09	36.09	3,782.21	0.00	0.00	0.00
16,500.00	90.00	179.77	12,744.00	-3,882.09	36.49	3,882.21	0.00	0.00	0.00
16,600.00	90.00	179.77	12,744.00	-3,982.09	36.89	3,982.21	0.00	0.00	0.00
16,700.00	90.00	179.77	12,744.00	-4,082.09	37.29	4,082.21	0.00	0.00	0.00
16,800.00	90.00	179.77	12,744.00	-4,182.09	37.69	4,182.21	0.00	0.00	0.00
16,900.00	90.00	179.77	12,744.00	-4,282.09	38.09	4,282.21	0.00	0.00	0.00
17,000.00	90.00	179.77	12,744.00	-4,382.09	38.49	4,382.21	0.00	0.00	0.00
17,100.00	90.00	179.77	12,744.00	-4,482.09	38.88	4,482.21	0.00	0.00	0.00
17,200.00	90.00	179.77	12,744.00	-4,582.09	39.28	4,582.21	0.00	0.00	0.00
17,300.00	90.00	179.77	12,744.00	-4,682.08	39.68	4,682.21	0.00	0.00	0.00
17,400.00	90.00	179.77	12,744.00	-4,782.08	40.08	4,782.21	0.00	0.00	0.00
17,500.00	90.00	179.77	12,744.00	-4,882.08	40.48	4,882.21	0.00	0.00	0.00
17,600.00	90.00	179.77	12,744.00	-4,982.08	40.88	4,982.21	0.00	0.00	0.00
17,700.00	90.00	179.77	12,744.00	-5,082.08	41.28	5,082.21	0.00	0.00	0.00
17,800.00	90.00	179.77	12,744.00	-5,182.08	41.67	5,182.21	0.00	0.00	0.00
17,900.00	90.00	179.77	12,744.00	-5,282.08	42.07	5,282.21	0.00	0.00	0.00
18,000.00	90.00	179.77	12,744.00	-5,382.08	42.47	5,382.21	0.00	0.00	0.00
18,100.00	90.00	179.77	12,744.00	-5,482.08	42.87	5,482.21	0.00	0.00	0.00
18,200.00	90.00	179.77	12,744.00	-5,582.08	43.27	5,582.21	0.00	0.00	0.00
18,300.00	90.00	179.77	12,744.00	-5,682.08	43.67	5,682.21	0.00	0.00	0.00
18,400.00	90.00	179.77	12,744.00	-5,782.08	44.07	5,782.21	0.00	0.00	0.00
18,500.00	90.00	179.77	12,744.00	-5,882.07	44.47	5,882.21	0.00	0.00	0.00
18,600.00	90.00	179.77	12,744.00	-5,982.07	44.86	5,982.21	0.00	0.00	0.00
18,700.00	90.00	179.77	12,744.00	-6,082.07	45.26	6,082.21	0.00	0.00	0.00
18,800.00	90.00	179.77	12,744.00	-6,182.07	45.66	6,182.21	0.00	0.00	0.00
18,900.00	90.00	179.77	12,744.00	-6,282.07	46.06	6,282.21	0.00	0.00	0.00
19,000.00	90.00	179.77	12,744.00	-6,382.07	46.46	6,382.21	0.00	0.00	0.00
19,100.00	90.00	179.77	12,744.00	-6,482.07	46.86	6,482.21	0.00	0.00	0.00
19,200.00	90.00	179.77	12,744.00	-6,582.07	47.26	6,582.21	0.00	0.00	0.00
19,300.00	90.00	179.77	12,744.00	-6,682.07	47.66	6,682.21	0.00	0.00	0.00
19,400.00	90.00	179.77	12,744.00	-6,782.07	48.05	6,782.21	0.00	0.00	0.00
19,500.00	90.00	179.77	12,744.00	-6,882.07	48.45	6,882.21	0.00	0.00	0.00
19,531.82	90.00	179.77	12,744.00	-6,913.89	48.58	6,914.03	0.00	0.00	0.00

Database:	GyrodataNWDB	Local Co-ordinate Reference:	Well W2 14H
Company:	ConocoPhillips	TVD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Project:	Lea County, NM	MD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
WH PBHL (W2 14H) - plan hits target center - Point	0.00	0.00	12,744.00	-6,913.89	48.58	364,812.55	719,022.21	32° 0' 3.66 N	103° 37' 36.47 W
WH LP (W2 14H) - plan hits target center - Point	0.00	0.00	12,744.00	-456.42	22.83	371,270.02	718,996.46	32° 1' 7.56 N	103° 37' 36.28 W

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
4,761.23	4,759.00	9 5/8"	9.62	12.25	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
894.00	894.00	Rustler		0.00	179.77	
3,289.21	3,289.00	Castle		0.00	179.77	
4,691.14	4,689.00	Delaware top (Lamar Shale)		0.00	179.77	
4,751.22	4,749.00	Ford Shale		0.00	179.77	
4,771.24	4,769.00	Olds		0.00	179.77	
5,674.26	5,671.00	Cherry Canyon		0.00	179.77	
7,371.26	7,368.00	Brushy Canyon		0.00	179.77	
8,610.26	8,607.00	Bone Spring Top		0.00	179.77	
8,868.26	8,865.00	Bone Spring 1st Carbonate Top		0.00	179.77	
9,074.26	9,071.00	Avalon A		0.00	179.77	
9,276.26	9,273.00	Avalon B		0.00	179.77	
9,425.26	9,422.00	Avalon C		0.00	179.77	
9,719.26	9,716.00	Avalon D		0.00	179.77	
9,761.26	9,758.00	1st Bone Spring Sand		0.00	179.77	
9,973.26	9,970.00	FBS Shale		0.00	179.77	
10,144.26	10,141.00	2nd Bone Spring Carbonate		0.00	179.77	
10,301.26	10,298.00	2nd Bone Spring Sand		0.00	179.77	
10,657.26	10,654.00	3rd Bone Spring Carbonate		0.00	179.77	
11,492.26	11,489.00	3rd Bone Spring Sand		0.00	179.77	
11,838.26	11,835.00	Wolfcamp		0.00	179.77	
12,048.26	12,045.00	Wolfcamp 1		0.00	179.77	

Database:	GyrodataNWDB	Local Co-ordinate Reference:	Well W2 14H
Company:	ConocoPhillips	TVD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Project:	Lea County, NM	MD Reference:	RKB @ 3164.00usft (RKB: 25' + GL: 3139')
Site:	War Hammer 25 Fed Com	North Reference:	Grid
Well:	W2 14H	Survey Calculation Method:	Minimum Curvature
Wellbore:	14H		
Design:	Design #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,000.00	3,000.00	0.00	0.00	Build 1.5° / 100' & hold 3° Inc
4,822.31	4,820.00	88.77	15.65	Build 1.5° / 100' & hold 5° Inc
5,005.65	5,002.81	102.22	18.02	Drop 1.5° / 100'
12,174.30	12,171.04	116.54	20.55	KOP 10° / 100'
13,074.30	12,744.00	-456.42	22.83	EOC / Landing Point