

Extraction Oil & Gas

Well Name: **Diamond Valley East #3**

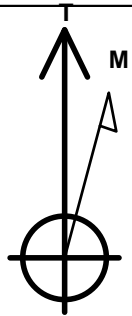
Surface Location: Diamond Valley East Pad Sec.23-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4769.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1413770.00	3175338.24	40.467490	-104.869810	

Frontier 10 RKB - 22' WELL @ 4791.0ft (Frontier 10 RKB - 22')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 832'FSL, 155'FWL, SEC.23	1.0	0.0	0.0	Point
BHL 495'FSL, 460'FWL, SEC.21	6972.5	-289.4	-10078.1	Point
T2 495'FSL, 460'FEL, SEC.22	6972.5	-338.8	-614.9	Point



Azimuths to True North
Magnetic North: 8.52°

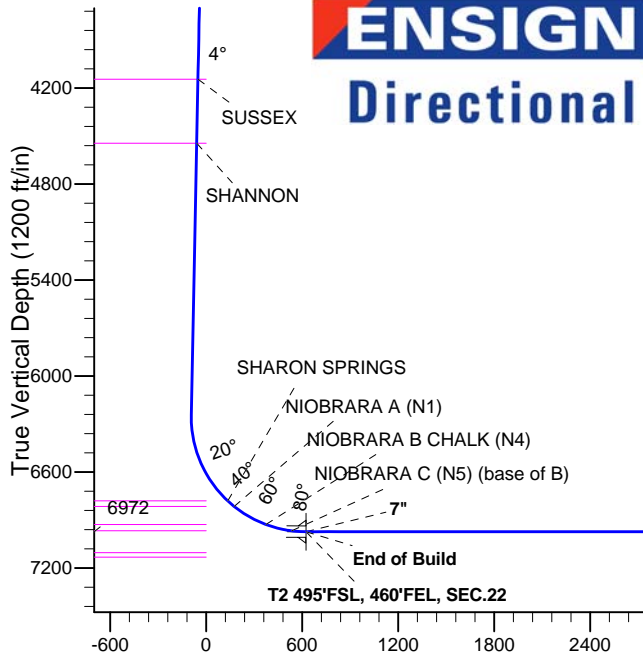
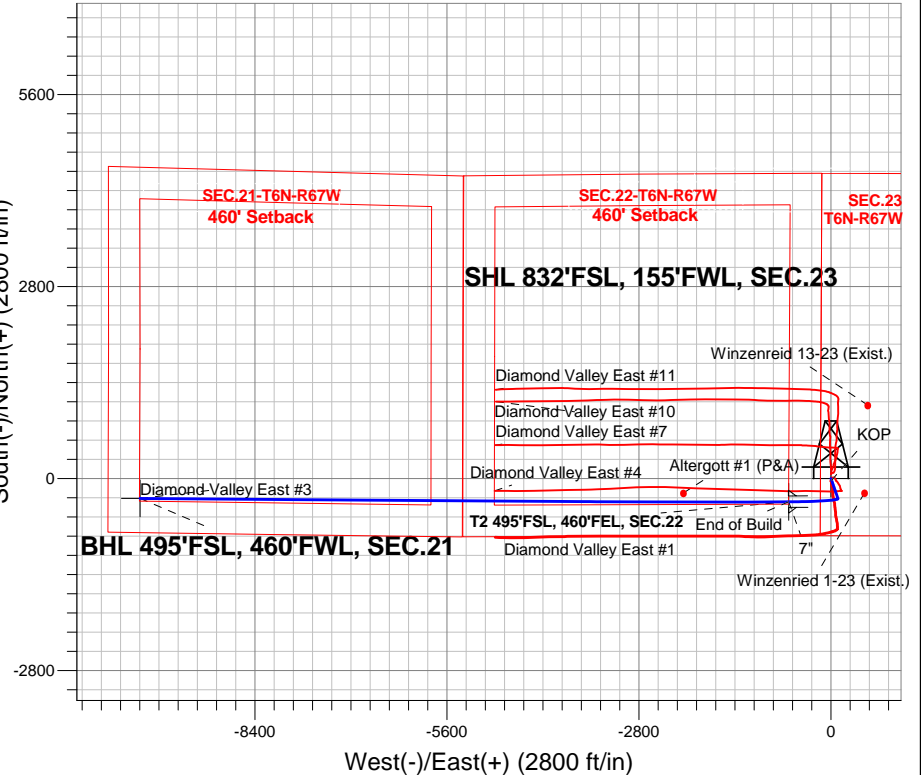
Magnetic Field
Strength: 52834.7nT
Dip Angle: 66.98°
Date: 7/3/2014
Model: IGRF2010

Diamond Valley East Pad Sec.23-T6N-R67W
Diamond Valley East #3
Plan #2 (6-23-14)
9:31, July 07 2014

ANNOTATIONS

TVD	MD	Annotation
1999.2	2000.0	KOP
6972.5	7392.8	End of Build

South (-)/North (+) (2800 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	
3	1689.4	3.79	160.85	1689.3	-5.9	2.1	2.00	160.85	-1.9	
4	6252.5	3.79	160.85	6242.4	-290.7	101.0	0.00	0.00	-92.6	
5	7392.8	90.00	269.81	6972.5	-338.8	-614.9	8.00	108.92	624.4	T2 495'FSL, 460'FEL, SEC.22
6	11205.2	90.00	270.42	6972.5	-331.1	-4427.3	0.02	90.00	4435.0	
7	16856.2	90.00	270.42	6972.5	-289.4	-10078.1	0.00	0.00	10082.3	BHL 495'FSL, 460'FWL, SEC.21

BHL 495'FSL, 460'FWL, SEC.21

Vertical Section at 268.36° (1200 ft/in)



Extraction Oil & Gas

SEC.23-T6N-R67W

Diamond Valley East Pad Sec.23-T6N-R67W

Diamond Valley East #3

Wellbore #1

Plan: Plan #2 (6-23-14)

Standard Planning Report

07 July, 2014



Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #3
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Project:	SEC.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Project	SEC.23-T6N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						Diamond Valley East Pad Sec.23-T6N-R67W											
Site Position:						Northing:			1,413,770.02 ft			Latitude:			40.467490		
From:			Lat/Long			Easting:			3,175,338.24 ft			Longitude:			-104.869810		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.41 °		

Well	Diamond Valley East #3					
Well Position	+N/-S	0.0 ft	Northing:	1,413,770.00 ft	Latitude:	40.467490
	+E/-W	0.0 ft	Easting:	3,175,338.24 ft	Longitude:	-104.869810
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,769.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/3/2014	8.52	66.98	52,835

Design	Plan #2 (6-23-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	268.36

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,689.4	3.79	160.85	1,689.3	-5.9	2.1	2.00	2.00	0.00	160.85	
6,252.5	3.79	160.85	6,242.4	-290.7	101.0	0.00	0.00	0.00	0.00	
7,392.8	90.00	269.81	6,972.5	-338.8	-614.9	8.00	7.56	9.55	108.92	T2 495'FSL, 460'FE
11,205.2	90.00	270.42	6,972.5	-331.1	-4,427.3	0.02	0.00	0.02	90.00	
16,856.2	90.00	270.42	6,972.5	-289.4	-10,078.1	0.00	0.00	0.00	0.00	BHL 495'FSL, 460'F

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Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	2.00	160.85	1,600.0	-1.6	0.6	-0.5	2.00	2.00	0.00
1,689.4	3.79	160.85	1,689.3	-5.9	2.1	-1.9	2.00	2.00	0.00
1,700.0	3.79	160.85	1,699.8	-6.6	2.3	-2.1	0.00	0.00	0.00
1,800.0	3.79	160.85	1,799.6	-12.8	4.5	-4.1	0.00	0.00	0.00
1,900.0	3.79	160.85	1,899.4	-19.1	6.6	-6.1	0.00	0.00	0.00
2,000.0	3.79	160.85	1,999.2	-25.3	8.8	-8.1	0.00	0.00	0.00
KOP									
2,100.0	3.79	160.85	2,099.0	-31.5	11.0	-10.0	0.00	0.00	0.00
2,200.0	3.79	160.85	2,198.7	-37.8	13.1	-12.0	0.00	0.00	0.00
2,300.0	3.79	160.85	2,298.5	-44.0	15.3	-14.0	0.00	0.00	0.00
2,400.0	3.79	160.85	2,398.3	-50.3	17.5	-16.0	0.00	0.00	0.00
2,500.0	3.79	160.85	2,498.1	-56.5	19.6	-18.0	0.00	0.00	0.00
2,600.0	3.79	160.85	2,597.9	-62.7	21.8	-20.0	0.00	0.00	0.00
2,700.0	3.79	160.85	2,697.7	-69.0	24.0	-22.0	0.00	0.00	0.00
2,800.0	3.79	160.85	2,797.4	-75.2	26.1	-24.0	0.00	0.00	0.00
2,900.0	3.79	160.85	2,897.2	-81.5	28.3	-25.9	0.00	0.00	0.00
3,000.0	3.79	160.85	2,997.0	-87.7	30.5	-27.9	0.00	0.00	0.00
3,100.0	3.79	160.85	3,096.8	-93.9	32.6	-29.9	0.00	0.00	0.00
3,200.0	3.79	160.85	3,196.6	-100.2	34.8	-31.9	0.00	0.00	0.00
3,300.0	3.79	160.85	3,296.3	-106.4	37.0	-33.9	0.00	0.00	0.00
3,400.0	3.79	160.85	3,396.1	-112.7	39.1	-35.9	0.00	0.00	0.00
3,476.0	3.79	160.85	3,472.0	-117.4	40.8	-37.4	0.00	0.00	0.00
PARKMAN									
3,500.0	3.79	160.85	3,495.9	-118.9	41.3	-37.9	0.00	0.00	0.00
3,600.0	3.79	160.85	3,595.7	-125.2	43.5	-39.9	0.00	0.00	0.00
3,700.0	3.79	160.85	3,695.5	-131.4	45.6	-41.8	0.00	0.00	0.00
3,800.0	3.79	160.85	3,795.3	-137.6	47.8	-43.8	0.00	0.00	0.00
3,900.0	3.79	160.85	3,895.0	-143.9	50.0	-45.8	0.00	0.00	0.00
4,000.0	3.79	160.85	3,994.8	-150.1	52.1	-47.8	0.00	0.00	0.00
4,100.0	3.79	160.85	4,094.6	-156.4	54.3	-49.8	0.00	0.00	0.00
4,149.5	3.79	160.85	4,144.0	-159.5	55.4	-50.8	0.00	0.00	0.00
SUSSEX									
4,200.0	3.79	160.85	4,194.4	-162.6	56.5	-51.8	0.00	0.00	0.00
4,300.0	3.79	160.85	4,294.2	-168.8	58.6	-53.8	0.00	0.00	0.00
4,400.0	3.79	160.85	4,393.9	-175.1	60.8	-55.8	0.00	0.00	0.00
4,500.0	3.79	160.85	4,493.7	-181.3	63.0	-57.7	0.00	0.00	0.00
4,550.4	3.79	160.85	4,544.0	-184.5	64.1	-58.7	0.00	0.00	0.00
SHANNON									

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Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.0	3.79	160.85	4,593.5	-187.6	65.1	-59.7	0.00	0.00	0.00
4,700.0	3.79	160.85	4,693.3	-193.8	67.3	-61.7	0.00	0.00	0.00
4,800.0	3.79	160.85	4,793.1	-200.0	69.5	-63.7	0.00	0.00	0.00
4,900.0	3.79	160.85	4,892.8	-206.3	71.6	-65.7	0.00	0.00	0.00
5,000.0	3.79	160.85	4,992.6	-212.5	73.8	-67.7	0.00	0.00	0.00
5,100.0	3.79	160.85	5,092.4	-218.8	76.0	-69.7	0.00	0.00	0.00
5,200.0	3.79	160.85	5,192.2	-225.0	78.1	-71.6	0.00	0.00	0.00
5,300.0	3.79	160.85	5,292.0	-231.3	80.3	-73.6	0.00	0.00	0.00
5,400.0	3.79	160.85	5,391.8	-237.5	82.5	-75.6	0.00	0.00	0.00
5,500.0	3.79	160.85	5,491.5	-243.7	84.6	-77.6	0.00	0.00	0.00
5,600.0	3.79	160.85	5,591.3	-250.0	86.8	-79.6	0.00	0.00	0.00
5,700.0	3.79	160.85	5,691.1	-256.2	89.0	-81.6	0.00	0.00	0.00
5,800.0	3.79	160.85	5,790.9	-262.5	91.1	-83.6	0.00	0.00	0.00
5,900.0	3.79	160.85	5,890.7	-268.7	93.3	-85.6	0.00	0.00	0.00
6,000.0	3.79	160.85	5,990.4	-274.9	95.5	-87.5	0.00	0.00	0.00
6,100.0	3.79	160.85	6,090.2	-281.2	97.6	-89.5	0.00	0.00	0.00
6,200.0	3.79	160.85	6,190.0	-287.4	99.8	-91.5	0.00	0.00	0.00
6,252.5	3.79	160.85	6,242.4	-290.7	101.0	-92.6	0.00	0.00	0.00
6,300.0	4.41	215.53	6,289.8	-293.7	100.4	-91.9	8.00	1.31	115.02
6,400.0	11.16	251.30	6,388.9	-299.9	89.0	-80.3	8.00	6.75	35.77
6,500.0	18.90	259.27	6,485.4	-306.0	63.9	-55.1	8.00	7.75	7.98
6,600.0	26.80	262.69	6,577.5	-311.9	25.5	-16.6	8.00	7.89	3.41
6,700.0	34.73	264.63	6,663.3	-317.5	-25.3	34.4	8.00	7.94	1.94
6,800.0	42.69	265.92	6,741.3	-322.6	-87.6	96.8	8.00	7.96	1.29
6,854.6	47.05	266.47	6,780.0	-325.1	-126.0	135.3	8.00	7.97	1.01
SHARON SPRINGS									
6,900.0	50.66	266.87	6,809.8	-327.1	-160.1	169.4	8.00	7.97	0.88
6,908.2	51.32	266.94	6,815.0	-327.4	-166.5	175.8	8.00	7.97	0.83
NIOBRARA A (N1)									
7,000.0	58.64	267.62	6,867.6	-331.0	-241.5	250.9	8.00	7.98	0.75
7,100.0	66.62	268.26	6,913.6	-334.2	-330.2	339.6	8.00	7.98	0.64
7,135.9	69.49	268.47	6,927.0	-335.1	-363.5	373.0	8.00	7.98	0.58
NIOBRARA B CHALK (N4)									
7,200.0	74.60	268.82	6,946.7	-336.5	-424.4	433.9	8.00	7.98	0.55
7,300.0	82.59	269.34	6,966.5	-338.1	-522.3	531.8	8.00	7.98	0.52
7,303.9	82.90	269.36	6,967.0	-338.2	-526.3	535.7	8.00	7.98	0.51
NIOBRARA C (N5) (base of B)									
7,392.8	90.00	269.81	6,972.5	-338.8	-614.9	624.4	8.00	7.98	0.50
End of Build - 7"									
7,400.0	90.00	269.81	6,972.5	-338.8	-622.1	631.6	0.05	0.05	0.02
7,500.0	90.00	269.83	6,972.5	-339.1	-722.1	731.5	0.02	0.00	0.02
7,600.0	90.00	269.84	6,972.5	-339.4	-822.1	831.5	0.02	0.00	0.02
7,700.0	90.00	269.86	6,972.5	-339.7	-922.1	931.5	0.02	0.00	0.02
7,800.0	90.00	269.88	6,972.5	-339.9	-1,022.1	1,031.4	0.02	0.00	0.02
7,900.0	90.00	269.89	6,972.5	-340.1	-1,122.1	1,131.4	0.02	0.00	0.02
8,000.0	90.00	269.91	6,972.5	-340.3	-1,222.1	1,231.3	0.02	0.00	0.02
8,100.0	90.00	269.92	6,972.5	-340.4	-1,322.1	1,331.3	0.02	0.00	0.02
8,200.0	90.00	269.94	6,972.5	-340.6	-1,422.1	1,431.3	0.02	0.00	0.02
8,300.0	90.00	269.96	6,972.5	-340.6	-1,522.1	1,531.2	0.02	0.00	0.02
8,400.0	90.00	269.97	6,972.5	-340.7	-1,622.1	1,631.2	0.02	0.00	0.02
8,500.0	90.00	269.99	6,972.5	-340.7	-1,722.1	1,731.2	0.02	0.00	0.02
8,600.0	90.00	270.00	6,972.5	-340.8	-1,822.1	1,831.1	0.02	0.00	0.02
8,700.0	90.00	270.02	6,972.5	-340.7	-1,922.1	1,931.1	0.02	0.00	0.02

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Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,800.0	90.00	270.04	6,972.5	-340.7	-2,022.1	2,031.0	0.02	0.00	0.02
8,900.0	90.00	270.05	6,972.5	-340.6	-2,122.1	2,131.0	0.02	0.00	0.02
9,000.0	90.00	270.07	6,972.5	-340.5	-2,222.1	2,230.9	0.02	0.00	0.02
9,100.0	90.00	270.08	6,972.5	-340.4	-2,322.1	2,330.9	0.02	0.00	0.02
9,200.0	90.00	270.10	6,972.5	-340.2	-2,422.1	2,430.8	0.02	0.00	0.02
9,300.0	90.00	270.12	6,972.5	-340.0	-2,522.1	2,530.8	0.02	0.00	0.02
9,400.0	90.00	270.13	6,972.5	-339.8	-2,622.1	2,630.8	0.02	0.00	0.02
9,500.0	90.00	270.15	6,972.5	-339.6	-2,722.1	2,730.7	0.02	0.00	0.02
9,600.0	90.00	270.16	6,972.5	-339.3	-2,822.1	2,830.7	0.02	0.00	0.02
9,700.0	90.00	270.18	6,972.5	-339.0	-2,922.1	2,930.6	0.02	0.00	0.02
9,800.0	90.00	270.20	6,972.5	-338.7	-3,022.1	3,030.6	0.02	0.00	0.02
9,900.0	90.00	270.21	6,972.5	-338.3	-3,122.1	3,130.5	0.02	0.00	0.02
10,000.0	90.00	270.23	6,972.5	-337.9	-3,222.1	3,230.4	0.02	0.00	0.02
10,100.0	90.00	270.24	6,972.5	-337.5	-3,322.1	3,330.4	0.02	0.00	0.02
10,200.0	90.00	270.26	6,972.5	-337.1	-3,422.1	3,430.3	0.02	0.00	0.02
10,300.0	90.00	270.28	6,972.5	-336.6	-3,522.1	3,530.3	0.02	0.00	0.02
10,400.0	90.00	270.29	6,972.5	-336.1	-3,622.1	3,630.2	0.02	0.00	0.02
10,500.0	90.00	270.31	6,972.5	-335.6	-3,722.1	3,730.2	0.02	0.00	0.02
10,600.0	90.00	270.33	6,972.5	-335.0	-3,822.1	3,830.1	0.02	0.00	0.02
10,700.0	90.00	270.34	6,972.5	-334.4	-3,922.1	3,930.1	0.02	0.00	0.02
10,800.0	90.00	270.36	6,972.5	-333.8	-4,022.1	4,030.0	0.02	0.00	0.02
10,900.0	90.00	270.37	6,972.5	-333.2	-4,122.1	4,129.9	0.02	0.00	0.02
11,000.0	90.00	270.39	6,972.5	-332.5	-4,222.1	4,229.9	0.02	0.00	0.02
11,100.0	90.00	270.41	6,972.5	-331.8	-4,322.1	4,329.8	0.02	0.00	0.02
11,200.0	90.00	270.42	6,972.5	-331.1	-4,422.1	4,429.7	0.02	0.00	0.02
11,205.2	90.00	270.42	6,972.5	-331.1	-4,427.3	4,435.0	0.02	0.00	0.02
11,300.0	90.00	270.42	6,972.5	-330.4	-4,522.1	4,529.7	0.00	0.00	0.00
11,400.0	90.00	270.42	6,972.5	-329.6	-4,622.1	4,629.6	0.00	0.00	0.00
11,500.0	90.00	270.42	6,972.5	-328.9	-4,722.1	4,729.5	0.00	0.00	0.00
11,600.0	90.00	270.42	6,972.5	-328.1	-4,822.0	4,829.5	0.00	0.00	0.00
11,700.0	90.00	270.42	6,972.5	-327.4	-4,922.0	4,929.4	0.00	0.00	0.00
11,800.0	90.00	270.42	6,972.5	-326.7	-5,022.0	5,029.3	0.00	0.00	0.00
11,900.0	90.00	270.42	6,972.5	-325.9	-5,122.0	5,129.3	0.00	0.00	0.00
12,000.0	90.00	270.42	6,972.5	-325.2	-5,222.0	5,229.2	0.00	0.00	0.00
12,100.0	90.00	270.42	6,972.5	-324.5	-5,322.0	5,329.2	0.00	0.00	0.00
12,200.0	90.00	270.42	6,972.5	-323.7	-5,422.0	5,429.1	0.00	0.00	0.00
12,300.0	90.00	270.42	6,972.5	-323.0	-5,522.0	5,529.0	0.00	0.00	0.00
12,400.0	90.00	270.42	6,972.5	-322.2	-5,622.0	5,629.0	0.00	0.00	0.00
12,500.0	90.00	270.42	6,972.5	-321.5	-5,722.0	5,728.9	0.00	0.00	0.00
12,600.0	90.00	270.42	6,972.5	-320.8	-5,822.0	5,828.8	0.00	0.00	0.00
12,700.0	90.00	270.42	6,972.5	-320.0	-5,922.0	5,928.8	0.00	0.00	0.00
12,800.0	90.00	270.42	6,972.5	-319.3	-6,022.0	6,028.7	0.00	0.00	0.00
12,900.0	90.00	270.42	6,972.5	-318.6	-6,122.0	6,128.6	0.00	0.00	0.00
13,000.0	90.00	270.42	6,972.5	-317.8	-6,222.0	6,228.6	0.00	0.00	0.00
13,100.0	90.00	270.42	6,972.5	-317.1	-6,322.0	6,328.5	0.00	0.00	0.00
13,200.0	90.00	270.42	6,972.5	-316.3	-6,422.0	6,428.4	0.00	0.00	0.00
13,300.0	90.00	270.42	6,972.5	-315.6	-6,522.0	6,528.4	0.00	0.00	0.00
13,400.0	90.00	270.42	6,972.5	-314.9	-6,622.0	6,628.3	0.00	0.00	0.00
13,500.0	90.00	270.42	6,972.5	-314.1	-6,722.0	6,728.2	0.00	0.00	0.00
13,600.0	90.00	270.42	6,972.5	-313.4	-6,822.0	6,828.2	0.00	0.00	0.00
13,700.0	90.00	270.42	6,972.5	-312.7	-6,922.0	6,928.1	0.00	0.00	0.00
13,800.0	90.00	270.42	6,972.5	-311.9	-7,022.0	7,028.0	0.00	0.00	0.00
13,900.0	90.00	270.42	6,972.5	-311.2	-7,122.0	7,128.0	0.00	0.00	0.00
14,000.0	90.00	270.42	6,972.5	-310.4	-7,222.0	7,227.9	0.00	0.00	0.00

Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #3
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Project:	SEC.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
14,100.0	90.00	270.42	6,972.5	-309.7	-7,322.0	7,327.9	0.00	0.00	0.00	
14,200.0	90.00	270.42	6,972.5	-309.0	-7,422.0	7,427.8	0.00	0.00	0.00	
14,300.0	90.00	270.42	6,972.5	-308.2	-7,522.0	7,527.7	0.00	0.00	0.00	
14,400.0	90.00	270.42	6,972.5	-307.5	-7,622.0	7,627.7	0.00	0.00	0.00	
14,500.0	90.00	270.42	6,972.5	-306.8	-7,722.0	7,727.6	0.00	0.00	0.00	
14,600.0	90.00	270.42	6,972.5	-306.0	-7,822.0	7,827.5	0.00	0.00	0.00	
14,700.0	90.00	270.42	6,972.5	-305.3	-7,922.0	7,927.5	0.00	0.00	0.00	
14,800.0	90.00	270.42	6,972.5	-304.5	-8,022.0	8,027.4	0.00	0.00	0.00	
14,900.0	90.00	270.42	6,972.5	-303.8	-8,122.0	8,127.3	0.00	0.00	0.00	
15,000.0	90.00	270.42	6,972.5	-303.1	-8,222.0	8,227.3	0.00	0.00	0.00	
15,100.0	90.00	270.42	6,972.5	-302.3	-8,322.0	8,327.2	0.00	0.00	0.00	
15,200.0	90.00	270.42	6,972.5	-301.6	-8,421.9	8,427.1	0.00	0.00	0.00	
15,300.0	90.00	270.42	6,972.5	-300.9	-8,521.9	8,527.1	0.00	0.00	0.00	
15,400.0	90.00	270.42	6,972.5	-300.1	-8,621.9	8,627.0	0.00	0.00	0.00	
15,500.0	90.00	270.42	6,972.5	-299.4	-8,721.9	8,726.9	0.00	0.00	0.00	
15,600.0	90.00	270.42	6,972.5	-298.6	-8,821.9	8,826.9	0.00	0.00	0.00	
15,700.0	90.00	270.42	6,972.5	-297.9	-8,921.9	8,926.8	0.00	0.00	0.00	
15,800.0	90.00	270.42	6,972.5	-297.2	-9,021.9	9,026.7	0.00	0.00	0.00	
15,900.0	90.00	270.42	6,972.5	-296.4	-9,121.9	9,126.7	0.00	0.00	0.00	
16,000.0	90.00	270.42	6,972.5	-295.7	-9,221.9	9,226.6	0.00	0.00	0.00	
16,100.0	90.00	270.42	6,972.5	-295.0	-9,321.9	9,326.6	0.00	0.00	0.00	
16,200.0	90.00	270.42	6,972.5	-294.2	-9,421.9	9,426.5	0.00	0.00	0.00	
16,300.0	90.00	270.42	6,972.5	-293.5	-9,521.9	9,526.4	0.00	0.00	0.00	
16,400.0	90.00	270.42	6,972.5	-292.7	-9,621.9	9,626.4	0.00	0.00	0.00	
16,500.0	90.00	270.42	6,972.5	-292.0	-9,721.9	9,726.3	0.00	0.00	0.00	
16,600.0	90.00	270.42	6,972.5	-291.3	-9,821.9	9,826.2	0.00	0.00	0.00	
16,700.0	90.00	270.42	6,972.5	-290.5	-9,921.9	9,926.2	0.00	0.00	0.00	
16,800.0	90.00	270.42	6,972.5	-289.8	-10,021.9	10,026.1	0.00	0.00	0.00	
16,856.2	90.00	270.42	6,972.5	-289.4	-10,078.1	10,082.3	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,392.8	6,972.5	7"	7	7-1/2	

Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #3
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Project:	SEC.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (6-23-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,476.0	3,472.0	PARKMAN				
4,149.5	4,144.0	SUSSEX				
4,550.4	4,544.0	SHANNON				
6,854.6	6,780.0	SHARON SPRINGS				
6,908.2	6,815.0	NIOBRARA A (N1)				
7,135.9	6,927.0	NIOBRARA B CHALK (N4)				
7,303.9	6,967.0	NIOBRARA C (N5) (base of B)				
	7,104.0	FT HAYS LIMESTONE				
	7,131.0	CODELL SANDSTONE				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
2,000.0	1,999.2	-25.3	8.8	KOP	
7,392.8	6,972.5	-338.8	-614.9	End of Build	



Extraction Oil & Gas

SEC.23-T6N-R67W

Diamond Valley East Pad Sec.23-T6N-R67W

Diamond Valley East #3

Wellbore #1

Plan #2 (6-23-14)

Anticollision Report

07 July, 2014



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (6-23-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 7/7/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,856.2	Plan #2 (6-23-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Diamond Valley East Pad Sec.23-T6N-R67W						
Altergott #1 (P&A) - Wellbore #1 - Wellbore #1	8,930.6	6,973.0	130.5	-70.4	0.649	Level 1, CC, ES, SF
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	365.8	366.3	32.5	31.2	24.795	CC
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	500.0	500.4	32.9	31.0	17.370	ES
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	11,700.0	11,874.0	564.0	304.5	2.173	SF
Diamond Valley East #10 - Wellbore #1 - Wellbore #1	517.0	517.5	126.3	124.4	64.591	CC, ES
Diamond Valley East #10 - Wellbore #1 - Wellbore #1	1,200.0	1,173.7	177.6	172.6	35.761	SF
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	114.9	115.9	80.2	79.9	290.225	CC
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	200.0	200.2	80.5	79.8	126.191	ES
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	900.0	888.5	116.0	112.2	30.873	SF
Diamond Valley East #12 - Wellbore #1 - Plan #1 (6-23-14)	400.0	400.0	142.1	140.5	90.320	CC, ES
Diamond Valley East #12 - Wellbore #1 - Plan #1 (6-23-14)	1,100.0	1,055.3	222.4	217.7	46.894	SF
Diamond Valley East #13 - Wellbore #1 - Plan #1 (10-03)	200.0	200.0	160.3	159.6	237.763	CC, ES
Diamond Valley East #13 - Wellbore #1 - Plan #1 (10-03)	1,500.0	1,428.8	385.9	379.0	56.186	SF
Diamond Valley East #2 - Wellbore #1 - Plan #1 (6-23-14)	1,200.0	1,200.0	18.2	13.1	3.525	CC
Diamond Valley East #2 - Wellbore #1 - Plan #1 (6-23-14)	16,856.2	16,882.6	331.5	-233.5	0.587	Level 1, ES, SF
Diamond Valley East #4 - Wellbore #1 - Wellbore #1	204.5	205.0	14.5	13.9	22.599	CC, ES
Diamond Valley East #4 - Wellbore #1 - Wellbore #1	11,700.0	11,915.0	243.3	62.7	1.347	Level 3, SF
Diamond Valley East #5 - Wellbore #1 - Plan #2 (6-23-14)	1,500.0	1,500.0	32.8	26.3	5.030	CC
Diamond Valley East #5 - Wellbore #1 - Plan #2 (6-23-14)	16,856.2	16,844.0	282.1	-282.9	0.499	Level 1, ES, SF
Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-14)	1,500.0	1,500.5	47.4	40.8	7.265	CC, ES
Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-14)	16,856.2	16,856.0	659.4	94.7	1.168	Level 2, SF
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	0.0	1.0	61.9	61.9	10,000.000	CC
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	100.0	100.8	62.1	61.8	274.663	ES
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	11,700.0	11,873.0	835.1	566.1	3.105	SF
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	1,166.5	1,167.0	94.7	89.7	18.871	CC
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	1,200.0	1,200.0	94.7	89.6	18.325	ES
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	16,856.2	16,873.8	990.9	426.3	1.755	SF
Diamond Valley East #9 - Wellbore #1 - Plan #1 (6-23-14)	1,000.0	1,000.0	109.3	105.1	25.602	CC, ES
Diamond Valley East #9 - Wellbore #1 - Plan #1 (6-23-14)	1,300.0	1,288.1	124.3	118.7	22.205	SF
Winzenreid 13-23 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Winzenreid 1-23 (Exist.) - Wellbore #1 - Wellbore #1	6,200.0	6,166.0	399.6	261.8	2.900	CC
Winzenreid 1-23 (Exist.) - Wellbore #1 - Wellbore #1	6,300.0	6,265.8	400.3	260.5	2.864	ES, SF

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Altergott #1 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:		0.0 ft
Survey Program: 7713-UNKNOWN													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
8,000.0	6,972.5	6,973.0	6,973.0	36.9	139.5	90.00	-210.1	-2,152.5	939.5	763.3	176.18	5.333			
8,100.0	6,972.5	6,973.0	6,973.0	39.5	139.5	90.00	-210.1	-2,152.5	840.6	661.8	178.75	4.703			
8,200.0	6,972.5	6,973.0	6,973.0	42.1	139.5	90.00	-210.1	-2,152.5	742.0	560.6	181.35	4.091			
8,300.0	6,972.5	6,973.0	6,973.0	44.7	139.5	90.00	-210.1	-2,152.5	643.8	459.8	183.98	3.499			
8,400.0	6,972.5	6,973.0	6,973.0	47.3	139.5	90.00	-210.1	-2,152.5	546.3	359.6	186.62	2.927			
8,500.0	6,972.5	6,973.0	6,973.0	50.0	139.5	90.00	-210.1	-2,152.5	449.8	260.5	189.29	2.376			
8,600.0	6,972.5	6,973.0	6,973.0	52.7	139.5	90.00	-210.1	-2,152.5	355.3	163.4	191.97	1.851			
8,700.0	6,972.5	6,973.0	6,973.0	55.3	139.5	90.00	-210.1	-2,152.5	264.9	70.2	194.66	1.361 Level 3			
8,800.0	6,972.5	6,973.0	6,973.0	58.0	139.5	90.00	-210.1	-2,152.5	184.6	-12.8	197.36	0.935 Level 1			
8,900.0	6,972.5	6,973.0	6,973.0	60.8	139.5	90.00	-210.1	-2,152.5	134.0	-66.1	200.08	0.670 Level 1			
8,930.6	6,972.5	6,973.0	6,973.0	61.6	139.5	90.00	-210.1	-2,152.5	130.5	-70.4	200.91	0.649 Level 1, CC, ES, SF			
9,000.0	6,972.5	6,973.0	6,973.0	63.5	139.5	90.00	-210.1	-2,152.5	147.8	-55.0	202.80	0.729 Level 1			
9,100.0	6,972.5	6,973.0	6,973.0	66.2	139.5	90.00	-210.1	-2,152.5	213.8	8.3	205.53	1.040 Level 2			
9,200.0	6,972.5	6,973.0	6,973.0	68.9	139.5	90.00	-210.1	-2,152.5	299.3	91.1	208.26	1.437 Level 3			
9,300.0	6,972.5	6,973.0	6,973.0	71.7	139.5	90.00	-210.1	-2,152.5	391.7	180.7	211.00	1.857			
9,400.0	6,972.5	6,973.0	6,973.0	74.4	139.5	90.00	-210.1	-2,152.5	487.2	273.4	213.75	2.279			
9,500.0	6,972.5	6,973.0	6,973.0	77.2	139.5	90.00	-210.1	-2,152.5	584.1	367.6	216.50	2.698			
9,600.0	6,972.5	6,973.0	6,973.0	79.9	139.5	90.00	-210.1	-2,152.5	681.9	462.7	219.25	3.110			
9,700.0	6,972.5	6,973.0	6,973.0	82.7	139.5	90.00	-210.1	-2,152.5	780.3	558.3	222.01	3.515			
9,800.0	6,972.5	6,973.0	6,973.0	85.4	139.5	90.00	-210.1	-2,152.5	879.0	654.2	224.77	3.911			
9,900.0	6,972.5	6,973.0	6,973.0	88.2	139.5	90.00	-210.1	-2,152.5	978.0	750.5	227.54	4.298			

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 162-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.5	0.5	0.0	0.0	180.00	-32.8	0.0	32.8	32.8	0.00	N/A		
100.0	100.0	100.5	100.5	0.1	0.1	179.84	-32.7	0.1	32.7	32.5	0.23	145.111		
200.0	200.0	200.5	200.5	0.3	0.3	179.44	-32.6	0.3	32.6	32.0	0.60	54.352		
300.0	300.0	300.5	300.5	0.6	0.5	179.48	-32.5	0.3	32.5	31.5	1.03	31.642		
365.8	365.8	366.3	366.3	0.7	0.6	-179.99	-32.5	0.0	32.5	31.2	1.31	24.795 CC		
400.0	400.0	400.4	400.4	0.8	0.7	-179.55	-32.5	-0.3	32.5	31.0	1.46	22.303		
500.0	500.0	500.4	500.4	1.0	0.9	-178.09	-32.8	-1.1	32.9	31.0	1.89	17.370 ES		
600.0	600.0	600.1	600.0	1.2	1.1	-177.14	-33.6	-1.7	33.7	31.3	2.33	14.460		
700.0	700.0	699.9	699.9	1.5	1.3	-176.14	-35.3	-2.4	35.4	32.6	2.76	12.802		
800.0	800.0	800.4	800.3	1.7	1.5	-176.04	-36.7	-2.5	36.8	33.6	3.20	11.504		
900.0	900.0	900.5	900.4	1.9	1.7	-179.22	-36.9	-0.5	36.9	33.3	3.63	10.160		
1,000.0	1,000.0	999.4	999.2	2.1	1.9	176.87	-38.2	2.1	38.3	34.2	4.07	9.409		
1,100.0	1,100.0	1,098.0	1,097.8	2.4	2.2	174.39	-42.9	4.2	43.2	38.7	4.51	9.578		
1,200.0	1,200.0	1,197.5	1,197.0	2.6	2.4	175.08	-49.7	4.3	50.0	45.0	4.95	10.091		
1,300.0	1,300.0	1,297.8	1,297.1	2.8	2.6	175.63	-56.3	4.3	56.5	51.1	5.39	10.486		
1,400.0	1,400.0	1,395.3	1,394.3	3.0	2.8	175.63	-63.7	4.9	64.2	58.4	5.82	11.021		
1,500.0	1,500.0	1,492.6	1,491.0	3.3	3.1	175.29	-74.6	6.1	75.5	69.2	6.27	12.029		
1,600.0	1,600.0	1,592.5	1,590.1	3.5	3.3	14.10	-86.6	8.0	85.9	79.3	6.67	12.885		
1,700.0	1,699.8	1,690.6	1,687.5	3.6	3.6	14.27	-99.2	10.0	93.8	86.8	7.05	13.303		
1,800.0	1,799.6	1,790.1	1,785.9	3.8	3.9	14.44	-113.3	12.6	101.8	94.3	7.46	13.648		
1,900.0	1,899.4	1,890.6	1,885.5	4.0	4.2	13.68	-125.9	16.7	108.3	100.5	7.86	13.774		
2,000.0	1,999.2	1,988.0	1,981.7	4.2	4.5	12.33	-139.7	22.3	116.5	108.3	8.27	14.084		
2,100.0	2,099.0	2,087.9	2,080.4	4.4	4.8	12.07	-154.8	26.1	125.7	117.0	8.69	14.454		
2,200.0	2,198.7	2,189.2	2,180.6	4.6	5.1	13.34	-169.6	26.3	133.8	124.7	9.12	14.677		
2,300.0	2,298.5	2,291.1	2,281.6	4.8	5.4	14.45	-183.1	26.5	140.6	131.1	9.54	14.743		
2,400.0	2,398.3	2,393.1	2,382.9	5.1	5.6	15.29	-195.0	27.0	145.9	135.9	9.96	14.643		
2,500.0	2,498.1	2,488.3	2,477.4	5.3	5.9	16.12	-206.4	27.3	151.6	141.2	10.38	14.599		
2,600.0	2,597.9	2,586.5	2,574.5	5.5	6.2	17.20	-220.9	26.8	160.0	149.2	10.82	14.788		
2,700.0	2,697.7	2,687.9	2,674.9	5.7	6.5	18.13	-235.6	26.6	168.2	156.9	11.26	14.935		
2,800.0	2,797.4	2,786.5	2,772.5	6.0	6.8	18.66	-249.4	27.2	176.1	164.4	11.70	15.046		
2,900.0	2,897.2	2,888.0	2,872.9	6.2	7.2	18.67	-263.6	29.4	183.9	171.7	12.15	15.135		
3,000.0	2,997.0	2,990.7	2,974.8	6.4	7.5	18.37	-276.5	32.7	190.1	177.5	12.59	15.097		
3,100.0	3,096.8	3,086.2	3,069.5	6.7	7.8	18.24	-289.1	35.3	197.1	184.1	13.03	15.131		
3,200.0	3,196.6	3,189.0	3,171.3	6.9	8.1	18.08	-302.6	38.2	204.1	190.6	13.48	15.139		
3,300.0	3,296.3	3,288.5	3,269.9	7.2	8.4	18.07	-315.4	40.5	210.7	196.8	13.92	15.134		
3,400.0	3,396.1	3,389.5	3,370.2	7.4	8.7	17.92	-327.6	43.4	216.6	202.2	14.37	15.071		
3,500.0	3,495.9	3,487.1	3,466.9	7.6	9.0	17.58	-340.2	46.9	223.3	208.5	14.81	15.076		
3,600.0	3,595.7	3,587.0	3,565.9	7.9	9.3	17.21	-353.0	50.7	230.0	214.7	15.26	15.072		
3,700.0	3,695.5	3,684.8	3,662.8	8.1	9.6	17.40	-366.4	52.3	237.4	221.7	15.71	15.115		
3,800.0	3,795.3	3,784.9	3,761.9	8.4	9.9	17.68	-380.3	53.5	245.1	229.0	16.16	15.167		
3,900.0	3,895.0	3,887.5	3,863.6	8.6	10.2	17.89	-394.1	55.0	252.3	235.6	16.62	15.177		
4,000.0	3,994.8	3,988.6	3,963.9	8.9	10.5	18.03	-406.3	56.7	258.1	241.1	17.07	15.119		
4,100.0	4,094.6	4,084.1	4,058.6	9.1	10.8	18.39	-418.4	57.2	264.6	247.1	17.52	15.106		
4,200.0	4,194.4	4,184.2	4,157.7	9.4	11.1	18.78	-432.7	57.6	272.6	254.7	17.98	15.166		
4,300.0	4,294.2	4,290.7	4,263.3	9.6	11.5	18.98	-446.0	59.0	278.9	260.5	18.45	15.121		
4,400.0	4,393.9	4,385.7	4,357.7	9.9	11.7	19.08	-457.0	60.5	284.3	265.4	18.89	15.051		
4,500.0	4,493.7	4,481.7	4,452.8	10.1	12.0	19.14	-470.2	62.3	291.9	272.5	19.34	15.092		
4,600.0	4,593.5	4,586.3	4,556.4	10.4	12.4	19.02	-484.5	65.2	299.3	279.5	19.81	15.112		
4,700.0	4,693.3	4,681.8	4,651.0	10.6	12.7	19.02	-497.0	67.3	306.2	285.9	20.25	15.118		
4,800.0	4,793.1	4,783.7	4,751.9	10.9	13.0	19.35	-511.0	67.7	313.8	293.1	20.72	15.146		
4,900.0	4,892.8	4,883.7	4,851.0	11.1	13.3	19.76	-524.3	67.5	320.8	299.6	21.18	15.147		
5,000.0	4,992.6	4,981.5	4,947.9	11.4	13.6	19.97	-537.5	68.4	328.1	306.5	21.63	15.166		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 162-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.0	5,092.4	5,081.1	5,046.5	11.7	13.9	19.94	-551.3	70.6	335.8	313.7	22.09	15.199		
5,200.0	5,192.2	5,189.2	5,153.7	11.9	14.2	19.95	-564.7	72.8	341.9	319.4	22.57	15.151		
5,300.0	5,292.0	5,286.5	5,250.4	12.2	14.5	19.74	-576.2	76.1	347.5	324.5	23.02	15.099		
5,400.0	5,391.8	5,384.5	5,347.5	12.4	14.8	19.51	-588.3	79.5	353.6	330.2	23.46	15.071		
5,500.0	5,491.5	5,482.6	5,444.7	12.7	15.1	19.55	-601.2	81.4	360.6	336.7	23.92	15.076		
5,600.0	5,591.3	5,584.0	5,545.3	12.9	15.4	19.75	-613.9	82.2	367.0	342.6	24.38	15.050		
5,700.0	5,691.1	5,680.7	5,641.2	13.2	15.7	19.74	-626.8	84.3	374.1	349.2	24.83	15.062		
5,800.0	5,790.9	5,781.6	5,741.1	13.4	16.1	19.70	-640.3	86.6	381.1	355.9	25.30	15.067		
5,900.0	5,890.7	5,880.5	5,839.1	13.7	16.4	19.58	-653.4	89.6	388.2	362.4	25.75	15.074		
6,000.0	5,990.4	5,979.7	5,937.4	13.9	16.7	19.56	-666.9	91.8	395.6	369.4	26.21	15.093		
6,100.0	6,090.2	6,088.3	6,045.1	14.2	17.0	19.73	-680.8	92.9	402.3	375.6	26.69	15.071		
6,200.0	6,190.0	6,182.7	6,138.8	14.5	17.3	19.91	-691.4	93.6	407.3	380.2	27.14	15.009		
6,300.0	6,289.8	6,277.6	6,232.8	14.7	17.6	-34.37	-704.5	94.0	414.8	387.3	27.59	15.038		
6,400.0	6,388.9	6,377.0	6,331.3	14.9	17.9	-70.92	-718.1	94.6	422.3	394.3	27.95	15.108		
6,500.0	6,485.4	6,480.0	6,433.4	15.1	18.2	-81.40	-731.5	93.8	429.7	401.5	28.26	15.208		
6,600.0	6,577.5	6,567.6	6,519.5	15.2	18.5	-86.95	-744.0	84.5	440.0	411.4	28.57	15.402		
6,700.0	6,663.3	6,675.8	6,624.4	15.4	18.8	-91.95	-759.0	62.4	451.8	422.8	28.97	15.594		
6,800.0	6,741.3	6,790.0	6,730.1	15.6	19.1	-96.12	-773.5	22.4	464.3	434.8	29.53	15.723		
6,900.0	6,809.8	6,901.3	6,825.3	15.9	19.4	-99.24	-787.7	-33.2	477.9	447.6	30.31	15.769		
7,000.0	6,867.6	7,006.5	6,907.8	16.6	19.8	-101.72	-801.9	-96.9	494.2	462.8	31.38	15.749		
7,100.0	6,913.6	7,178.4	7,019.3	17.7	20.5	-105.14	-819.4	-225.8	507.4	474.1	33.27	15.252		
7,200.0	6,946.7	7,313.6	7,081.0	19.1	21.5	-106.65	-827.1	-345.6	514.5	478.8	35.70	14.413		
7,300.0	6,966.5	7,453.3	7,120.2	20.9	23.0	-107.60	-831.7	-479.5	518.6	479.7	38.90	13.334		
7,400.0	6,972.5	7,576.3	7,135.1	22.8	24.9	-108.10	-834.7	-601.4	522.1	479.7	42.40	12.313		
7,500.0	6,972.5	7,676.5	7,138.3	24.9	26.7	-108.36	-837.1	-701.5	525.1	478.8	46.30	11.341		
7,600.0	6,972.5	7,765.5	7,140.7	27.2	28.4	-108.47	-841.5	-790.4	530.3	480.1	50.23	10.557		
7,700.0	6,972.5	7,876.4	7,141.6	29.5	30.8	-108.38	-847.2	-901.1	535.2	480.3	54.90	9.749		
7,800.0	6,972.5	7,993.6	7,141.6	31.9	33.4	-108.28	-850.4	-1,018.3	537.7	477.8	59.89	8.978		
7,900.0	6,972.5	8,113.0	7,141.9	34.4	36.2	-108.36	-849.0	-1,137.7	536.4	471.4	65.02	8.250		
8,000.0	6,972.5	8,218.0	7,142.7	36.9	38.7	-108.60	-844.6	-1,242.6	532.5	462.7	69.85	7.624		
8,100.0	6,972.5	8,310.5	7,143.2	39.5	40.9	-108.77	-841.3	-1,335.0	529.1	454.6	74.46	7.106		
8,200.0	6,972.5	8,401.2	7,143.5	42.1	43.2	-108.86	-839.5	-1,425.7	527.3	448.2	79.11	6.666		
8,229.4	6,972.5	8,426.6	7,143.6	42.8	43.8	-108.89	-839.4	-1,451.0	527.2	446.7	80.46	6.553		
8,300.0	6,972.5	8,488.5	7,144.3	44.7	45.4	-108.94	-839.9	-1,512.9	527.9	444.2	83.71	6.306		
8,400.0	6,972.5	8,586.9	7,145.6	47.3	47.9	-109.02	-841.6	-1,611.3	529.9	441.3	88.63	5.979		
8,500.0	6,972.5	8,700.6	7,147.3	50.0	50.8	-109.17	-842.2	-1,725.0	530.8	436.9	93.94	5.651		
8,600.0	6,972.5	8,809.4	7,147.5	52.7	53.7	-109.27	-839.9	-1,833.8	528.9	429.7	99.17	5.333		
8,700.0	6,972.5	8,904.4	7,147.6	55.3	56.2	-109.34	-838.2	-1,928.7	527.2	423.1	104.10	5.065		
8,800.0	6,972.5	8,998.2	7,147.7	58.0	58.7	-109.39	-837.2	-2,022.6	526.3	417.3	109.02	4.828		
8,801.2	6,972.5	8,999.2	7,147.7	58.1	58.7	-109.39	-837.2	-2,023.6	526.3	417.2	109.08	4.825		
8,900.0	6,972.5	9,091.0	7,149.3	60.8	61.1	-109.53	-837.5	-2,115.4	527.3	413.4	113.86	4.631		
9,000.0	6,972.5	9,191.0	7,150.3	63.5	63.8	-109.59	-838.6	-2,215.3	528.7	409.8	118.95	4.445		
9,100.0	6,972.5	9,294.4	7,150.8	66.2	66.6	-109.61	-839.5	-2,318.7	529.9	405.7	124.18	4.267		
9,200.0	6,972.5	9,402.3	7,151.3	68.9	69.5	-109.66	-839.1	-2,426.6	529.8	400.3	129.51	4.091		
9,300.0	6,972.5	9,499.0	7,152.0	71.7	72.1	-109.75	-838.5	-2,523.3	529.6	395.1	134.53	3.937		
9,300.3	6,972.5	9,499.0	7,152.0	71.7	72.1	-109.75	-838.5	-2,523.3	529.6	395.1	134.54	3.937		
9,400.0	6,972.5	9,593.0	7,152.7	74.4	74.6	-109.81	-838.8	-2,617.3	530.4	390.9	139.50	3.802		
9,500.0	6,972.5	9,694.3	7,153.5	77.2	77.4	-109.86	-839.3	-2,718.6	531.4	386.7	144.69	3.673		
9,600.0	6,972.5	9,794.6	7,154.2	79.9	80.1	-109.90	-839.8	-2,818.9	532.3	382.4	149.85	3.552		
9,700.0	6,972.5	9,897.5	7,155.2	82.7	82.9	-110.00	-839.7	-2,921.8	532.9	377.8	155.04	3.437		
9,800.0	6,972.5	10,000.7	7,155.7	85.4	85.8	-110.05	-839.4	-3,025.0	533.0	372.7	160.28	3.326		
9,900.0	6,972.5	10,101.9	7,156.1	88.2	88.5	-110.12	-838.2	-3,126.2	532.4	366.9	165.46	3.218		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 162-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,931.7	6,972.5	10,131.4	7,156.3	89.1	89.3	-110.14	-837.9	-3,155.7	532.3	365.3	167.03	3.187	
10,000.0	6,972.5	10,193.5	7,156.8	90.9	91.0	-110.19	-837.8	-3,217.8	532.7	362.3	170.38	3.126	
10,100.0	6,972.5	10,289.8	7,158.1	93.7	93.7	-110.26	-839.0	-3,314.1	534.6	359.2	175.42	3.048	
10,200.0	6,972.5	10,393.0	7,158.5	96.5	96.5	-110.25	-839.9	-3,417.3	536.0	355.2	180.74	2.965	
10,300.0	6,972.5	10,492.1	7,159.3	99.3	99.3	-110.28	-840.7	-3,516.4	537.5	351.6	185.90	2.891	
10,400.0	6,972.5	10,593.4	7,159.9	102.0	102.0	-110.29	-841.5	-3,617.6	538.9	347.7	191.14	2.819	
10,500.0	6,972.5	10,694.2	7,159.8	104.8	104.8	-110.24	-842.3	-3,718.5	540.1	343.6	196.46	2.749	
10,600.0	6,972.5	10,792.6	7,159.3	107.6	107.5	-110.13	-843.3	-3,816.9	541.4	339.6	201.79	2.683	
10,700.0	6,972.5	10,884.5	7,159.3	110.4	110.1	-110.06	-844.8	-3,908.8	543.5	336.6	206.89	2.627	
10,800.0	6,972.5	11,001.2	7,158.4	113.1	113.3	-109.86	-847.1	-4,025.4	545.7	332.9	212.82	2.564	
10,803.9	6,972.5	11,005.0	7,158.3	113.3	113.4	-109.85	-847.1	-4,029.2	545.7	332.7	213.04	2.562	
10,900.0	6,972.5	11,093.6	7,156.5	115.9	115.9	-109.62	-847.8	-4,117.8	546.3	328.1	218.18	2.504	
11,000.0	6,972.5	11,179.6	7,155.8	118.7	118.2	-109.47	-849.8	-4,203.8	549.0	325.7	223.28	2.459	
11,100.0	6,972.5	11,269.0	7,156.8	121.5	120.7	-109.41	-853.6	-4,293.1	554.0	325.6	228.33	2.426	
11,200.0	6,972.5	11,375.8	7,158.8	124.3	123.7	-109.41	-858.4	-4,399.8	559.6	325.8	233.77	2.394	
11,300.0	6,972.5	11,489.3	7,159.3	127.1	126.8	-109.33	-861.5	-4,513.2	563.0	323.5	239.50	2.351	
11,400.0	6,972.5	11,597.8	7,160.0	129.9	129.8	-109.35	-862.3	-4,621.7	564.5	319.5	244.99	2.304	
11,500.0	6,972.5	11,704.2	7,161.9	132.6	132.8	-109.55	-860.8	-4,728.1	564.5	314.4	250.16	2.257	
11,600.0	6,972.5	11,806.4	7,163.5	135.4	135.6	-109.74	-859.0	-4,830.3	564.1	308.8	255.20	2.210	
11,670.3	6,972.5	11,874.0	7,164.2	137.4	137.5	-109.84	-857.4	-4,897.8	563.3	304.6	258.70	2.177	
11,700.0	6,972.5	11,874.0	7,164.2	138.2	137.5	-109.84	-857.4	-4,897.8	564.0	304.5	259.48	2.173 SF	
11,800.0	6,972.5	11,874.0	7,164.2	141.0	137.5	-109.84	-857.4	-4,897.8	577.7	315.5	262.12	2.204	
11,900.0	6,972.5	11,874.0	7,164.2	143.8	137.5	-109.84	-857.4	-4,897.8	607.7	343.0	264.75	2.295	
12,000.0	6,972.5	11,874.0	7,164.2	146.6	137.5	-109.84	-857.4	-4,897.8	651.9	384.5	267.39	2.438	
12,100.0	6,972.5	11,874.0	7,164.2	149.4	137.5	-109.84	-857.4	-4,897.8	707.5	437.5	270.03	2.620	
12,200.0	6,972.5	11,874.0	7,164.2	152.2	137.5	-109.84	-857.4	-4,897.8	772.1	499.5	272.67	2.832	
12,300.0	6,972.5	11,874.0	7,164.2	155.0	137.5	-109.84	-857.4	-4,897.8	843.7	568.4	275.31	3.064	
12,400.0	6,972.5	11,874.0	7,164.2	157.7	137.5	-109.84	-857.4	-4,897.8	920.6	642.6	277.96	3.312	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 173-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.5	0.5	0.0	0.0	1.25	127.5	2.8	127.5					
100.0	100.0	100.7	100.7	0.1	0.1	1.36	127.4	3.0	127.5	127.2	0.23	563.844		
200.0	200.0	200.9	200.8	0.3	0.3	1.66	127.1	3.7	127.2	126.6	0.59	216.090		
300.0	300.0	300.8	300.8	0.6	0.5	1.86	126.9	4.1	127.0	126.0	1.02	124.804		
400.0	400.0	401.0	401.0	0.8	0.7	2.10	126.6	4.6	126.7	125.2	1.45	87.302		
500.0	500.0	500.6	500.6	1.0	0.9	2.21	126.3	4.9	126.3	124.5	1.88	67.100		
517.0	517.0	517.5	517.5	1.0	0.9	2.19	126.2	4.8	126.3	124.4	1.96	64.591 CC, ES		
600.0	600.0	598.9	598.9	1.2	1.1	1.97	126.7	4.4	126.8	124.5	2.31	54.850		
700.0	700.0	696.2	696.1	1.5	1.3	1.75	129.0	3.9	129.1	126.4	2.74	47.089		
800.0	800.0	792.9	792.8	1.7	1.5	1.57	133.3	3.7	133.6	130.4	3.18	42.063		
900.0	900.0	889.6	889.2	1.9	1.7	1.18	140.0	2.9	140.5	136.9	3.62	38.850		
1,000.0	1,000.0	985.2	984.4	2.1	1.9	0.55	149.0	1.4	149.9	145.9	4.06	36.935		
1,100.0	1,100.0	1,079.4	1,077.9	2.4	2.2	-0.10	160.6	-0.3	162.2	157.7	4.51	35.975		
1,200.0	1,200.0	1,173.7	1,171.0	2.6	2.5	-0.47	175.1	-1.4	177.6	172.6	4.97	35.761 SF		
1,300.0	1,300.0	1,273.4	1,269.2	2.8	2.8	-0.91	191.8	-3.0	194.4	188.9	5.43	35.815		
1,400.0	1,400.0	1,371.4	1,366.0	3.0	3.1	-1.46	207.5	-5.3	210.4	204.5	5.88	35.771		
1,500.0	1,500.0	1,466.1	1,459.3	3.3	3.4	-2.03	223.6	-7.9	227.5	221.2	6.35	35.848		
1,600.0	1,600.0	1,564.0	1,555.5	3.5	3.7	-163.40	241.4	-10.7	247.5	240.8	6.71	36.894		
1,700.0	1,699.8	1,662.5	1,652.4	3.6	4.1	-163.77	259.1	-12.3	270.3	263.3	7.09	38.131		
1,800.0	1,799.6	1,767.6	1,756.0	3.8	4.4	-163.89	276.3	-11.9	293.0	285.5	7.49	39.105		
1,900.0	1,899.4	1,862.1	1,849.4	4.0	4.7	-163.87	291.1	-10.8	314.8	306.9	7.89	39.917		
2,000.0	1,999.2	1,959.4	1,945.4	4.2	5.1	-163.94	306.8	-10.4	337.1	328.8	8.30	40.617		
2,100.0	2,099.0	2,057.6	2,042.4	4.4	5.4	-164.15	322.5	-10.7	359.3	350.6	8.71	41.234		
2,200.0	2,198.7	2,153.0	2,136.5	4.6	5.7	-164.16	338.0	-9.9	381.7	372.5	9.13	41.818		
2,300.0	2,298.5	2,246.5	2,228.6	4.8	6.0	-164.14	353.8	-9.1	404.8	395.2	9.55	42.398		
2,400.0	2,398.3	2,338.2	2,318.8	5.1	6.4	-164.25	370.5	-9.3	429.1	419.2	9.97	43.042		
2,500.0	2,498.1	2,436.9	2,415.8	5.3	6.8	-164.52	388.6	-10.7	453.7	443.3	10.41	43.595		
2,600.0	2,597.9	2,534.3	2,511.6	5.5	7.1	-164.65	406.4	-11.1	478.2	467.4	10.84	44.120		
2,700.0	2,697.7	2,637.2	2,612.9	5.7	7.5	-164.77	424.6	-11.6	502.1	490.9	11.28	44.505		
2,800.0	2,797.4	2,737.0	2,711.3	6.0	7.8	-165.03	440.8	-13.4	524.8	513.1	11.72	44.776		
2,900.0	2,897.2	2,831.6	2,804.5	6.2	8.2	-165.12	457.0	-13.8	548.0	535.9	12.15	45.104		
3,000.0	2,997.0	2,937.0	2,908.5	6.4	8.5	-165.13	474.4	-13.4	570.8	558.2	12.60	45.283		
3,100.0	3,096.8	3,047.6	3,017.9	6.7	8.9	-165.30	490.4	-14.5	591.6	578.5	13.06	45.284		
3,200.0	3,196.6	3,150.9	3,120.4	6.9	9.2	-165.44	503.6	-15.3	610.7	597.2	13.51	45.219		
3,300.0	3,296.3	3,245.1	3,213.7	7.2	9.5	-165.45	515.7	-14.8	629.8	615.9	13.93	45.201		
3,400.0	3,396.1	3,351.6	3,319.4	7.4	9.8	-165.45	529.4	-14.1	648.9	634.5	14.39	45.092		
3,500.0	3,495.9	3,440.1	3,407.2	7.6	10.1	-165.53	540.5	-14.6	667.8	653.0	14.81	45.094		
3,600.0	3,595.7	3,555.2	3,521.4	7.9	10.4	-165.58	554.4	-14.3	686.1	670.8	15.28	44.888		
3,700.0	3,695.5	3,638.0	3,603.5	8.1	10.7	-165.52	565.0	-13.1	704.9	689.2	15.69	44.925		
3,800.0	3,795.3	3,717.7	3,682.3	8.4	10.9	-165.43	577.1	-11.8	726.1	710.0	16.10	45.091		
3,900.0	3,895.0	3,801.1	3,764.5	8.6	11.2	-165.36	591.0	-10.5	748.9	732.4	16.53	45.316		
4,000.0	3,994.8	3,896.0	3,857.9	8.9	11.6	-165.38	608.0	-10.7	773.0	756.1	16.98	45.537		
4,100.0	4,094.6	4,002.7	3,962.9	9.1	12.0	-165.69	626.1	-14.6	796.6	779.1	17.45	45.657		
4,200.0	4,194.4	4,097.6	4,056.5	9.4	12.3	-166.04	641.6	-19.2	819.5	801.6	17.89	45.813		
4,300.0	4,294.2	4,195.2	4,152.6	9.6	12.7	-166.23	657.9	-21.9	842.7	824.4	18.34	45.955		
4,400.0	4,393.9	4,290.6	4,246.6	9.9	13.0	-166.29	674.0	-22.9	865.9	847.2	18.78	46.100		
4,500.0	4,493.7	4,373.7	4,328.4	10.1	13.3	-166.28	688.9	-22.8	890.0	870.8	19.21	46.335		
4,600.0	4,593.5	4,487.3	4,440.2	10.4	13.7	-166.30	709.5	-23.3	914.4	894.7	19.70	46.409		
4,700.0	4,693.3	4,591.5	4,542.9	10.6	14.1	-166.32	726.5	-23.6	937.0	916.8	20.17	46.463		
4,800.0	4,793.1	4,674.0	4,624.2	10.9	14.4	-166.27	740.5	-23.0	960.2	939.6	20.59	46.639		
4,900.0	4,892.8	4,768.0	4,716.7	11.1	14.8	-166.19	757.3	-21.7	984.1	963.0	21.04	46.772		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 133-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	1.0	1.0	0.0	0.0	0.00	80.2	0.0	80.2	80.2	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	0.10	80.2	0.1	80.2	79.9	0.23	354.626		
114.9	114.9	115.9	115.9	0.1	0.1	0.13	80.2	0.2	80.2	79.9	0.28	290.225 CC		
200.0	200.0	200.2	200.2	0.3	0.3	0.64	80.5	0.9	80.5	79.8	0.64	126.191 ES		
300.0	300.0	300.5	300.4	0.6	0.5	2.93	81.4	4.2	81.5	80.4	1.09	74.608		
400.0	400.0	400.7	400.4	0.8	0.8	7.56	81.4	10.8	82.2	80.6	1.56	52.698		
500.0	500.0	500.1	499.4	1.0	1.0	13.23	81.5	19.2	83.8	81.7	2.02	41.424		
600.0	600.0	598.7	597.6	1.2	1.3	18.79	81.8	27.8	86.5	84.1	2.46	35.148		
700.0	700.0	694.1	692.6	1.5	1.5	23.03	85.4	36.3	93.1	90.2	2.90	32.077		
800.0	800.0	791.2	789.1	1.7	1.8	24.79	93.6	43.2	103.8	100.5	3.33	31.142		
900.0	900.0	888.5	885.7	1.9	2.0	24.99	104.2	48.6	116.0	112.2	3.76	30.873 SF		
1,000.0	1,000.0	984.5	980.7	2.1	2.3	24.38	117.2	53.1	130.3	126.1	4.19	31.125		
1,100.0	1,100.0	1,081.1	1,075.9	2.4	2.6	23.03	133.2	56.6	146.8	142.2	4.63	31.732		
1,200.0	1,200.0	1,178.1	1,171.3	2.6	2.9	21.25	150.7	58.6	164.4	159.3	5.08	32.384		
1,300.0	1,300.0	1,277.0	1,268.4	2.8	3.2	19.42	169.4	59.7	182.6	177.1	5.53	33.022		
1,400.0	1,400.0	1,377.2	1,366.9	3.0	3.5	17.79	187.7	60.2	200.0	194.1	5.98	33.457		
1,500.0	1,500.0	1,476.8	1,465.0	3.3	3.9	16.38	205.1	60.3	216.8	210.4	6.43	33.728		
1,600.0	1,600.0	1,573.0	1,559.6	3.5	4.2	-145.85	222.3	59.7	235.3	228.5	6.83	34.436		
1,700.0	1,699.8	1,676.4	1,661.4	3.6	4.5	-147.63	240.1	58.5	256.0	248.8	7.23	35.429		
1,800.0	1,799.6	1,771.4	1,755.2	3.8	4.8	-148.85	255.3	59.6	277.5	269.8	7.62	36.426		
1,900.0	1,899.4	1,866.7	1,849.1	4.0	5.2	-149.88	271.2	60.9	299.7	291.7	8.03	37.339		
2,000.0	1,999.2	1,960.4	1,941.4	4.2	5.5	-150.92	288.0	61.4	323.1	314.7	8.44	38.273		
2,100.0	2,099.0	2,056.7	2,035.9	4.4	5.9	-152.03	305.9	61.0	347.0	338.2	8.87	39.137		
2,200.0	2,198.7	2,150.6	2,128.1	4.6	6.2	-153.13	323.9	59.7	371.7	362.4	9.29	40.007		
2,300.0	2,298.5	2,243.9	2,219.5	4.8	6.6	-153.95	342.4	59.4	397.0	387.3	9.72	40.867		
2,400.0	2,398.3	2,333.9	2,307.6	5.1	7.0	-154.51	361.3	60.2	423.9	413.7	10.14	41.801		
2,500.0	2,498.1	2,429.7	2,401.0	5.3	7.4	-155.08	382.2	60.8	451.4	440.8	10.58	42.648		
2,600.0	2,597.9	2,526.4	2,495.4	5.5	7.8	-155.56	403.1	61.7	478.9	467.8	11.03	43.435		
2,700.0	2,697.7	2,626.0	2,592.7	5.7	8.2	-155.96	424.5	62.9	506.2	494.7	11.47	44.129		
2,800.0	2,797.4	2,730.3	2,694.9	6.0	8.6	-156.37	445.2	63.7	532.0	520.1	11.93	44.605		
2,900.0	2,897.2	2,825.6	2,788.4	6.2	8.9	-156.77	463.9	63.9	557.5	545.1	12.37	45.073		
3,000.0	2,997.0	2,921.8	2,882.7	6.4	9.3	-157.02	482.9	65.2	583.2	570.4	12.82	45.505		
3,100.0	3,096.8	3,016.0	2,975.0	6.7	9.7	-157.01	501.3	68.9	608.9	595.6	13.26	45.903		
3,200.0	3,196.6	3,103.6	3,060.6	6.9	10.1	-156.86	519.4	73.9	635.7	622.0	13.70	46.390		
3,300.0	3,296.3	3,192.1	3,146.8	7.2	10.5	-156.74	538.5	78.9	663.6	649.5	14.15	46.891		
3,400.0	3,396.1	3,276.3	3,228.6	7.4	10.8	-156.80	558.3	81.7	693.2	678.6	14.59	47.507		
3,500.0	3,495.9	3,389.3	3,338.5	7.6	11.3	-157.11	584.5	82.6	722.2	707.1	15.09	47.857		
3,600.0	3,595.7	3,495.8	3,442.7	7.9	11.8	-157.52	606.8	81.6	749.0	733.4	15.57	48.115		
3,700.0	3,695.5	3,585.0	3,529.8	8.1	12.1	-157.79	625.5	81.3	775.9	759.9	16.01	48.473		
3,800.0	3,795.3	3,671.3	3,614.0	8.4	12.5	-157.92	644.6	82.7	803.9	787.5	16.45	48.880		
3,900.0	3,895.0	3,760.1	3,700.4	8.6	12.9	-157.97	665.0	85.2	832.9	816.0	16.90	49.284		
4,000.0	3,994.8	3,848.5	3,786.2	8.9	13.3	-158.00	686.1	87.9	862.8	845.5	17.35	49.716		
4,100.0	4,094.6	3,978.6	3,912.8	9.1	13.9	-158.07	715.9	91.5	892.0	874.1	17.90	49.828		
4,200.0	4,194.4	4,121.2	4,053.1	9.4	14.4	-158.48	740.9	89.8	915.3	896.8	18.45	49.607		
4,300.0	4,294.2	4,214.9	4,145.7	9.6	14.7	-158.71	755.7	88.9	937.0	918.1	18.89	49.608		
4,400.0	4,393.9	4,291.4	4,221.1	9.9	15.0	-158.85	768.7	88.9	960.1	940.8	19.30	49.748		
4,500.0	4,493.7	4,384.8	4,312.9	10.1	15.4	-158.98	786.0	89.6	984.7	964.9	19.75	49.851		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	1.12	142.1	2.8	142.1				
100.0	100.0	100.0	100.0	0.1	0.1	1.12	142.1	2.8	142.1	141.9	0.22	632.242	
200.0	200.0	200.0	200.0	0.3	0.3	1.12	142.1	2.8	142.1	141.4	0.67	210.747	
300.0	300.0	300.0	300.0	0.6	0.6	1.12	142.1	2.8	142.1	141.0	1.12	126.448	
400.0	400.0	400.0	400.0	0.8	0.8	1.12	142.1	2.8	142.1	140.5	1.57	90.320 CC, ES	
500.0	500.0	495.2	495.2	1.0	1.0	1.16	143.7	2.9	143.8	141.8	2.01	71.402	
600.0	600.0	590.3	590.1	1.2	1.2	1.27	148.4	3.3	148.7	146.3	2.46	60.499	
700.0	700.0	684.9	684.4	1.5	1.4	1.44	156.2	3.9	157.0	154.1	2.91	54.019	
800.0	800.0	778.9	777.8	1.7	1.7	1.64	167.0	4.8	168.6	165.2	3.36	50.191	
900.0	900.0	872.1	870.0	1.9	2.0	1.87	180.8	5.9	183.3	179.5	3.81	48.070	
1,000.0	1,000.0	964.3	960.6	2.1	2.3	2.10	197.3	7.2	201.3	197.0	4.28	47.088	
1,100.0	1,100.0	1,055.3	1,049.6	2.4	2.6	2.32	216.5	8.8	222.4	217.7	4.74	46.894 SF	
1,200.0	1,200.0	1,150.8	1,142.4	2.6	3.0	2.54	238.7	10.6	245.7	240.5	5.23	47.015	
1,300.0	1,300.0	1,248.0	1,236.9	2.8	3.4	2.72	261.4	12.4	269.2	263.5	5.71	47.122	
1,400.0	1,400.0	1,345.2	1,331.5	3.0	3.9	2.87	284.1	14.2	292.6	286.4	6.20	47.169	
1,500.0	1,500.0	1,442.4	1,426.0	3.3	4.3	3.00	306.8	16.1	316.0	309.3	6.70	47.177	
1,600.0	1,600.0	1,539.2	1,520.1	3.5	4.8	-157.66	329.4	17.9	341.0	334.0	7.04	48.462	
1,700.0	1,699.8	1,635.2	1,613.4	3.6	5.2	-157.67	351.8	19.7	369.1	361.7	7.44	49.581	
1,800.0	1,799.6	1,730.8	1,706.3	3.8	5.7	-157.94	374.2	21.5	398.5	390.6	7.87	50.630	
1,900.0	1,899.4	1,826.4	1,799.2	4.0	6.1	-158.17	396.5	23.3	427.8	419.5	8.30	51.527	
2,000.0	1,999.2	1,922.0	1,892.1	4.2	6.6	-158.36	418.8	25.1	457.1	448.4	8.74	52.301	
2,100.0	2,099.0	2,017.5	1,985.1	4.4	7.0	-158.54	441.2	26.9	486.5	477.3	9.18	52.971	
2,200.0	2,198.7	2,113.1	2,078.0	4.6	7.5	-158.69	463.5	28.7	515.9	506.2	9.63	53.554	
2,300.0	2,298.5	2,208.7	2,170.9	4.8	7.9	-158.83	485.8	30.5	545.2	535.1	10.08	54.065	
2,400.0	2,398.3	2,304.3	2,263.8	5.1	8.4	-158.95	508.2	32.3	574.6	564.0	10.54	54.514	
2,500.0	2,498.1	2,399.9	2,356.8	5.3	8.9	-159.07	530.5	34.1	603.9	592.9	11.00	54.911	
2,600.0	2,597.9	2,495.5	2,449.7	5.5	9.3	-159.17	552.8	35.9	633.3	621.8	11.46	55.263	
2,700.0	2,697.7	2,591.1	2,542.6	5.7	9.8	-159.26	575.1	37.7	662.7	650.8	11.92	55.577	
2,800.0	2,797.4	2,686.6	2,635.5	6.0	10.3	-159.34	597.5	39.5	692.0	679.7	12.39	55.858	
2,900.0	2,897.2	2,782.2	2,728.4	6.2	10.7	-159.42	619.8	41.3	721.4	708.6	12.86	56.111	
3,000.0	2,997.0	2,877.8	2,821.4	6.4	11.2	-159.49	642.1	43.1	750.8	737.5	13.33	56.338	
3,100.0	3,096.8	2,973.4	2,914.3	6.7	11.6	-159.56	664.5	45.0	780.2	766.4	13.80	56.544	
3,200.0	3,196.6	3,069.0	3,007.2	6.9	12.1	-159.62	686.8	46.8	809.5	795.3	14.27	56.730	
3,300.0	3,296.3	3,164.6	3,100.1	7.2	12.6	-159.68	709.1	48.6	838.9	824.2	14.74	56.900	
3,400.0	3,396.1	3,260.1	3,193.1	7.4	13.0	-159.73	731.5	50.4	868.3	853.1	15.22	57.055	
3,500.0	3,495.9	3,355.7	3,286.0	7.6	13.5	-159.78	753.8	52.2	897.7	882.0	15.69	57.197	
3,600.0	3,595.7	3,451.3	3,378.9	7.9	14.0	-159.83	776.1	54.0	927.0	910.9	16.17	57.326	
3,700.0	3,695.5	3,546.9	3,471.8	8.1	14.4	-159.87	798.5	55.8	956.4	939.8	16.65	57.446	
3,800.0	3,795.3	3,642.5	3,564.7	8.4	14.9	-159.91	820.8	57.6	985.8	968.7	17.13	57.556	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	0.99	160.3	2.8	160.3				
100.0	100.0	100.0	100.0	0.1	0.1	0.99	160.3	2.8	160.3	160.1	0.22	713.290	
200.0	200.0	200.0	200.0	0.3	0.3	0.99	160.3	2.8	160.3	159.6	0.67	237.763 CC, ES	
300.0	300.0	294.7	294.7	0.6	0.6	1.03	161.9	2.9	162.0	160.9	1.11	145.357	
400.0	400.0	389.1	389.0	0.8	0.8	1.11	166.5	3.2	166.9	165.4	1.56	106.862	
500.0	500.0	483.2	482.7	1.0	1.0	1.25	174.2	3.8	175.1	173.1	2.01	87.003	
600.0	600.0	576.6	575.6	1.2	1.3	1.42	185.0	4.6	186.6	184.2	2.47	75.600	
700.0	700.0	669.3	667.2	1.5	1.5	1.61	198.6	5.6	201.3	198.4	2.93	68.742	
800.0	800.0	761.0	757.4	1.7	1.9	1.80	214.9	6.8	219.2	215.8	3.40	64.562	
900.0	900.0	851.5	845.9	1.9	2.2	2.00	233.9	8.2	240.2	236.3	3.87	62.088	
1,000.0	1,000.0	943.9	935.7	2.1	2.6	2.19	255.8	9.8	264.0	259.6	4.35	60.643	
1,100.0	1,100.0	1,040.9	1,029.7	2.4	3.1	2.35	279.4	11.5	288.4	283.5	4.85	59.443	
1,200.0	1,200.0	1,137.9	1,123.8	2.6	3.6	2.50	303.0	13.2	312.7	307.4	5.35	58.463	
1,300.0	1,300.0	1,234.9	1,217.8	2.8	4.0	2.62	326.6	14.9	337.1	331.3	5.85	57.605	
1,400.0	1,400.0	1,331.9	1,311.9	3.0	4.5	2.72	350.2	16.7	361.5	355.1	6.36	56.851	
1,500.0	1,500.0	1,428.8	1,405.9	3.3	5.0	2.82	373.8	18.4	385.9	379.0	6.87	56.186 SF	
1,600.0	1,600.0	1,525.4	1,499.6	3.5	5.5	-157.85	397.3	20.1	411.8	404.7	7.14	57.715	
1,700.0	1,699.8	1,621.1	1,592.4	3.6	5.9	-157.83	420.5	21.8	440.8	433.3	7.55	58.428	
1,800.0	1,799.6	1,716.4	1,684.8	3.8	6.4	-158.06	443.7	23.5	471.1	463.1	7.98	59.066	
1,900.0	1,899.4	1,811.7	1,777.2	4.0	6.9	-158.27	466.9	25.2	501.4	493.0	8.41	59.592	
2,000.0	1,999.2	1,907.0	1,869.6	4.2	7.4	-158.45	490.0	26.9	531.7	522.8	8.86	60.029	
2,100.0	2,099.0	2,002.3	1,962.0	4.4	7.8	-158.61	513.2	28.6	562.0	552.7	9.31	60.393	
2,200.0	2,198.7	2,097.5	2,054.5	4.6	8.3	-158.75	536.4	30.3	592.3	582.5	9.76	60.697	
2,300.0	2,298.5	2,192.8	2,146.9	4.8	8.8	-158.88	559.6	32.0	622.6	612.4	10.21	60.952	
2,400.0	2,398.3	2,288.1	2,239.3	5.1	9.3	-159.00	582.7	33.7	652.9	642.2	10.67	61.167	
2,500.0	2,498.1	2,383.4	2,331.7	5.3	9.7	-159.11	605.9	35.3	683.2	672.0	11.14	61.349	
2,600.0	2,597.9	2,478.7	2,424.1	5.5	10.2	-159.21	629.1	37.0	713.5	701.9	11.60	61.503	
2,700.0	2,697.7	2,574.0	2,516.5	5.7	10.7	-159.30	652.3	38.7	743.8	731.7	12.07	61.633	
2,800.0	2,797.4	2,669.3	2,608.9	6.0	11.2	-159.38	675.4	40.4	774.1	761.6	12.54	61.744	
2,900.0	2,897.2	2,764.6	2,701.4	6.2	11.7	-159.46	698.6	42.1	804.4	791.4	13.01	61.839	
3,000.0	2,997.0	2,859.9	2,793.8	6.4	12.1	-159.53	721.8	43.8	834.7	821.2	13.48	61.919	
3,100.0	3,096.8	2,955.2	2,886.2	6.7	12.6	-159.60	744.9	45.5	865.0	851.1	13.95	61.988	
3,200.0	3,196.6	3,050.5	2,978.6	6.9	13.1	-159.66	768.1	47.2	895.3	880.9	14.43	62.046	
3,300.0	3,296.3	3,145.7	3,071.0	7.2	13.6	-159.72	791.3	48.9	925.6	910.7	14.91	62.096	
3,400.0	3,396.1	3,241.0	3,163.4	7.4	14.0	-159.77	814.5	50.6	956.0	940.6	15.38	62.138	
3,500.0	3,495.9	3,336.3	3,255.8	7.6	14.5	-159.82	837.6	52.3	986.3	970.4	15.86	62.174	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-18.2	0.0	18.2	18.2	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	180.00	-18.2	0.0	18.2	18.0	0.22	81.080	
200.0	200.0	200.0	200.0	0.3	0.3	180.00	-18.2	0.0	18.2	17.5	0.67	27.027	
300.0	300.0	300.0	300.0	0.6	0.6	180.00	-18.2	0.0	18.2	17.1	1.12	16.216	
400.0	400.0	400.0	400.0	0.8	0.8	180.00	-18.2	0.0	18.2	16.7	1.57	11.583	
500.0	500.0	500.0	500.0	1.0	1.0	180.00	-18.2	0.0	18.2	16.2	2.02	9.009	
600.0	600.0	600.0	600.0	1.2	1.2	180.00	-18.2	0.0	18.2	15.8	2.47	7.371	
700.0	700.0	700.0	700.0	1.5	1.5	180.00	-18.2	0.0	18.2	15.3	2.92	6.237	
800.0	800.0	800.0	800.0	1.7	1.7	180.00	-18.2	0.0	18.2	14.9	3.37	5.405	
900.0	900.0	900.0	900.0	1.9	1.9	180.00	-18.2	0.0	18.2	14.4	3.82	4.769	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	180.00	-18.2	0.0	18.2	14.0	4.27	4.267	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	180.00	-18.2	0.0	18.2	13.5	4.72	3.861	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	180.00	-18.2	0.0	18.2	13.1	5.17	3.525 CC	
1,300.0	1,300.0	1,299.3	1,299.3	2.8	2.8	179.15	-19.9	0.3	19.9	14.3	5.59	3.566	
1,400.0	1,400.0	1,398.4	1,398.3	3.0	3.0	177.31	-25.0	1.2	25.1	19.1	5.99	4.187	
1,500.0	1,500.0	1,497.1	1,496.5	3.3	3.1	175.50	-33.4	2.6	33.7	27.3	6.40	5.262	
1,600.0	1,600.0	1,596.1	1,594.9	3.5	3.3	13.79	-44.5	4.6	43.4	36.6	6.78	6.398	
1,700.0	1,699.8	1,695.9	1,694.0	3.6	3.6	14.14	-56.0	6.6	50.0	42.8	7.14	7.003	
1,800.0	1,799.6	1,795.7	1,793.2	3.8	3.8	14.79	-67.5	8.5	55.2	47.7	7.52	7.349	
1,900.0	1,899.4	1,895.6	1,892.4	4.0	4.1	15.32	-79.0	10.5	60.5	52.6	7.90	7.653	
2,000.0	1,999.2	1,995.5	1,991.5	4.2	4.3	15.77	-90.5	12.5	65.8	57.5	8.30	7.920	
2,100.0	2,099.0	2,095.3	2,090.7	4.4	4.6	16.16	-102.0	14.5	71.0	62.3	8.71	8.157	
2,200.0	2,198.7	2,195.2	2,189.9	4.6	4.8	16.49	-113.5	16.5	76.3	67.2	9.12	8.366	
2,300.0	2,298.5	2,295.0	2,289.1	4.8	5.1	16.78	-125.0	18.5	81.6	72.0	9.54	8.552	
2,400.0	2,398.3	2,394.9	2,388.3	5.1	5.4	17.03	-136.5	20.5	86.9	76.9	9.96	8.719	
2,500.0	2,498.1	2,494.8	2,487.4	5.3	5.7	17.26	-148.0	22.5	92.1	81.8	10.39	8.868	
2,600.0	2,597.9	2,594.6	2,586.6	5.5	6.0	17.46	-159.5	24.5	97.4	86.6	10.82	9.003	
2,700.0	2,697.7	2,694.5	2,685.8	5.7	6.3	17.63	-171.0	26.5	102.7	91.5	11.26	9.124	
2,800.0	2,797.4	2,794.3	2,785.0	6.0	6.6	17.80	-182.5	28.5	108.0	96.3	11.70	9.234	
2,900.0	2,897.2	2,894.2	2,884.1	6.2	6.9	17.94	-194.0	30.5	113.3	101.1	12.14	9.334	
3,000.0	2,997.0	2,994.1	2,983.3	6.4	7.2	18.08	-205.5	32.5	118.6	106.0	12.58	9.425	
3,100.0	3,096.8	3,093.9	3,082.5	6.7	7.5	18.20	-217.0	34.5	123.9	110.8	13.03	9.508	
3,200.0	3,196.6	3,193.8	3,181.7	6.9	7.8	18.31	-228.5	36.4	129.1	115.7	13.47	9.585	
3,300.0	3,296.3	3,293.6	3,280.8	7.2	8.1	18.41	-240.0	38.4	134.4	120.5	13.92	9.655	
3,400.0	3,396.1	3,393.5	3,380.0	7.4	8.4	18.51	-251.4	40.4	139.7	125.3	14.37	9.720	
3,500.0	3,495.9	3,493.4	3,479.2	7.6	8.7	18.60	-262.9	42.4	145.0	130.2	14.83	9.780	
3,600.0	3,595.7	3,593.2	3,578.4	7.9	9.0	18.68	-274.4	44.4	150.3	135.0	15.28	9.835	
3,700.0	3,695.5	3,693.1	3,677.5	8.1	9.3	18.76	-285.9	46.4	155.6	139.8	15.74	9.887	
3,800.0	3,795.3	3,792.9	3,776.7	8.4	9.6	18.83	-297.4	48.4	160.9	144.7	16.19	9.935	
3,900.0	3,895.0	3,892.8	3,875.9	8.6	9.9	18.90	-308.9	50.4	166.2	149.5	16.65	9.979	
4,000.0	3,994.8	3,992.7	3,975.1	8.9	10.2	18.96	-320.4	52.4	171.4	154.3	17.11	10.021	
4,100.0	4,094.6	4,092.5	4,074.2	9.1	10.5	19.02	-331.9	54.4	176.7	159.2	17.57	10.060	
4,200.0	4,194.4	4,192.4	4,173.4	9.4	10.9	19.07	-343.4	56.4	182.0	164.0	18.03	10.096	
4,300.0	4,294.2	4,292.2	4,272.6	9.6	11.2	19.13	-354.9	58.4	187.3	168.8	18.49	10.131	
4,400.0	4,393.9	4,392.1	4,371.8	9.9	11.5	19.18	-366.4	60.4	192.6	173.6	18.95	10.163	
4,500.0	4,493.7	4,492.0	4,470.9	10.1	11.8	19.22	-377.9	62.4	197.9	178.5	19.41	10.194	
4,600.0	4,593.5	4,591.8	4,570.1	10.4	12.1	19.27	-389.4	64.3	203.2	183.3	19.88	10.222	
4,700.0	4,693.3	4,691.7	4,669.3	10.6	12.4	19.31	-400.9	66.3	208.5	188.1	20.34	10.249	
4,800.0	4,793.1	4,791.5	4,768.5	10.9	12.7	19.35	-412.4	68.3	213.8	193.0	20.80	10.275	
4,900.0	4,892.8	4,891.4	4,867.7	11.1	13.0	19.39	-423.9	70.3	219.0	197.8	21.27	10.299	
5,000.0	4,992.6	4,991.3	4,966.8	11.4	13.4	19.43	-435.4	72.3	224.3	202.6	21.73	10.322	
5,100.0	5,092.4	5,091.1	5,066.0	11.7	13.7	19.46	-446.9	74.3	229.6	207.4	22.20	10.344	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,192.2	5,191.0	5,165.2	11.9	14.0	19.49	-458.4	76.3	234.9	212.3	22.66	10.365	
5,300.0	5,292.0	5,290.8	5,264.4	12.2	14.3	19.53	-469.9	78.3	240.2	217.1	23.13	10.385	
5,400.0	5,391.8	5,390.7	5,363.5	12.4	14.6	19.56	-481.4	80.3	245.5	221.9	23.60	10.403	
5,500.0	5,491.5	5,490.6	5,462.7	12.7	14.9	19.59	-492.9	82.3	250.8	226.7	24.07	10.421	
5,600.0	5,591.3	5,590.4	5,561.9	12.9	15.3	19.61	-504.3	84.3	256.1	231.5	24.53	10.438	
5,700.0	5,691.1	5,690.3	5,661.1	13.2	15.6	19.64	-515.8	86.3	261.4	236.4	25.00	10.455	
5,800.0	5,790.9	5,790.1	5,760.2	13.4	15.9	19.67	-527.3	88.3	266.7	241.2	25.47	10.470	
5,900.0	5,890.7	5,890.0	5,859.4	13.7	16.2	19.69	-538.8	90.3	272.0	246.0	25.94	10.485	
6,000.0	5,990.4	5,989.9	5,958.6	13.9	16.5	19.72	-550.3	92.2	277.2	250.8	26.41	10.500	
6,100.0	6,090.2	6,089.7	6,057.8	14.2	16.8	19.74	-561.8	94.2	282.5	255.7	26.87	10.513	
6,200.0	6,190.0	6,189.6	6,156.9	14.5	17.2	19.76	-573.3	96.2	287.8	260.5	27.34	10.527	
6,300.0	6,289.8	6,289.4	6,256.1	14.7	17.5	-34.88	-584.8	98.2	293.1	265.3	27.80	10.544	
6,400.0	6,388.9	6,389.0	6,354.8	14.9	17.7	-71.03	-596.3	92.2	298.3	270.2	28.14	10.600	
6,500.0	6,485.4	6,489.5	6,452.5	15.1	18.0	-79.37	-607.7	72.3	303.5	275.1	28.45	10.670	
6,600.0	6,577.5	6,590.7	6,547.2	15.2	18.2	-83.10	-618.8	38.5	308.6	279.8	28.77	10.727	
6,700.0	6,663.3	6,692.7	6,636.8	15.4	18.4	-85.31	-629.3	-8.8	313.4	284.2	29.20	10.734	
6,800.0	6,741.3	6,795.5	6,719.5	15.6	18.6	-86.82	-639.1	-68.9	317.8	287.9	29.87	10.642	
6,900.0	6,809.8	6,898.9	6,793.3	15.9	18.9	-87.91	-647.9	-140.8	321.8	290.8	30.94	10.401	
7,000.0	6,867.6	7,003.1	6,856.3	16.6	19.3	-88.74	-655.4	-223.2	325.2	292.6	32.57	9.984	
7,100.0	6,913.6	7,107.9	6,907.1	17.7	20.0	-89.36	-661.6	-314.5	327.9	293.0	34.85	9.408	
7,200.0	6,946.7	7,213.1	6,944.2	19.1	21.0	-89.81	-666.2	-412.8	329.9	292.1	37.80	8.727	
7,300.0	6,966.5	7,318.7	6,966.8	20.9	22.4	-90.11	-669.2	-515.8	331.1	289.8	41.33	8.012	
7,400.0	6,972.5	7,424.5	6,974.0	22.8	24.2	-90.26	-670.3	-621.2	331.5	286.2	45.29	7.320	
7,500.0	6,972.5	7,527.0	6,974.0	24.9	26.2	-90.26	-670.0	-723.8	330.8	281.2	49.59	6.671	
7,600.0	6,972.5	7,627.0	6,974.0	27.2	28.3	-90.26	-669.4	-823.8	330.0	276.0	54.08	6.103	
7,700.0	6,972.5	7,727.0	6,974.0	29.5	30.5	-90.26	-668.9	-923.8	329.2	270.5	58.76	5.603	
7,800.0	6,972.5	7,827.0	6,974.0	31.9	32.8	-90.26	-668.4	-1,023.8	328.5	264.9	63.59	5.165	
7,900.0	6,972.5	7,927.0	6,974.0	34.4	35.2	-90.26	-667.9	-1,123.8	327.8	259.2	68.55	4.782	
8,000.0	6,972.5	8,027.0	6,974.0	36.9	37.7	-90.26	-667.3	-1,223.8	327.1	253.5	73.59	4.444	
8,100.0	6,972.5	8,127.0	6,974.0	39.5	40.2	-90.26	-666.8	-1,323.8	326.4	247.7	78.72	4.146	
8,200.0	6,972.5	8,227.0	6,974.0	42.1	42.7	-90.26	-666.3	-1,423.8	325.7	241.8	83.90	3.882	
8,300.0	6,972.5	8,327.0	6,974.0	44.7	45.3	-90.26	-665.8	-1,523.8	325.1	236.0	89.14	3.647	
8,400.0	6,972.5	8,427.0	6,974.0	47.3	47.9	-90.26	-665.2	-1,623.8	324.5	230.1	94.43	3.437	
8,500.0	6,972.5	8,527.0	6,974.0	50.0	50.5	-90.27	-664.7	-1,723.8	324.0	224.2	99.75	3.248	
8,600.0	6,972.5	8,627.0	6,974.0	52.7	53.1	-90.27	-664.2	-1,823.8	323.5	218.4	105.10	3.078	
8,700.0	6,972.5	8,727.0	6,974.0	55.3	55.8	-90.27	-663.7	-1,923.8	322.9	212.5	110.47	2.923	
8,800.0	6,972.5	8,827.0	6,974.0	58.0	58.5	-90.27	-663.1	-2,023.8	322.5	206.6	115.87	2.783	
8,900.0	6,972.5	8,927.0	6,974.0	60.8	61.1	-90.27	-662.6	-2,123.8	322.0	200.7	121.29	2.655	
9,000.0	6,972.5	9,027.0	6,974.0	63.5	63.8	-90.27	-662.1	-2,223.8	321.6	194.9	126.73	2.538	
9,100.0	6,972.5	9,127.0	6,974.0	66.2	66.5	-90.27	-661.6	-2,323.8	321.2	189.0	132.18	2.430	
9,200.0	6,972.5	9,227.0	6,974.0	68.9	69.3	-90.27	-661.1	-2,423.8	320.9	183.2	137.64	2.331	
9,300.0	6,972.5	9,327.0	6,974.0	71.7	72.0	-90.27	-660.5	-2,523.8	320.5	177.4	143.12	2.240	
9,400.0	6,972.5	9,427.0	6,974.0	74.4	74.7	-90.27	-660.0	-2,623.8	320.2	171.6	148.61	2.155	
9,500.0	6,972.5	9,527.0	6,974.0	77.2	77.4	-90.27	-659.5	-2,723.8	319.9	165.8	154.10	2.076	
9,600.0	6,972.5	9,627.0	6,974.0	79.9	80.2	-90.27	-659.0	-2,823.8	319.7	160.1	159.61	2.003	
9,700.0	6,972.5	9,727.0	6,974.0	82.7	82.9	-90.27	-658.4	-2,923.8	319.5	154.3	165.12	1.935	
9,800.0	6,972.5	9,827.0	6,974.0	85.4	85.7	-90.27	-657.9	-3,023.8	319.3	148.6	170.64	1.871	
9,900.0	6,972.5	9,927.0	6,974.0	88.2	88.4	-90.27	-657.4	-3,123.8	319.1	142.9	176.16	1.811	
10,000.0	6,972.5	10,027.0	6,974.0	90.9	91.2	-90.27	-656.9	-3,223.8	319.0	137.3	181.69	1.755	
10,100.0	6,972.5	10,127.0	6,974.0	93.7	93.9	-90.27	-656.3	-3,323.7	318.8	131.6	187.23	1.703	
10,200.0	6,972.5	10,227.0	6,974.0	96.5	96.7	-90.27	-655.8	-3,423.7	318.8	126.0	192.77	1.654	
10,300.0	6,972.5	10,327.0	6,974.0	99.3	99.5	-90.27	-655.3	-3,523.7	318.7	120.4	198.31	1.607	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,400.0	6,972.5	10,427.0	6,974.0	102.0	102.2	-90.27	-654.8	-3,623.7	318.7	114.8	203.86	1.563		
10,445.4	6,972.5	10,472.4	6,974.0	103.3	103.5	-90.27	-654.5	-3,669.2	318.7	112.3	206.38	1.544		
10,500.0	6,972.5	10,527.0	6,974.0	104.8	105.0	-90.27	-654.2	-3,723.7	318.7	109.3	209.41	1.522		
10,600.0	6,972.5	10,627.0	6,974.0	107.6	107.8	-90.27	-653.7	-3,823.7	318.7	103.7	214.97	1.483 Level 3		
10,700.0	6,972.5	10,727.0	6,974.0	110.4	110.5	-90.27	-653.2	-3,923.7	318.8	98.2	220.53	1.445 Level 3		
10,800.0	6,972.5	10,827.0	6,974.0	113.1	113.3	-90.27	-652.7	-4,023.7	318.9	92.8	226.09	1.410 Level 3		
10,900.0	6,972.5	10,927.0	6,974.0	115.9	116.1	-90.27	-652.1	-4,123.7	319.0	87.3	231.66	1.377 Level 3		
11,000.0	6,972.5	11,027.0	6,974.0	118.7	118.9	-90.27	-651.6	-4,223.7	319.1	81.9	237.22	1.345 Level 3		
11,100.0	6,972.5	11,127.0	6,974.0	121.5	121.7	-90.27	-651.1	-4,323.7	319.3	76.5	242.79	1.315 Level 3		
11,200.0	6,972.5	11,227.0	6,974.0	124.3	124.4	-90.27	-650.6	-4,423.7	319.5	71.1	248.36	1.286 Level 3		
11,300.0	6,972.5	11,327.0	6,974.0	127.1	127.2	-90.27	-650.0	-4,523.7	319.7	65.8	253.94	1.259 Level 3		
11,400.0	6,972.5	11,427.0	6,974.0	129.9	130.0	-90.27	-649.5	-4,623.7	319.9	60.4	259.51	1.233 Level 2		
11,500.0	6,972.5	11,527.0	6,974.0	132.6	132.8	-90.27	-649.0	-4,723.7	320.1	55.0	265.09	1.208 Level 2		
11,600.0	6,972.5	11,627.0	6,974.0	135.4	135.6	-90.27	-648.5	-4,823.7	320.3	49.7	270.67	1.183 Level 2		
11,700.0	6,972.5	11,727.0	6,974.0	138.2	138.4	-90.27	-647.9	-4,923.7	320.5	44.3	276.25	1.160 Level 2		
11,800.0	6,972.5	11,827.0	6,974.0	141.0	141.1	-90.27	-647.4	-5,023.7	320.8	38.9	281.83	1.138 Level 2		
11,900.0	6,972.5	11,927.0	6,974.0	143.8	143.9	-90.27	-646.9	-5,123.7	321.0	33.6	287.41	1.117 Level 2		
12,000.0	6,972.5	12,027.0	6,974.0	146.6	146.7	-90.27	-646.4	-5,223.7	321.2	28.2	293.00	1.096 Level 2		
12,100.0	6,972.5	12,127.0	6,974.0	149.4	149.5	-90.27	-645.8	-5,323.7	321.4	22.8	298.58	1.076 Level 2		
12,200.0	6,972.5	12,227.0	6,974.0	152.2	152.3	-90.27	-645.3	-5,423.7	321.6	17.4	304.17	1.057 Level 2		
12,300.0	6,972.5	12,327.0	6,974.0	155.0	155.1	-90.27	-644.8	-5,523.7	321.8	12.1	309.76	1.039 Level 2		
12,400.0	6,972.5	12,427.0	6,974.0	157.7	157.9	-90.27	-644.3	-5,623.7	322.0	6.7	315.35	1.021 Level 2		
12,500.0	6,972.5	12,527.0	6,974.0	160.5	160.7	-90.27	-643.7	-5,723.7	322.2	1.3	320.94	1.004 Level 2		
12,600.0	6,972.5	12,627.0	6,974.0	163.3	163.5	-90.27	-643.2	-5,823.7	322.5	-4.1	326.53	0.988 Level 1		
12,700.0	6,972.5	12,727.0	6,974.0	166.1	166.3	-90.27	-642.7	-5,923.7	322.7	-9.4	332.12	0.972 Level 1		
12,800.0	6,972.5	12,827.0	6,974.0	168.9	169.1	-90.27	-642.2	-6,023.7	322.9	-14.8	337.71	0.956 Level 1		
12,900.0	6,972.5	12,927.0	6,974.0	171.7	171.9	-90.27	-641.6	-6,123.7	323.1	-20.2	343.31	0.941 Level 1		
13,000.0	6,972.5	13,027.0	6,974.0	174.5	174.6	-90.27	-641.1	-6,223.7	323.3	-25.6	348.90	0.927 Level 1		
13,100.0	6,972.5	13,127.0	6,974.0	177.3	177.4	-90.27	-640.6	-6,323.7	323.5	-31.0	354.50	0.913 Level 1		
13,200.0	6,972.5	13,227.0	6,974.0	180.1	180.2	-90.27	-640.1	-6,423.7	323.7	-36.4	360.09	0.899 Level 1		
13,300.0	6,972.5	13,327.0	6,974.0	182.9	183.0	-90.27	-639.5	-6,523.7	323.9	-41.7	365.69	0.886 Level 1		
13,400.0	6,972.5	13,427.0	6,974.0	185.7	185.8	-90.27	-639.0	-6,623.7	324.2	-47.1	371.29	0.873 Level 1		
13,500.0	6,972.5	13,527.0	6,974.0	188.5	188.6	-90.26	-638.5	-6,723.7	324.4	-52.5	376.89	0.861 Level 1		
13,600.0	6,972.5	13,627.0	6,974.0	191.3	191.4	-90.26	-638.0	-6,823.7	324.6	-57.9	382.49	0.849 Level 1		
13,700.0	6,972.5	13,727.0	6,974.0	194.1	194.2	-90.26	-637.5	-6,923.7	324.8	-63.3	388.09	0.837 Level 1		
13,800.0	6,972.5	13,827.0	6,974.0	196.9	197.0	-90.26	-636.9	-7,023.7	325.0	-68.7	393.69	0.826 Level 1		
13,900.0	6,972.5	13,927.0	6,974.0	199.7	199.8	-90.26	-636.4	-7,123.7	325.2	-74.1	399.29	0.815 Level 1		
14,000.0	6,972.5	14,027.0	6,974.0	202.5	202.6	-90.26	-635.9	-7,223.7	325.4	-79.4	404.89	0.804 Level 1		
14,100.0	6,972.5	14,127.0	6,974.0	205.3	205.4	-90.26	-635.4	-7,323.7	325.7	-84.8	410.49	0.793 Level 1		
14,200.0	6,972.5	14,227.0	6,974.0	208.1	208.2	-90.26	-634.8	-7,423.7	325.9	-90.2	416.10	0.783 Level 1		
14,300.0	6,972.5	14,327.0	6,974.0	210.9	211.0	-90.26	-634.3	-7,523.7	326.1	-95.6	421.70	0.773 Level 1		
14,400.0	6,972.5	14,427.0	6,974.0	213.7	213.8	-90.26	-633.8	-7,623.7	326.3	-101.0	427.30	0.764 Level 1		
14,500.0	6,972.5	14,527.0	6,974.0	216.5	216.6	-90.26	-633.3	-7,723.7	326.5	-106.4	432.91	0.754 Level 1		
14,600.0	6,972.5	14,627.0	6,974.0	219.3	219.4	-90.26	-632.7	-7,823.7	326.7	-111.8	438.51	0.745 Level 1		
14,700.0	6,972.5	14,727.0	6,974.0	222.1	222.2	-90.26	-632.2	-7,923.7	326.9	-117.2	444.11	0.736 Level 1		
14,800.0	6,972.5	14,827.0	6,974.0	224.9	225.0	-90.26	-631.7	-8,023.7	327.1	-122.6	449.72	0.727 Level 1		
14,900.0	6,972.5	14,927.0	6,974.0	227.7	227.8	-90.26	-631.2	-8,123.7	327.4	-128.0	455.33	0.719 Level 1		
15,000.0	6,972.5	15,027.0	6,974.0	230.5	230.6	-90.26	-630.6	-8,223.7	327.6	-133.4	460.93	0.711 Level 1		
15,100.0	6,972.5	15,127.0	6,974.0	233.3	233.4	-90.26	-630.1	-8,323.7	327.8	-138.8	466.54	0.703 Level 1		
15,200.0	6,972.5	15,227.0	6,974.0	236.1	236.2	-90.26	-629.6	-8,423.7	328.0	-144.1	472.14	0.695 Level 1		
15,300.0	6,972.5	15,327.0	6,974.0	238.9	239.0	-90.26	-629.1	-8,523.7	328.2	-149.5	477.75	0.687 Level 1		
15,400.0	6,972.5	15,427.0	6,974.0	241.7	241.8	-90.26	-628.5	-8,623.7	328.4	-154.9	483.36	0.679 Level 1		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #2 - Wellbore #1 - Plan #1 (6-23-1													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
15,500.0	6,972.5	15,527.0	6,974.0	244.5	244.6	-90.26	-628.0	-8,723.7	328.6	-160.3	488.97	0.672	Level 1	
15,600.0	6,972.5	15,627.0	6,974.0	247.3	247.4	-90.26	-627.5	-8,823.7	328.9	-165.7	494.57	0.665	Level 1	
15,700.0	6,972.5	15,727.0	6,974.0	250.1	250.2	-90.26	-627.0	-8,923.7	329.1	-171.1	500.18	0.658	Level 1	
15,800.0	6,972.5	15,827.0	6,974.0	252.9	253.0	-90.26	-626.4	-9,023.7	329.3	-176.5	505.79	0.651	Level 1	
15,900.0	6,972.5	15,927.0	6,974.0	255.7	255.9	-90.26	-625.9	-9,123.7	329.5	-181.9	511.40	0.644	Level 1	
16,000.0	6,972.5	16,027.0	6,974.0	258.5	258.7	-90.26	-625.4	-9,223.7	329.7	-187.3	517.01	0.638	Level 1	
16,100.0	6,972.5	16,127.0	6,974.0	261.3	261.5	-90.26	-624.9	-9,323.7	329.9	-192.7	522.62	0.631	Level 1	
16,200.0	6,972.5	16,227.0	6,974.0	264.1	264.3	-90.26	-624.3	-9,423.7	330.1	-198.1	528.22	0.625	Level 1	
16,300.0	6,972.5	16,327.0	6,974.0	267.0	267.1	-90.26	-623.8	-9,523.7	330.3	-203.5	533.83	0.619	Level 1	
16,400.0	6,972.5	16,427.0	6,974.0	269.8	269.9	-90.26	-623.3	-9,623.7	330.6	-208.9	539.44	0.613	Level 1	
16,500.0	6,972.5	16,527.0	6,974.0	272.6	272.7	-90.26	-622.8	-9,723.6	330.8	-214.3	545.05	0.607	Level 1	
16,600.0	6,972.5	16,627.0	6,974.0	275.4	275.5	-90.26	-622.2	-9,823.6	331.0	-219.7	550.66	0.601	Level 1	
16,700.0	6,972.5	16,727.0	6,974.0	278.2	278.3	-90.26	-621.7	-9,923.6	331.2	-225.1	556.27	0.595	Level 1	
16,800.0	6,972.5	16,827.0	6,974.0	281.0	281.1	-90.26	-621.2	-10,023.6	331.4	-230.5	561.89	0.590	Level 1	
16,856.2	6,972.5	16,882.6	6,974.0	282.5	282.6	-90.26	-620.9	-10,079.2	331.5	-233.5	565.01	0.587	Level 1, ES, SF	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 133-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.5	0.5	0.0	0.0	0.00	14.6	0.0	14.6	14.6	0.00	N/A		
100.0	100.0	100.5	100.5	0.1	0.1	-0.26	14.6	-0.1	14.6	14.3	0.23	64.652		
200.0	200.0	200.5	200.5	0.3	0.3	1.86	14.5	0.5	14.5	13.9	0.62	23.300		
204.5	204.5	205.0	205.0	0.3	0.3	2.22	14.5	0.6	14.5	13.9	0.64	22.599 CC, ES		
300.0	300.0	300.4	300.3	0.6	0.5	15.63	14.4	4.0	15.0	13.9	1.06	14.131		
400.0	400.0	400.1	399.8	0.8	0.7	34.80	14.4	10.0	17.6	16.1	1.52	11.610		
500.0	500.0	500.0	499.6	1.0	1.0	48.09	14.5	16.1	21.7	19.8	1.95	11.134		
600.0	600.0	599.6	599.0	1.2	1.2	55.67	15.1	22.1	26.7	24.4	2.38	11.237		
700.0	700.0	699.2	698.4	1.5	1.4	59.69	16.6	28.3	32.9	30.1	2.82	11.668		
800.0	800.0	799.3	798.2	1.7	1.7	63.30	17.6	34.9	39.2	35.9	3.26	12.031		
900.0	900.0	899.3	898.0	1.9	1.9	69.02	16.0	41.8	44.8	41.1	3.69	12.132		
1,000.0	1,000.0	999.7	998.1	2.1	2.1	74.87	13.1	48.3	50.1	46.0	4.13	12.128		
1,100.0	1,100.0	1,101.1	1,099.4	2.4	2.4	80.44	8.9	52.9	53.7	49.1	4.57	11.753		
1,200.0	1,200.0	1,201.3	1,199.5	2.6	2.6	84.76	5.1	55.2	55.4	50.4	5.00	11.091		
1,300.0	1,300.0	1,301.4	1,299.5	2.8	2.8	88.21	1.8	57.3	57.3	51.9	5.43	10.549		
1,400.0	1,400.0	1,401.5	1,399.5	3.0	3.0	91.23	-1.3	58.9	59.0	53.1	5.87	10.050		
1,500.0	1,500.0	1,500.2	1,498.1	3.3	3.2	94.69	-5.1	61.7	62.0	55.7	6.30	9.839		
1,600.0	1,600.0	1,601.0	1,598.7	3.5	3.4	-62.78	-10.6	64.3	64.4	57.7	6.72	9.586		
1,700.0	1,699.8	1,701.2	1,698.7	3.6	3.7	-62.47	-15.9	66.2	64.7	57.5	7.11	9.095		
1,800.0	1,799.6	1,801.0	1,798.4	3.8	3.9	-63.99	-20.4	68.1	64.1	56.6	7.51	8.542		
1,821.2	1,820.7	1,822.0	1,819.4	3.9	3.9	-64.35	-21.3	68.6	64.1	56.5	7.60	8.442		
1,900.0	1,899.4	1,900.0	1,897.3	4.0	4.1	-65.61	-24.8	70.9	64.6	56.7	7.92	8.154		
2,000.0	1,999.2	2,000.2	1,997.3	4.2	4.3	-66.62	-30.1	74.8	66.2	57.9	8.34	7.942		
2,100.0	2,099.0	2,099.8	2,096.7	4.4	4.6	-67.65	-35.2	77.9	67.1	58.3	8.77	7.649		
2,200.0	2,198.7	2,199.3	2,196.0	4.6	4.8	-69.22	-39.6	82.1	69.1	59.9	9.21	7.509		
2,300.0	2,298.5	2,299.1	2,295.6	4.8	5.0	-71.12	-43.5	86.8	71.6	61.9	9.65	7.418		
2,400.0	2,398.3	2,399.4	2,395.7	5.1	5.3	-72.50	-48.0	91.4	74.1	64.0	10.10	7.331		
2,500.0	2,498.1	2,500.1	2,496.2	5.3	5.5	-73.51	-52.9	95.4	75.9	65.3	10.56	7.187		
2,600.0	2,597.9	2,600.8	2,596.7	5.5	5.7	-73.64	-59.0	98.4	76.7	65.7	11.01	6.963		
2,700.0	2,697.7	2,701.0	2,696.7	5.7	6.0	-74.75	-63.7	100.6	76.9	65.4	11.48	6.698		
2,800.0	2,797.4	2,800.8	2,796.4	6.0	6.2	-76.58	-67.5	102.9	77.1	65.2	11.94	6.459		
2,900.0	2,897.2	2,900.5	2,896.0	6.2	6.4	-77.81	-72.0	105.5	77.8	65.4	12.41	6.271		
3,000.0	2,997.0	3,000.4	2,995.7	6.4	6.6	-78.31	-77.4	108.4	78.6	65.8	12.88	6.106		
3,100.0	3,096.8	3,099.9	3,095.1	6.7	6.9	-79.53	-81.8	111.6	79.9	66.6	13.35	5.987		
3,200.0	3,196.6	3,199.8	3,194.8	6.9	7.1	-81.05	-85.6	115.0	81.5	67.7	13.83	5.896		
3,300.0	3,296.3	3,299.4	3,294.2	7.2	7.3	-81.62	-90.7	119.0	83.5	69.2	14.30	5.840		
3,400.0	3,396.1	3,399.8	3,394.3	7.4	7.6	-81.43	-96.8	123.3	85.6	70.9	14.78	5.794		
3,500.0	3,495.9	3,501.1	3,495.4	7.6	7.8	-81.79	-102.4	126.3	86.6	71.3	15.27	5.672		
3,600.0	3,595.7	3,601.7	3,595.7	7.9	8.0	-81.02	-109.9	128.3	86.2	70.5	15.74	5.476		
3,700.0	3,695.5	3,701.7	3,695.4	8.1	8.3	-79.91	-117.9	130.3	85.8	69.5	16.22	5.286		
3,800.0	3,795.3	3,801.7	3,795.0	8.4	8.5	-78.75	-125.9	132.2	85.2	68.5	16.70	5.104		
3,900.0	3,895.0	3,901.8	3,894.8	8.6	8.8	-77.85	-133.5	134.1	84.8	67.6	17.18	4.936		
4,000.0	3,994.8	4,001.9	3,994.7	8.9	9.0	-77.31	-140.6	135.8	84.2	66.5	17.66	4.766		
4,082.7	4,077.3	4,084.0	4,076.6	9.1	9.2	-77.63	-145.4	137.1	83.8	65.7	18.06	4.640		
4,100.0	4,094.6	4,101.1	4,093.7	9.1	9.2	-77.77	-146.2	137.5	83.8	65.7	18.14	4.619		
4,200.0	4,194.4	4,201.2	4,193.7	9.4	9.4	-79.03	-150.6	139.7	84.1	65.5	18.63	4.516		
4,300.0	4,294.2	4,301.2	4,293.6	9.6	9.7	-80.88	-154.1	141.6	84.3	65.2	19.13	4.408		
4,400.0	4,393.9	4,401.5	4,393.9	9.9	9.9	-82.99	-157.3	143.3	84.4	64.8	19.62	4.301		
4,500.0	4,493.7	4,502.0	4,494.3	10.1	10.1	-85.07	-160.7	144.4	84.0	63.9	20.12	4.177		
4,600.0	4,593.5	4,602.4	4,594.6	10.4	10.3	-87.43	-163.9	144.8	83.1	62.5	20.61	4.034		
4,700.0	4,693.3	4,701.8	4,694.0	10.6	10.5	-90.16	-166.5	145.2	82.5	61.4	21.09	3.911		
4,720.0	4,713.2	4,721.6	4,713.8	10.7	10.6	-90.73	-167.0	145.3	82.5	61.3	21.19	3.892		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design		Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #4 - Wellbore #1 - Wellbore #1										Offset Site Error:		0.0 ft		
Survey Program: 133-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
4,800.0	4,793.1	4,801.0	4,793.2	10.9	10.7	-93.22	-168.5	146.0	82.8	61.3	21.57	3.840				
4,900.0	4,892.8	4,900.9	4,893.1	11.1	10.9	-96.46	-170.1	147.1	83.7	61.7	22.04	3.800				
5,000.0	4,992.6	5,000.8	4,993.0	11.4	11.1	-99.85	-171.3	148.0	84.9	62.4	22.50	3.774				
5,100.0	5,092.4	5,100.8	5,092.9	11.7	11.3	-103.34	-172.3	148.8	86.4	63.4	22.94	3.765				
5,200.0	5,192.2	5,200.9	5,193.0	11.9	11.6	-106.96	-173.2	149.1	87.8	64.5	23.38	3.757				
5,300.0	5,292.0	5,300.7	5,292.8	12.2	11.7	-110.50	-174.0	149.3	89.7	65.9	23.80	3.770				
5,400.0	5,391.8	5,400.6	5,392.8	12.4	11.9	-114.28	-174.4	149.0	91.7	67.5	24.20	3.788				
5,500.0	5,491.5	5,500.1	5,492.3	12.7	12.1	-117.25	-175.5	149.5	94.1	69.5	24.60	3.825				
5,600.0	5,591.3	5,599.7	5,591.8	12.9	12.4	-119.70	-176.7	150.7	97.2	72.2	25.01	3.887				
5,700.0	5,691.1	5,699.8	5,691.9	13.2	12.6	-121.91	-177.9	152.1	100.6	75.1	25.42	3.956				
5,800.0	5,790.9	5,799.4	5,791.5	13.4	12.8	-124.20	-179.1	153.0	103.8	78.0	25.82	4.021				
5,900.0	5,890.7	5,898.7	5,890.8	13.7	13.0	-126.87	-179.2	153.5	107.8	81.6	26.21	4.113				
6,000.0	5,990.4	5,998.5	5,990.6	13.9	13.2	-129.34	-179.1	154.1	112.3	85.7	26.60	4.223				
6,100.0	6,090.2	6,098.6	6,090.6	14.2	13.4	-131.23	-179.6	155.2	116.8	89.8	26.99	4.327				
6,200.0	6,190.0	6,198.0	6,190.1	14.5	13.6	-132.87	-180.2	156.6	121.4	94.0	27.40	4.430				
6,300.0	6,289.8	6,297.7	6,289.7	14.7	13.8	-134.39	-180.4	158.0	127.1	99.3	27.77	4.575				
6,400.0	6,388.9	6,397.3	6,389.3	14.9	14.0	-138.74	-180.8	159.3	138.3	110.2	28.07	4.928				
6,500.0	6,485.4	6,503.1	6,495.0	15.1	14.2	-136.34	-181.2	156.0	155.4	127.2	28.14	5.522				
6,600.0	6,577.5	6,611.8	6,602.3	15.2	14.3	-137.21	-179.7	138.6	175.7	147.9	27.83	6.314				
6,700.0	6,663.3	6,738.3	6,722.7	15.4	14.5	-140.27	-183.0	100.7	193.4	166.3	27.15	7.123				
6,800.0	6,741.3	6,858.8	6,829.5	15.6	14.6	-142.43	-186.4	45.5	209.6	183.4	26.25	7.987				
6,900.0	6,809.8	6,986.6	6,929.2	15.9	14.9	-143.19	-188.0	-34.3	222.1	196.6	25.46	8.724				
7,000.0	6,867.6	7,129.6	7,020.2	16.6	15.7	-142.27	-184.6	-143.9	232.6	207.2	25.37	9.167				
7,100.0	6,913.6	7,269.1	7,078.9	17.7	17.2	-139.77	-182.6	-270.2	231.8	205.2	26.60	8.714				
7,196.7	6,945.9	7,381.9	7,111.1	19.1	18.8	-138.06	-181.8	-378.3	230.0	201.5	28.59	8.047				
7,200.0	6,946.7	7,385.4	7,112.0	19.1	18.9	-138.03	-181.8	-381.6	230.1	201.4	28.65	8.029				
7,300.0	6,966.5	7,505.4	7,137.3	20.9	21.0	-138.13	-183.6	-498.9	231.1	200.1	31.03	7.449				
7,400.0	6,972.5	7,623.7	7,146.6	22.8	23.4	-138.37	-184.5	-616.8	232.4	198.4	33.99	6.838				
7,500.0	6,972.5	7,719.2	7,149.3	24.9	25.5	-138.33	-182.2	-712.2	236.3	199.4	36.83	6.415				
7,600.0	6,972.5	7,820.6	7,151.2	27.2	27.9	-137.88	-178.3	-813.5	240.4	200.2	40.16	5.986				
7,700.0	6,972.5	7,922.9	7,152.0	29.5	30.3	-137.28	-174.4	-915.7	243.7	199.9	43.79	5.566				
7,800.0	6,972.5	8,024.5	7,152.2	31.9	32.8	-136.74	-171.3	-1,017.3	246.1	198.6	47.54	5.177				
7,900.0	6,972.5	8,125.0	7,152.2	34.4	35.3	-136.28	-168.7	-1,117.7	248.0	196.7	51.36	4.829				
8,000.0	6,972.5	8,223.6	7,151.5	36.9	37.8	-135.55	-165.2	-1,216.2	250.1	194.6	55.48	4.508				
8,100.0	6,972.5	8,322.3	7,151.1	39.5	40.3	-134.81	-161.1	-1,314.9	252.9	193.1	59.76	4.231				
8,200.0	6,972.5	8,423.1	7,151.0	42.1	42.9	-134.14	-157.1	-1,415.6	255.7	191.6	64.14	3.987				
8,300.0	6,972.5	8,523.5	7,152.0	44.7	45.6	-133.90	-154.7	-1,516.0	258.2	190.0	68.21	3.785				
8,400.0	6,972.5	8,623.4	7,153.2	47.3	48.2	-133.76	-152.5	-1,615.8	260.6	188.4	72.25	3.608				
8,500.0	6,972.5	8,724.9	7,154.5	50.0	50.9	-133.71	-150.9	-1,717.3	262.7	186.5	76.25	3.445				
8,600.0	6,972.5	8,819.9	7,155.9	52.7	53.5	-133.59	-148.6	-1,812.3	265.5	185.3	80.25	3.309				
8,700.0	6,972.5	8,917.3	7,157.3	55.3	56.1	-133.16	-144.2	-1,909.5	269.7	185.0	84.70	3.185				
8,800.0	6,972.5	9,018.3	7,158.5	58.0	58.8	-132.61	-139.1	-2,010.4	274.2	184.8	89.42	3.066				
8,900.0	6,972.5	9,119.6	7,159.1	60.8	61.6	-132.03	-134.2	-2,111.6	278.1	183.8	94.27	2.950				
9,000.0	6,972.5	9,220.9	7,159.1	63.5	64.4	-131.40	-129.4	-2,212.7	281.6	182.4	99.26	2.837				
9,100.0	6,972.5	9,323.5	7,159.0	66.2	67.2	-130.86	-125.3	-2,315.2	284.4	180.2	104.22	2.729				
9,200.0	6,972.5	9,427.3	7,158.8	68.9	70.0	-130.51	-122.7	-2,419.0	286.1	177.1	109.01	2.624				
9,300.0	6,972.5	9,530.7	7,159.4	71.7	72.8	-130.60	-122.6	-2,522.4	286.3	173.1	113.20	2.530				
9,400.0	6,972.5	9,633.3	7,158.9	74.4	75.6	-130.62	-123.0	-2,625.0	285.6	168.1	117.47	2.431				
9,500.0	6,972.5	9,736.2	7,158.1	77.2	78.5	-130.72	-124.4	-2,727.9	283.9	162.3	121.64	2.334				
9,600.0	6,972.5	9,838.0	7,157.6	79.9	81.3	-131.04	-127.2	-2,829.7	281.3	155.9	125.39	2.243				
9,700.0	6,972.5	9,940.0	7,157.5	82.7	84.0	-131.62	-131.3	-2,931.6	278.0	149.3	128.67	2.160				
9,800.0	6,972.5	10,043.2	7,158.0	85.4	86.9	-132.61	-137.4	-3,034.6	273.7	142.5	131.16	2.086				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 133-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,900.0	6,972.5	10,140.3	7,159.3	88.2	89.5	133.79	-143.9	-3,131.5	269.4	136.4	133.01	2.025	
10,000.0	6,972.5	10,238.3	7,160.6	90.9	92.2	134.90	-149.6	-3,229.3	265.9	131.1	134.84	1.972	
10,100.0	6,972.5	10,334.6	7,161.9	93.7	94.9	135.75	-153.5	-3,325.5	263.7	126.7	137.02	1.925	
10,200.0	6,972.5	10,434.7	7,163.0	96.5	97.6	136.47	-156.5	-3,425.5	262.1	122.6	139.44	1.880	
10,300.0	6,972.5	10,534.7	7,164.2	99.3	100.4	137.23	-159.7	-3,525.5	260.5	118.8	141.66	1.839	
10,400.0	6,972.5	10,634.8	7,165.2	102.0	103.2	137.98	-162.9	-3,625.6	258.8	115.0	143.80	1.800	
10,500.0	6,972.5	10,735.2	7,165.3	104.8	106.0	138.43	-164.9	-3,726.0	257.1	110.6	146.57	1.754	
10,600.0	6,972.5	10,836.9	7,164.1	107.6	108.8	138.59	-166.5	-3,827.7	254.8	104.8	150.02	1.699	
10,700.0	6,972.5	10,935.1	7,163.0	110.4	111.5	138.85	-168.4	-3,925.8	252.4	99.3	153.11	1.648	
10,800.0	6,972.5	11,034.1	7,163.7	113.1	114.2	139.46	-170.7	-4,024.7	250.9	95.7	155.28	1.616	
10,900.0	6,972.5	11,136.1	7,163.8	115.9	117.1	139.99	-173.0	-4,126.7	249.1	91.5	157.63	1.581	
11,000.0	6,972.5	11,233.6	7,163.5	118.7	119.8	140.44	-175.1	-4,224.2	247.1	87.0	160.04	1.544	
11,100.0	6,972.5	11,332.4	7,164.7	121.5	122.5	141.14	-177.4	-4,323.0	246.2	84.5	161.70	1.522	
11,200.0	6,972.5	11,432.6	7,165.8	124.3	125.3	141.80	-179.4	-4,423.2	245.3	81.9	163.36	1.502	
11,300.0	6,972.5	11,531.9	7,166.6	127.1	128.1	142.37	-181.1	-4,522.5	244.5	79.3	165.22	1.480 Level 3	
11,400.0	6,972.5	11,631.9	7,166.5	129.9	130.9	142.49	-181.1	-4,622.4	243.9	75.5	168.41	1.448 Level 3	
11,500.0	6,972.5	11,730.5	7,165.6	132.6	133.6	142.26	-179.8	-4,721.0	243.6	70.9	172.69	1.411 Level 3	
11,600.0	6,972.5	11,831.8	7,164.9	135.4	136.4	142.08	-178.6	-4,822.3	243.3	66.4	176.90	1.375 Level 3	
11,670.0	6,972.5	11,901.8	7,164.3	137.4	138.4	141.98	-178.0	-4,892.3	242.9	63.1	179.77	1.351 Level 3	
11,700.0	6,972.5	11,915.0	7,164.2	138.2	138.8	141.96	-177.9	-4,905.5	243.3	62.7	180.61	1.347 Level 3, SF	
11,800.0	6,972.5	11,915.0	7,164.2	141.0	138.8	141.96	-177.9	-4,905.5	268.9	86.5	182.42	1.474 Level 3	
11,900.0	6,972.5	11,915.0	7,164.2	143.8	138.8	141.96	-177.9	-4,905.5	324.6	140.4	184.23	1.762	
12,000.0	6,972.5	11,915.0	7,164.2	146.6	138.8	141.96	-177.9	-4,905.5	398.1	212.0	186.03	2.140	
12,100.0	6,972.5	11,915.0	7,164.2	149.4	138.8	141.96	-177.9	-4,905.5	481.2	293.4	187.84	2.562	
12,200.0	6,972.5	11,915.0	7,164.2	152.2	138.8	141.96	-177.9	-4,905.5	569.8	380.1	189.65	3.004	
12,300.0	6,972.5	11,915.0	7,164.2	155.0	138.8	141.96	-177.9	-4,905.5	661.6	470.2	191.45	3.456	
12,400.0	6,972.5	11,915.0	7,164.2	157.7	138.8	141.96	-177.9	-4,905.5	755.5	562.3	193.26	3.909	
12,500.0	6,972.5	11,915.0	7,164.2	160.5	138.8	141.96	-177.9	-4,905.5	850.8	655.8	195.07	4.362	
12,600.0	6,972.5	11,915.0	7,164.2	163.3	138.8	141.96	-177.9	-4,905.5	947.1	750.2	196.88	4.810	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	32.8	0.0	32.8					
100.0	100.0	100.0	100.0	0.1	0.1	0.00	32.8	0.0	32.8	32.6	0.22	145.860		
200.0	200.0	200.0	200.0	0.3	0.3	0.00	32.8	0.0	32.8	32.1	0.67	48.620		
300.0	300.0	300.0	300.0	0.6	0.6	0.00	32.8	0.0	32.8	31.7	1.12	29.172		
400.0	400.0	400.0	400.0	0.8	0.8	0.00	32.8	0.0	32.8	31.2	1.57	20.837		
500.0	500.0	500.0	500.0	1.0	1.0	0.00	32.8	0.0	32.8	30.8	2.02	16.207		
600.0	600.0	600.0	600.0	1.2	1.2	0.00	32.8	0.0	32.8	30.3	2.47	13.260		
700.0	700.0	700.0	700.0	1.5	1.5	0.00	32.8	0.0	32.8	29.9	2.92	11.220		
800.0	800.0	800.0	800.0	1.7	1.7	0.00	32.8	0.0	32.8	29.4	3.37	9.724		
900.0	900.0	900.0	900.0	1.9	1.9	0.00	32.8	0.0	32.8	29.0	3.82	8.580		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	32.8	0.0	32.8	28.5	4.27	7.677		
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	32.8	0.0	32.8	28.1	4.72	6.946		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	32.8	0.0	32.8	27.6	5.17	6.342		
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	0.00	32.8	0.0	32.8	27.2	5.62	5.834		
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	0.00	32.8	0.0	32.8	26.7	6.07	5.402		
1,500.0	1,500.0	1,500.0	1,500.0	3.3	3.3	0.00	32.8	0.0	32.8	26.3	6.52	5.030 CC		
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-161.79	32.8	0.0	34.4	27.5	6.94	4.964		
1,700.0	1,699.8	1,699.8	1,699.8	3.6	3.7	-164.14	32.8	0.0	39.4	32.1	7.33	5.379		
1,800.0	1,799.6	1,799.6	1,799.6	3.8	3.9	-166.39	32.8	0.0	45.8	38.1	7.73	5.925		
1,900.0	1,899.4	1,899.4	1,899.4	4.0	4.2	-168.10	32.8	0.0	52.3	44.1	8.14	6.420		
2,000.0	1,999.2	1,999.2	1,999.2	4.2	4.4	-169.43	32.8	0.0	58.7	50.2	8.55	6.868		
2,100.0	2,099.0	2,099.0	2,099.0	4.4	4.6	-170.49	32.8	0.0	65.2	56.3	8.97	7.274		
2,200.0	2,198.7	2,198.7	2,198.7	4.6	4.8	-171.36	32.8	0.0	71.8	62.4	9.39	7.643		
2,300.0	2,298.5	2,298.5	2,298.5	4.8	5.1	-172.09	32.8	0.0	78.3	68.5	9.81	7.980		
2,400.0	2,398.3	2,398.3	2,398.3	5.1	5.3	-172.70	32.8	0.0	84.9	74.6	10.24	8.288		
2,500.0	2,498.1	2,498.1	2,498.1	5.3	5.5	-173.23	32.8	0.0	91.4	80.8	10.67	8.570		
2,600.0	2,597.9	2,597.9	2,597.9	5.5	5.7	-173.68	32.8	0.0	98.0	86.9	11.10	8.830		
2,700.0	2,697.7	2,697.7	2,697.7	5.7	6.0	-174.08	32.8	0.0	104.6	93.0	11.53	9.069		
2,800.0	2,797.4	2,797.4	2,797.4	6.0	6.2	-174.43	32.8	0.0	111.1	99.2	11.96	9.290		
2,900.0	2,897.2	2,897.2	2,897.2	6.2	6.4	-174.75	32.8	0.0	117.7	105.3	12.40	9.495		
3,000.0	2,997.0	2,997.0	2,997.0	6.4	6.6	-175.02	32.8	0.0	124.3	111.5	12.83	9.685		
3,100.0	3,096.8	3,096.8	3,096.8	6.7	6.8	-175.28	32.8	0.0	130.9	117.6	13.27	9.862		
3,200.0	3,196.6	3,196.6	3,196.6	6.9	7.1	-175.50	32.8	0.0	137.5	123.7	13.71	10.027		
3,300.0	3,296.3	3,296.3	3,296.3	7.2	7.3	-175.71	32.8	0.0	144.0	129.9	14.15	10.181		
3,400.0	3,396.1	3,396.1	3,396.1	7.4	7.5	-175.90	32.8	0.0	150.6	136.0	14.59	10.325		
3,500.0	3,495.9	3,495.9	3,495.9	7.6	7.7	-176.07	32.8	0.0	157.2	142.2	15.03	10.461		
3,600.0	3,595.7	3,595.7	3,595.7	7.9	8.0	-176.23	32.8	0.0	163.8	148.3	15.47	10.588		
3,700.0	3,695.5	3,695.5	3,695.5	8.1	8.2	-176.37	32.8	0.0	170.4	154.5	15.91	10.708		
3,800.0	3,795.3	3,795.3	3,795.3	8.4	8.4	-176.51	32.8	0.0	177.0	160.6	16.36	10.821		
3,900.0	3,895.0	3,895.0	3,895.0	8.6	8.6	-176.63	32.8	0.0	183.6	166.8	16.80	10.928		
4,000.0	3,994.8	3,994.8	3,994.8	8.9	8.9	-176.75	32.8	0.0	190.2	172.9	17.24	11.029		
4,100.0	4,094.6	4,094.6	4,094.6	9.1	9.1	-176.45	32.3	1.6	195.9	178.2	17.68	11.081		
4,200.0	4,194.4	4,199.5	4,199.4	9.4	9.3	-175.44	31.0	6.1	200.1	182.0	18.10	11.058		
4,300.0	4,294.2	4,299.4	4,299.1	9.6	9.5	-174.42	29.6	10.7	204.2	185.7	18.51	11.031		
4,400.0	4,393.9	4,399.2	4,398.9	9.9	9.7	-173.44	28.2	15.4	208.4	189.5	18.93	11.007		
4,500.0	4,493.7	4,499.1	4,498.6	10.1	9.9	-172.50	26.9	20.0	212.6	193.3	19.36	10.985		
4,600.0	4,593.5	4,598.9	4,598.3	10.4	10.1	-171.60	25.5	24.7	216.9	197.1	19.78	10.966		
4,700.0	4,693.3	4,698.8	4,698.1	10.6	10.3	-170.73	24.1	29.3	221.3	201.0	20.21	10.949		
4,800.0	4,793.1	4,798.6	4,797.8	10.9	10.5	-169.89	22.7	34.0	225.6	205.0	20.64	10.933		
4,900.0	4,892.8	4,898.5	4,897.5	11.1	10.7	-169.09	21.4	38.6	230.1	209.0	21.07	10.919		
5,000.0	4,992.6	4,998.3	4,997.3	11.4	10.9	-168.32	20.0	43.3	234.6	213.1	21.51	10.907		
5,100.0	5,092.4	5,098.2	5,097.0	11.7	11.1	-167.57	18.6	47.9	239.1	217.1	21.94	10.895		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,192.2	5,198.0	5,196.7	11.9	11.3	-166.86	17.2	52.6	243.6	221.3	22.38	10.885	
5,300.0	5,292.0	5,297.9	5,296.5	12.2	11.5	-166.17	15.9	57.3	248.2	225.4	22.82	10.876	
5,400.0	5,391.8	5,397.7	5,396.2	12.4	11.7	-165.50	14.5	61.9	252.9	229.6	23.26	10.869	
5,500.0	5,491.5	5,497.6	5,495.9	12.7	11.9	-164.86	13.1	66.6	257.5	233.8	23.71	10.861	
5,600.0	5,591.3	5,597.4	5,595.7	12.9	12.2	-164.24	11.7	71.2	262.2	238.1	24.16	10.855	
5,700.0	5,691.1	5,697.3	5,695.4	13.2	12.4	-163.65	10.4	75.9	266.9	242.3	24.60	10.850	
5,800.0	5,790.9	5,797.1	5,795.1	13.4	12.6	-163.07	9.0	80.5	271.7	246.6	25.05	10.845	
5,900.0	5,890.7	5,897.0	5,894.9	13.7	12.8	-162.52	7.6	85.2	276.5	251.0	25.50	10.841	
6,000.0	5,990.4	5,996.8	5,994.6	13.9	13.0	-161.98	6.2	89.8	281.3	255.3	25.95	10.837	
6,100.0	6,090.2	6,096.7	6,094.3	14.2	13.2	-161.46	4.8	94.5	286.1	259.7	26.41	10.834	
6,200.0	6,190.0	6,196.5	6,194.1	14.5	13.5	-160.96	3.5	99.2	290.9	264.1	26.86	10.831	
6,300.0	6,289.8	6,296.4	6,293.9	14.7	13.7	-144.41	2.1	100.3	295.8	268.5	27.28	10.843	
6,400.0	6,388.9	6,396.2	6,392.8	14.9	13.8	-108.36	0.7	88.2	300.7	273.1	27.62	10.886	
6,500.0	6,485.4	6,495.9	6,489.1	15.1	14.0	-100.12	-0.6	62.4	305.5	277.5	27.93	10.935	
6,600.0	6,577.5	6,595.6	6,580.7	15.2	14.2	96.49	-1.9	23.6	310.1	281.8	28.28	10.963	
6,700.0	6,663.3	6,695.1	6,666.1	15.4	14.4	94.37	-3.0	-27.5	314.5	285.7	28.77	10.930	
6,800.0	6,741.3	6,794.6	6,743.5	15.6	14.8	92.96	-4.1	-89.9	318.5	288.9	29.53	10.786	
6,900.0	6,809.8	6,894.1	6,811.5	15.9	15.4	91.95	-5.0	-162.4	322.1	291.4	30.71	10.487	
7,000.0	6,867.6	6,993.5	6,868.7	16.6	16.3	91.21	-5.8	-243.6	325.2	292.7	32.45	10.019	
7,100.0	6,913.6	7,092.9	6,914.2	17.7	17.5	90.67	-6.5	-331.9	327.7	292.9	34.83	9.409	
7,200.0	6,946.7	7,192.3	6,947.0	19.1	19.0	90.31	-6.9	-425.6	329.6	291.8	37.83	8.714	
7,300.0	6,966.5	7,291.7	6,966.6	20.9	20.8	90.08	-7.2	-522.9	330.9	289.6	41.36	8.001	
7,400.0	6,972.5	7,391.1	6,972.5	22.8	22.8	90.00	-7.3	-622.1	331.6	286.3	45.29	7.321	
7,500.0	6,972.5	7,491.1	6,972.5	24.9	24.9	90.00	-7.3	-722.1	331.9	282.3	49.55	6.697	
7,600.0	6,972.5	7,591.1	6,972.5	27.2	27.1	90.00	-7.3	-822.1	332.2	278.1	54.06	6.144	
7,700.0	6,972.5	7,691.1	6,972.5	29.5	29.5	90.00	-7.3	-922.1	332.4	273.7	58.76	5.657	
7,800.0	6,972.5	7,791.1	6,972.5	31.9	31.9	90.00	-7.3	-1,022.1	332.6	269.0	63.60	5.230	
7,900.0	6,972.5	7,891.1	6,972.5	34.4	34.4	90.00	-7.3	-1,122.1	332.8	264.3	68.57	4.854	
8,000.0	6,972.5	7,991.1	6,972.5	36.9	36.9	90.00	-7.3	-1,222.1	333.0	259.4	73.63	4.523	
8,100.0	6,972.5	8,091.1	6,972.5	39.5	39.5	90.00	-7.3	-1,322.1	333.2	254.4	78.76	4.230	
8,200.0	6,972.5	8,191.1	6,972.5	42.1	42.1	90.00	-7.3	-1,422.1	333.3	249.3	83.96	3.970	
8,300.0	6,972.5	8,291.1	6,972.5	44.7	44.7	90.00	-7.3	-1,522.1	333.4	244.2	89.21	3.737	
8,400.0	6,972.5	8,391.1	6,972.5	47.3	47.3	90.00	-7.3	-1,622.1	333.4	239.0	94.49	3.529	
8,500.0	6,972.5	8,491.1	6,972.5	50.0	50.0	90.00	-7.3	-1,722.1	333.5	233.7	99.82	3.341	
8,600.0	6,972.5	8,591.1	6,972.5	52.7	52.7	90.00	-7.3	-1,822.1	333.5	228.3	105.18	3.171	
8,700.0	6,972.5	8,691.1	6,972.5	55.3	55.4	90.00	-7.3	-1,922.1	333.5	222.9	110.56	3.016	
8,800.0	6,972.5	8,791.1	6,972.5	58.0	58.1	90.00	-7.3	-2,022.1	333.4	217.5	115.96	2.875	
8,900.0	6,972.5	8,891.1	6,972.5	60.8	60.8	90.00	-7.3	-2,122.1	333.3	212.0	121.38	2.746	
9,000.0	6,972.5	8,991.1	6,972.5	63.5	63.5	90.00	-7.3	-2,222.1	333.2	206.4	126.82	2.628	
9,100.0	6,972.5	9,091.1	6,972.5	66.2	66.2	90.00	-7.3	-2,322.1	333.1	200.8	132.28	2.518	
9,200.0	6,972.5	9,191.1	6,972.5	68.9	68.9	90.00	-7.3	-2,422.1	332.9	195.2	137.75	2.417	
9,300.0	6,972.5	9,291.1	6,972.5	71.7	71.7	90.00	-7.3	-2,522.1	332.8	189.5	143.23	2.323	
9,400.0	6,972.5	9,391.1	6,972.5	74.4	74.4	90.00	-7.3	-2,622.1	332.5	183.8	148.72	2.236	
9,500.0	6,972.5	9,491.1	6,972.5	77.2	77.2	90.00	-7.3	-2,722.1	332.3	178.1	154.22	2.155	
9,600.0	6,972.5	9,591.1	6,972.5	79.9	79.9	90.00	-7.3	-2,822.1	332.0	172.3	159.72	2.079	
9,700.0	6,972.5	9,691.1	6,972.5	82.7	82.7	90.00	-7.3	-2,922.1	331.7	166.5	165.24	2.008	
9,800.0	6,972.5	9,791.1	6,972.5	85.4	85.4	90.00	-7.3	-3,022.1	331.4	160.6	170.76	1.941	
9,900.0	6,972.5	9,891.1	6,972.5	88.2	88.2	90.00	-7.3	-3,122.1	331.0	154.7	176.29	1.878	
10,000.0	6,972.5	9,991.1	6,972.5	90.9	91.0	90.00	-7.3	-3,222.1	330.6	148.8	181.82	1.819	
10,100.0	6,972.5	10,091.1	6,972.5	93.7	93.7	90.00	-7.3	-3,322.1	330.2	142.9	187.36	1.763	
10,200.0	6,972.5	10,191.1	6,972.5	96.5	96.5	90.00	-7.3	-3,422.1	329.8	136.9	192.90	1.710	
10,300.0	6,972.5	10,291.1	6,972.5	99.3	99.3	90.00	-7.3	-3,522.1	329.3	130.9	198.45	1.659	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,400.0	6,972.5	10,391.1	6,972.5	102.0	102.1	90.00	-7.3	-3,622.1	328.8	124.8	204.00	1.612		
10,500.0	6,972.5	10,491.1	6,972.5	104.8	104.8	90.00	-7.3	-3,722.1	328.3	118.7	209.55	1.567		
10,600.0	6,972.5	10,591.1	6,972.5	107.6	107.6	90.00	-7.3	-3,822.1	327.7	112.6	215.11	1.524		
10,700.0	6,972.5	10,691.1	6,972.5	110.4	110.4	90.00	-7.3	-3,922.1	327.2	106.5	220.67	1.483 Level 3		
10,800.0	6,972.5	10,791.1	6,972.5	113.1	113.2	90.00	-7.3	-4,022.1	326.5	100.3	226.23	1.443 Level 3		
10,900.0	6,972.5	10,891.1	6,972.5	115.9	116.0	90.00	-7.3	-4,122.1	325.9	94.1	231.80	1.406 Level 3		
11,000.0	6,972.5	10,991.1	6,972.5	118.7	118.7	90.00	-7.3	-4,222.1	325.2	87.9	237.37	1.370 Level 3		
11,100.0	6,972.5	11,091.1	6,972.5	121.5	121.5	90.00	-7.3	-4,322.1	324.6	81.6	242.94	1.336 Level 3		
11,200.0	6,972.5	11,191.0	6,972.5	124.3	124.3	90.00	-7.3	-4,422.1	323.8	75.3	248.51	1.303 Level 3		
11,300.0	6,972.5	11,291.0	6,972.5	127.1	127.1	90.00	-7.3	-4,522.1	323.1	69.0	254.08	1.272 Level 3		
11,400.0	6,972.5	11,391.0	6,972.5	129.9	129.9	90.00	-7.3	-4,622.1	322.4	62.7	259.66	1.241 Level 2		
11,500.0	6,972.5	11,491.0	6,972.5	132.6	132.7	90.00	-7.3	-4,722.1	321.6	56.4	265.23	1.213 Level 2		
11,600.0	6,972.5	11,591.0	6,972.5	135.4	135.5	90.00	-7.3	-4,822.0	320.9	50.1	270.81	1.185 Level 2		
11,700.0	6,972.5	11,691.0	6,972.5	138.2	138.3	90.00	-7.3	-4,922.0	320.1	43.8	276.39	1.158 Level 2		
11,800.0	6,972.5	11,791.0	6,972.5	141.0	141.1	90.00	-7.3	-5,022.0	319.4	37.4	281.97	1.133 Level 2		
11,900.0	6,972.5	11,891.0	6,972.5	143.8	143.8	90.00	-7.3	-5,122.0	318.7	31.1	287.55	1.108 Level 2		
12,000.0	6,972.5	11,991.0	6,972.5	146.6	146.6	90.00	-7.3	-5,222.0	317.9	24.8	293.14	1.085 Level 2		
12,100.0	6,972.5	12,091.0	6,972.5	149.4	149.4	90.00	-7.3	-5,322.0	317.2	18.5	298.72	1.062 Level 2		
12,200.0	6,972.5	12,191.0	6,972.5	152.2	152.2	90.00	-7.3	-5,422.0	316.5	12.1	304.31	1.040 Level 2		
12,300.0	6,972.5	12,291.0	6,972.5	155.0	155.0	90.00	-7.3	-5,522.0	315.7	5.8	309.89	1.019 Level 2		
12,400.0	6,972.5	12,391.0	6,972.5	157.7	157.8	90.00	-7.3	-5,622.0	315.0	-0.5	315.48	0.998 Level 1		
12,500.0	6,972.5	12,491.0	6,972.5	160.5	160.6	90.00	-7.3	-5,722.0	314.2	-6.8	321.07	0.979 Level 1		
12,600.0	6,972.5	12,591.0	6,972.5	163.3	163.4	90.00	-7.3	-5,822.0	313.5	-13.2	326.66	0.960 Level 1		
12,700.0	6,972.5	12,691.0	6,972.5	166.1	166.2	90.00	-7.3	-5,922.0	312.8	-19.5	332.25	0.941 Level 1		
12,800.0	6,972.5	12,791.0	6,972.5	168.9	169.0	90.00	-7.3	-6,022.0	312.0	-25.8	337.85	0.924 Level 1		
12,900.0	6,972.5	12,891.0	6,972.5	171.7	171.8	90.00	-7.3	-6,122.0	311.3	-32.1	343.44	0.906 Level 1		
13,000.0	6,972.5	12,991.0	6,972.5	174.5	174.6	90.00	-7.3	-6,222.0	310.6	-38.5	349.03	0.890 Level 1		
13,100.0	6,972.5	13,091.0	6,972.5	177.3	177.4	90.00	-7.3	-6,322.0	309.8	-44.8	354.63	0.874 Level 1		
13,200.0	6,972.5	13,191.0	6,972.5	180.1	180.2	90.00	-7.3	-6,422.0	309.1	-51.1	360.22	0.858 Level 1		
13,300.0	6,972.5	13,291.0	6,972.5	182.9	183.0	90.00	-7.3	-6,522.0	308.3	-57.5	365.82	0.843 Level 1		
13,400.0	6,972.5	13,391.0	6,972.5	185.7	185.8	90.00	-7.3	-6,622.0	307.6	-63.8	371.42	0.828 Level 1		
13,500.0	6,972.5	13,491.0	6,972.5	188.5	188.6	90.00	-7.3	-6,722.0	306.9	-70.2	377.02	0.814 Level 1		
13,600.0	6,972.5	13,591.0	6,972.5	191.3	191.4	90.00	-7.3	-6,822.0	306.1	-76.5	382.61	0.800 Level 1		
13,700.0	6,972.5	13,691.0	6,972.5	194.1	194.2	90.00	-7.3	-6,922.0	305.4	-82.8	388.21	0.787 Level 1		
13,800.0	6,972.5	13,791.0	6,972.5	196.9	197.0	90.00	-7.3	-7,022.0	304.7	-89.2	393.81	0.774 Level 1		
13,900.0	6,972.5	13,891.0	6,972.5	199.7	199.8	90.00	-7.3	-7,122.0	303.9	-95.5	399.41	0.761 Level 1		
14,000.0	6,972.5	13,991.0	6,972.5	202.5	202.6	90.00	-7.3	-7,222.0	303.2	-101.8	405.01	0.749 Level 1		
14,100.0	6,972.5	14,091.0	6,972.5	205.3	205.4	90.00	-7.3	-7,322.0	302.4	-108.2	410.61	0.737 Level 1		
14,200.0	6,972.5	14,191.0	6,972.5	208.1	208.2	90.00	-7.3	-7,422.0	301.7	-114.5	416.22	0.725 Level 1		
14,300.0	6,972.5	14,291.0	6,972.5	210.9	211.0	90.00	-7.3	-7,522.0	301.0	-120.9	421.82	0.713 Level 1		
14,400.0	6,972.5	14,391.0	6,972.5	213.7	213.8	90.00	-7.3	-7,622.0	300.2	-127.2	427.42	0.702 Level 1		
14,500.0	6,972.5	14,491.0	6,972.5	216.5	216.6	90.00	-7.3	-7,722.0	299.5	-133.5	433.02	0.692 Level 1		
14,600.0	6,972.5	14,591.0	6,972.5	219.3	219.4	90.00	-7.3	-7,822.0	298.8	-139.9	438.63	0.681 Level 1		
14,700.0	6,972.5	14,691.0	6,972.5	222.1	222.2	90.00	-7.3	-7,922.0	298.0	-146.2	444.23	0.671 Level 1		
14,800.0	6,972.5	14,791.0	6,972.5	224.9	225.0	90.00	-7.3	-8,022.0	297.3	-152.6	449.83	0.661 Level 1		
14,900.0	6,972.5	14,890.9	6,972.5	227.7	227.8	90.00	-7.3	-8,122.0	296.5	-158.9	455.44	0.651 Level 1		
15,000.0	6,972.5	14,990.9	6,972.5	230.5	230.6	90.00	-7.3	-8,222.0	295.8	-165.2	461.04	0.642 Level 1		
15,100.0	6,972.5	15,090.9	6,972.5	233.3	233.4	90.00	-7.3	-8,322.0	295.1	-171.6	466.65	0.632 Level 1		
15,200.0	6,972.5	15,190.9	6,972.5	236.1	236.2	90.00	-7.3	-8,421.9	294.3	-177.9	472.25	0.623 Level 1		
15,300.0	6,972.5	15,290.9	6,972.5	238.9	239.0	90.00	-7.3	-8,521.9	293.6	-184.3	477.86	0.614 Level 1		
15,400.0	6,972.5	15,390.9	6,972.5	241.7	241.8	90.00	-7.3	-8,621.9	292.9	-190.6	483.47	0.606 Level 1		
15,500.0	6,972.5	15,490.9	6,972.5	244.5	244.6	90.00	-7.3	-8,721.9	292.1	-197.0	489.07	0.597 Level 1		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #5 - Wellbore #1 - Plan #2 (6-23-1												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,600.0	6,972.5	15,590.9	6,972.5	247.3	247.4	90.00	-7.3	-8,821.9	291.4	-203.3	494.68	0.589	Level 1
15,700.0	6,972.5	15,690.9	6,972.5	250.1	250.2	90.00	-7.3	-8,921.9	290.6	-209.6	500.29	0.581	Level 1
15,800.0	6,972.5	15,790.9	6,972.5	252.9	253.0	90.00	-7.3	-9,021.9	289.9	-216.0	505.89	0.573	Level 1
15,900.0	6,972.5	15,890.9	6,972.5	255.7	255.8	90.00	-7.3	-9,121.9	289.2	-222.3	511.50	0.565	Level 1
16,000.0	6,972.5	15,990.9	6,972.5	258.5	258.6	90.00	-7.3	-9,221.9	288.4	-228.7	517.11	0.558	Level 1
16,100.0	6,972.5	16,090.9	6,972.5	261.3	261.4	90.00	-7.3	-9,321.9	287.7	-235.0	522.72	0.550	Level 1
16,200.0	6,972.5	16,190.9	6,972.5	264.1	264.2	90.00	-7.3	-9,421.9	287.0	-241.4	528.32	0.543	Level 1
16,300.0	6,972.5	16,290.9	6,972.5	267.0	267.0	90.00	-7.3	-9,521.9	286.2	-247.7	533.93	0.536	Level 1
16,400.0	6,972.5	16,390.9	6,972.5	269.8	269.8	90.00	-7.3	-9,621.9	285.5	-254.1	539.54	0.529	Level 1
16,500.0	6,972.5	16,490.9	6,972.5	272.6	272.6	90.00	-7.3	-9,721.9	284.7	-260.4	545.15	0.522	Level 1
16,600.0	6,972.5	16,590.9	6,972.5	275.4	275.4	90.00	-7.3	-9,821.9	284.0	-266.8	550.76	0.516	Level 1
16,700.0	6,972.5	16,690.9	6,972.5	278.2	278.3	90.00	-7.3	-9,921.9	283.3	-273.1	556.37	0.509	Level 1
16,800.0	6,972.5	16,790.9	6,972.5	281.0	281.1	90.00	-7.3	-10,021.9	282.5	-279.5	561.98	0.503	Level 1
16,855.2	6,972.5	16,844.0	6,972.5	282.5	282.5	90.00	-7.3	-10,075.0	282.1	-282.9	565.01	0.499	Level 1
16,856.2	6,972.5	16,844.0	6,972.5	282.5	282.5	90.00	-7.3	-10,075.0	282.1	-282.9	565.04	0.499	Level 1, ES, SF

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 1-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.5	0.5	0.0	0.0	0.00	47.4	0.0	47.4					
100.0	100.0	100.5	100.5	0.1	0.1	0.00	47.4	0.0	47.4	47.1	0.23	210.188		
200.0	200.0	200.5	200.5	0.3	0.3	0.00	47.4	0.0	47.4	46.7	0.67	70.179		
300.0	300.0	300.5	300.5	0.6	0.6	0.00	47.4	0.0	47.4	46.2	1.12	42.122		
400.0	400.0	400.5	400.5	0.8	0.8	0.00	47.4	0.0	47.4	45.8	1.57	30.091		
500.0	500.0	500.5	500.5	1.0	1.0	0.00	47.4	0.0	47.4	45.3	2.02	23.406		
600.0	600.0	600.5	600.5	1.2	1.2	0.00	47.4	0.0	47.4	44.9	2.47	19.151		
700.0	700.0	700.5	700.5	1.5	1.5	0.00	47.4	0.0	47.4	44.4	2.92	16.206		
800.0	800.0	800.5	800.5	1.7	1.7	0.00	47.4	0.0	47.4	44.0	3.37	14.045		
900.0	900.0	900.5	900.5	1.9	1.9	0.00	47.4	0.0	47.4	43.5	3.82	12.393		
1,000.0	1,000.0	1,000.5	1,000.5	2.1	2.1	0.00	47.4	0.0	47.4	43.1	4.27	11.089		
1,100.0	1,100.0	1,100.5	1,100.5	2.4	2.4	0.00	47.4	0.0	47.4	42.6	4.72	10.033		
1,200.0	1,200.0	1,200.5	1,200.5	2.6	2.6	0.00	47.4	0.0	47.4	42.2	5.17	9.160		
1,300.0	1,300.0	1,300.5	1,300.5	2.8	2.8	0.00	47.4	0.0	47.4	41.7	5.62	8.428		
1,400.0	1,400.0	1,400.5	1,400.5	3.0	3.0	0.00	47.4	0.0	47.4	41.3	6.07	7.803		
1,500.0	1,500.0	1,500.5	1,500.5	3.3	3.3	0.00	47.4	0.0	47.4	40.8	6.52	7.265 CC, ES		
1,600.0	1,600.0	1,600.5	1,600.5	3.5	3.5	-161.51	47.4	0.0	49.0	42.1	6.94	7.064		
1,700.0	1,699.8	1,700.3	1,700.3	3.6	3.7	-163.24	47.4	0.0	54.0	46.7	7.33	7.365		
1,800.0	1,799.6	1,800.1	1,800.1	3.8	3.9	-165.05	47.4	0.0	60.3	52.6	7.73	7.803		
1,900.0	1,899.4	1,899.9	1,899.9	4.0	4.2	-166.51	47.4	0.0	66.7	58.6	8.14	8.198		
2,000.0	1,999.2	1,999.7	1,999.7	4.2	4.4	-167.72	47.4	0.0	73.2	64.6	8.55	8.555		
2,100.0	2,099.0	2,097.1	2,097.1	4.4	4.6	-168.09	48.9	0.7	81.1	72.1	8.97	9.044		
2,200.0	2,198.7	2,194.5	2,194.4	4.6	4.8	-167.33	53.3	2.7	91.9	82.5	9.38	9.788		
2,300.0	2,298.5	2,293.8	2,293.5	4.8	5.0	-166.40	58.9	5.1	103.6	93.8	9.81	10.565		
2,400.0	2,398.3	2,393.1	2,392.6	5.1	5.3	-165.67	64.5	7.6	115.4	105.1	10.23	11.276		
2,500.0	2,498.1	2,492.4	2,491.7	5.3	5.5	-165.07	70.1	10.1	127.2	116.5	10.66	11.929		
2,600.0	2,597.9	2,591.7	2,590.8	5.5	5.7	-164.57	75.7	12.6	139.0	127.9	11.09	12.529		
2,700.0	2,697.7	2,691.0	2,689.9	5.7	5.9	-164.15	81.3	15.1	150.8	139.2	11.52	13.082		
2,800.0	2,797.4	2,790.3	2,789.0	6.0	6.2	-163.79	86.9	17.5	162.6	150.6	11.96	13.593		
2,900.0	2,897.2	2,889.6	2,888.1	6.2	6.4	-163.48	92.5	20.0	174.4	162.0	12.40	14.066		
3,000.0	2,997.0	2,988.9	2,987.2	6.4	6.6	-163.21	98.0	22.5	186.2	173.4	12.84	14.505		
3,100.0	3,096.8	3,088.2	3,086.3	6.7	6.9	-162.97	103.6	25.0	198.0	184.8	13.28	14.914		
3,200.0	3,196.6	3,187.5	3,185.4	6.9	7.1	-162.76	109.2	27.5	209.9	196.1	13.72	15.295		
3,300.0	3,296.3	3,286.8	3,284.5	7.2	7.3	-162.57	114.8	29.9	221.7	207.5	14.17	15.651		
3,400.0	3,396.1	3,386.1	3,383.7	7.4	7.6	-162.40	120.4	32.4	233.5	218.9	14.61	15.984		
3,500.0	3,495.9	3,485.4	3,482.8	7.6	7.8	-162.24	126.0	34.9	245.4	230.3	15.06	16.297		
3,600.0	3,595.7	3,584.6	3,581.9	7.9	8.1	-162.10	131.6	37.4	257.2	241.7	15.50	16.590		
3,700.0	3,695.5	3,683.9	3,681.0	8.1	8.3	-161.98	137.2	39.9	269.0	253.1	15.95	16.866		
3,800.0	3,795.3	3,783.2	3,780.1	8.4	8.5	-161.86	142.8	42.3	280.9	264.5	16.40	17.126		
3,900.0	3,895.0	3,882.5	3,879.2	8.6	8.8	-161.75	148.3	44.8	292.7	275.9	16.85	17.372		
4,000.0	3,994.8	3,981.8	3,978.3	8.9	9.0	-161.66	153.9	47.3	304.6	287.3	17.30	17.604		
4,100.0	4,094.6	4,081.1	4,077.4	9.1	9.3	-161.56	159.5	49.8	316.4	298.7	17.75	17.824		
4,200.0	4,194.4	4,180.4	4,176.5	9.4	9.5	-161.48	165.1	52.3	328.2	310.0	18.20	18.033		
4,300.0	4,294.2	4,279.7	4,275.6	9.6	9.7	-161.40	170.7	54.7	340.1	321.4	18.66	18.230		
4,400.0	4,393.9	4,379.0	4,374.7	9.9	10.0	-161.33	176.3	57.2	351.9	332.8	19.11	18.418		
4,500.0	4,493.7	4,478.3	4,473.8	10.1	10.2	-161.26	181.9	59.7	363.8	344.2	19.56	18.597		
4,600.0	4,593.5	4,577.6	4,572.9	10.4	10.5	-161.19	187.5	62.2	375.6	355.6	20.01	18.768		
4,700.0	4,693.3	4,676.9	4,672.0	10.6	10.7	-161.13	193.0	64.7	387.5	367.0	20.47	18.930		
4,800.0	4,793.1	4,776.2	4,771.1	10.9	10.9	-161.08	198.6	67.1	399.3	378.4	20.92	19.085		
4,900.0	4,892.8	4,875.5	4,870.3	11.1	11.2	-161.02	204.2	69.6	411.2	389.8	21.38	19.233		
5,000.0	4,992.6	4,974.8	4,969.4	11.4	11.4	-160.97	209.8	72.1	423.0	401.2	21.83	19.375		
5,100.0	5,092.4	5,074.1	5,068.5	11.7	11.7	-160.92	215.4	74.6	434.9	412.6	22.29	19.510		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 1-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,200.0	5,192.2	5,173.4	5,167.6	11.9	11.9	-160.88	221.0	77.1	446.7	424.0	22.74	19.640	
5,300.0	5,292.0	5,272.7	5,266.7	12.2	12.2	-160.84	226.6	79.5	458.6	435.4	23.20	19.765	
5,400.0	5,391.8	5,372.0	5,365.8	12.4	12.4	-160.79	232.2	82.0	470.4	446.7	23.66	19.884	
5,500.0	5,491.5	5,471.3	5,464.9	12.7	12.6	-160.76	237.8	84.5	482.3	458.1	24.11	19.999	
5,600.0	5,591.3	5,570.5	5,564.0	12.9	12.9	-160.72	243.3	87.0	494.1	469.5	24.57	20.109	
5,700.0	5,691.1	5,669.8	5,663.1	13.2	13.1	-160.68	248.9	89.5	505.9	480.9	25.03	20.215	
5,800.0	5,790.9	5,769.1	5,762.2	13.4	13.4	-160.65	254.5	92.0	517.8	492.3	25.49	20.318	
5,900.0	5,890.7	5,868.4	5,861.3	13.7	13.6	-160.62	260.1	94.4	529.6	503.7	25.94	20.416	
6,000.0	5,990.4	5,967.7	5,960.4	13.9	13.9	-160.59	265.7	96.9	541.5	515.1	26.40	20.511	
6,100.0	6,090.2	6,067.0	6,059.5	14.2	14.1	-160.56	271.3	99.4	553.3	526.5	26.86	20.602	
6,200.0	6,190.0	6,166.3	6,158.6	14.5	14.4	-160.53	276.9	101.9	565.2	537.9	27.32	20.690	
6,300.0	6,289.8	6,265.7	6,257.8	14.7	14.6	144.63	282.5	104.2	577.1	549.3	27.76	20.787	
6,400.0	6,388.9	6,366.0	6,357.7	14.9	14.8	108.62	288.1	97.5	588.9	560.8	28.12	20.944	
6,500.0	6,485.4	6,467.1	6,456.3	15.1	15.0	100.43	293.5	76.8	600.5	572.0	28.44	21.114	
6,600.0	6,577.5	6,558.9	6,551.8	15.2	15.1	96.82	298.8	42.0	611.5	582.8	28.78	21.249	
6,700.0	6,663.3	6,671.4	6,642.0	15.4	15.3	94.71	303.7	-6.4	621.9	592.7	29.23	21.273	
6,800.0	6,741.3	6,774.8	6,725.0	15.6	15.5	93.30	308.2	-67.6	631.3	601.4	29.94	21.088	
6,900.0	6,809.8	6,878.9	6,798.8	15.9	16.1	92.29	312.2	-140.8	639.6	608.6	31.06	20.595	
7,000.0	6,867.6	6,983.5	6,861.6	16.6	16.9	91.54	315.4	-224.3	646.7	613.9	32.75	19.747	
7,100.0	6,913.6	7,088.8	6,911.8	17.7	18.1	90.98	318.0	-316.7	652.3	617.2	35.10	18.581	
7,200.0	6,946.7	7,194.3	6,948.1	19.1	19.6	90.59	319.7	-415.7	656.3	618.2	38.13	17.210	
7,300.0	6,966.5	7,300.2	6,969.5	20.9	21.4	90.33	320.6	-519.3	658.7	616.9	41.75	15.778	
7,400.0	6,972.5	7,404.1	6,975.5	22.8	23.4	90.22	320.6	-622.9	659.4	613.7	45.75	14.414	
7,500.0	6,972.5	7,499.8	6,975.5	24.9	25.4	90.22	321.0	-718.6	660.1	610.2	49.89	13.230	
7,600.0	6,972.5	7,599.8	6,975.5	27.2	27.7	90.22	321.5	-818.6	660.9	606.6	54.37	12.155	
7,700.0	6,972.5	7,699.8	6,975.5	29.5	30.0	90.22	322.0	-918.6	661.7	602.7	59.05	11.206	
7,800.0	6,972.5	7,799.8	6,975.5	31.9	32.3	90.22	322.5	-1,018.6	662.5	598.6	63.88	10.371	
7,900.0	6,972.5	7,899.8	6,975.5	34.4	34.8	90.22	323.1	-1,118.6	663.2	594.4	68.82	9.636	
8,000.0	6,972.5	7,999.8	6,975.5	36.9	37.3	90.22	323.6	-1,218.6	663.9	590.0	73.87	8.988	
8,100.0	6,972.5	8,099.8	6,975.5	39.5	39.8	90.22	324.1	-1,318.6	664.6	585.6	78.99	8.414	
8,200.0	6,972.5	8,199.8	6,975.5	42.1	42.4	90.22	324.6	-1,418.6	665.2	581.0	84.17	7.903	
8,300.0	6,972.5	8,299.8	6,975.5	44.7	45.0	90.22	325.2	-1,518.6	665.8	576.4	89.41	7.447	
8,400.0	6,972.5	8,399.8	6,975.5	47.3	47.6	90.21	325.7	-1,618.6	666.4	571.7	94.69	7.038	
8,500.0	6,972.5	8,499.8	6,975.5	50.0	50.3	90.21	326.2	-1,718.6	667.0	567.0	100.01	6.669	
8,600.0	6,972.5	8,599.8	6,975.5	52.7	53.0	90.21	326.7	-1,818.6	667.5	562.2	105.36	6.336	
8,700.0	6,972.5	8,699.8	6,975.5	55.3	55.6	90.21	327.3	-1,918.6	668.0	557.3	110.73	6.033	
8,800.0	6,972.5	8,799.8	6,975.5	58.0	58.3	90.21	327.8	-2,018.6	668.5	552.4	116.13	5.756	
8,900.0	6,972.5	8,899.8	6,975.5	60.8	61.0	90.21	328.3	-2,118.6	668.9	547.4	121.55	5.503	
9,000.0	6,972.5	8,999.8	6,975.5	63.5	63.7	90.21	328.8	-2,218.6	669.4	542.4	126.98	5.271	
9,100.0	6,972.5	9,099.8	6,975.5	66.2	66.5	90.21	329.4	-2,318.6	669.7	537.3	132.44	5.057	
9,200.0	6,972.5	9,199.8	6,975.5	68.9	69.2	90.21	329.9	-2,418.6	670.1	532.2	137.90	4.859	
9,300.0	6,972.5	9,299.8	6,975.5	71.7	71.9	90.21	330.4	-2,518.6	670.4	527.1	143.38	4.676	
9,400.0	6,972.5	9,399.8	6,975.5	74.4	74.7	90.21	330.9	-2,618.6	670.8	521.9	148.86	4.506	
9,500.0	6,972.5	9,499.8	6,975.5	77.2	77.4	90.21	331.5	-2,718.6	671.0	516.7	154.36	4.347	
9,600.0	6,972.5	9,599.8	6,975.5	79.9	80.1	90.21	332.0	-2,818.6	671.3	511.4	159.87	4.199	
9,700.0	6,972.5	9,699.8	6,975.5	82.7	82.9	90.21	332.5	-2,918.6	671.5	506.1	165.38	4.060	
9,800.0	6,972.5	9,799.8	6,975.5	85.4	85.7	90.21	333.0	-3,018.6	671.7	500.8	170.90	3.930	
9,900.0	6,972.5	9,899.8	6,975.5	88.2	88.4	90.21	333.6	-3,118.6	671.9	495.4	176.43	3.808	
10,000.0	6,972.5	9,999.8	6,975.5	90.9	91.2	90.21	334.1	-3,218.6	672.0	490.0	181.96	3.693	
10,100.0	6,972.5	10,099.8	6,975.5	93.7	93.9	90.21	334.6	-3,318.6	672.1	484.6	187.50	3.585	
10,200.0	6,972.5	10,199.8	6,975.5	96.5	96.7	90.21	335.1	-3,418.6	672.2	479.2	193.04	3.482	
10,300.0	6,972.5	10,299.8	6,975.5	99.3	99.5	90.21	335.7	-3,518.6	672.3	473.7	198.58	3.385	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-1													Offset Site Error:	0.0 ft
Survey Program: 1-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
10,400.0	6,972.5	10,399.8	6,975.5	102.0	102.2	90.21	336.2	-3,618.5	672.3	468.1	204.13	3.293		
10,500.0	6,972.5	10,499.8	6,975.5	104.8	105.0	90.21	336.7	-3,718.5	672.3	462.6	209.69	3.206		
10,600.0	6,972.5	10,599.8	6,975.5	107.6	107.8	90.21	337.2	-3,818.5	672.2	457.0	215.25	3.123		
10,700.0	6,972.5	10,699.8	6,975.5	110.4	110.6	90.21	337.8	-3,918.5	672.2	451.4	220.81	3.044		
10,800.0	6,972.5	10,799.8	6,975.5	113.1	113.4	90.21	338.3	-4,018.5	672.1	445.7	226.37	2.969		
10,900.0	6,972.5	10,899.8	6,975.5	115.9	116.1	90.21	338.8	-4,118.5	672.0	440.1	231.94	2.897		
11,000.0	6,972.5	10,999.8	6,975.5	118.7	118.9	90.21	339.3	-4,218.5	671.9	434.3	237.51	2.829		
11,100.0	6,972.5	11,099.8	6,975.5	121.5	121.7	90.21	339.9	-4,318.5	671.7	428.6	243.08	2.763		
11,200.0	6,972.5	11,199.8	6,975.5	124.3	124.5	90.21	340.4	-4,418.5	671.5	422.8	248.65	2.701		
11,300.0	6,972.5	11,299.8	6,975.5	127.1	127.3	90.21	340.9	-4,518.5	671.3	417.0	254.22	2.640		
11,400.0	6,972.5	11,399.8	6,975.5	129.9	130.1	90.21	341.4	-4,618.5	671.1	411.3	259.80	2.583		
11,500.0	6,972.5	11,499.8	6,975.5	132.6	132.8	90.21	341.9	-4,718.5	670.8	405.5	265.37	2.528		
11,600.0	6,972.5	11,599.8	6,975.5	135.4	135.6	90.21	342.5	-4,818.5	670.6	399.7	270.95	2.475		
11,700.0	6,972.5	11,699.8	6,975.5	138.2	138.4	90.21	343.0	-4,918.5	670.4	393.9	276.53	2.424		
11,800.0	6,972.5	11,799.8	6,975.5	141.0	141.2	90.21	343.5	-5,018.5	670.2	388.1	282.11	2.376		
11,900.0	6,972.5	11,899.8	6,975.5	143.8	144.0	90.21	344.0	-5,118.5	670.0	382.3	287.69	2.329		
12,000.0	6,972.5	11,999.8	6,975.5	146.6	146.8	90.21	344.6	-5,218.5	669.8	376.5	293.28	2.284		
12,100.0	6,972.5	12,099.8	6,975.5	149.4	149.6	90.21	345.1	-5,318.5	669.6	370.7	298.86	2.240		
12,200.0	6,972.5	12,199.8	6,975.5	152.2	152.4	90.21	345.6	-5,418.5	669.4	364.9	304.45	2.199		
12,300.0	6,972.5	12,299.8	6,975.5	155.0	155.2	90.21	346.1	-5,518.5	669.1	359.1	310.04	2.158		
12,400.0	6,972.5	12,399.8	6,975.5	157.7	158.0	90.21	346.7	-5,618.5	668.9	353.3	315.62	2.119		
12,500.0	6,972.5	12,499.8	6,975.5	160.5	160.8	90.21	347.2	-5,718.5	668.7	347.5	321.21	2.082		
12,600.0	6,972.5	12,599.8	6,975.5	163.3	163.6	90.21	347.7	-5,818.5	668.5	341.7	326.80	2.046		
12,700.0	6,972.5	12,699.8	6,975.5	166.1	166.4	90.21	348.2	-5,918.5	668.3	335.9	332.40	2.011		
12,800.0	6,972.5	12,799.8	6,975.5	168.9	169.2	90.21	348.8	-6,018.5	668.1	330.1	337.99	1.977		
12,900.0	6,972.5	12,899.8	6,975.5	171.7	172.0	90.21	349.3	-6,118.5	667.9	324.3	343.58	1.944		
13,000.0	6,972.5	12,999.8	6,975.5	174.5	174.8	90.21	349.8	-6,218.5	667.6	318.5	349.18	1.912		
13,100.0	6,972.5	13,099.8	6,975.5	177.3	177.5	90.21	350.3	-6,318.5	667.4	312.7	354.77	1.881		
13,200.0	6,972.5	13,199.8	6,975.5	180.1	180.3	90.21	350.9	-6,418.5	667.2	306.9	360.37	1.851		
13,300.0	6,972.5	13,299.8	6,975.5	182.9	183.1	90.21	351.4	-6,518.5	667.0	301.0	365.97	1.823		
13,400.0	6,972.5	13,399.8	6,975.5	185.7	185.9	90.21	351.9	-6,618.5	666.8	295.2	371.56	1.795		
13,500.0	6,972.5	13,499.8	6,975.5	188.5	188.7	90.21	352.4	-6,718.5	666.6	289.4	377.16	1.767		
13,600.0	6,972.5	13,599.8	6,975.5	191.3	191.5	90.21	353.0	-6,818.5	666.4	283.6	382.76	1.741		
13,700.0	6,972.5	13,699.8	6,975.5	194.1	194.3	90.22	353.5	-6,918.5	666.2	277.8	388.36	1.715		
13,800.0	6,972.5	13,799.8	6,975.5	196.9	197.1	90.22	354.0	-7,018.5	665.9	272.0	393.96	1.690		
13,900.0	6,972.5	13,899.8	6,975.5	199.7	199.9	90.22	354.5	-7,118.5	665.7	266.2	399.56	1.666		
14,000.0	6,972.5	13,999.8	6,975.5	202.5	202.7	90.22	355.1	-7,218.5	665.5	260.4	405.16	1.643		
14,100.0	6,972.5	14,099.8	6,975.5	205.3	205.5	90.22	355.6	-7,318.5	665.3	254.5	410.76	1.620		
14,200.0	6,972.5	14,199.8	6,975.5	208.1	208.3	90.22	356.1	-7,418.5	665.1	248.7	416.37	1.597		
14,300.0	6,972.5	14,299.8	6,975.5	210.9	211.1	90.22	356.6	-7,518.5	664.9	242.9	421.97	1.576		
14,400.0	6,972.5	14,399.8	6,975.5	213.7	213.9	90.22	357.2	-7,618.5	664.7	237.1	427.57	1.555		
14,500.0	6,972.5	14,499.8	6,975.5	216.5	216.7	90.22	357.7	-7,718.5	664.4	231.3	433.17	1.534		
14,600.0	6,972.5	14,599.8	6,975.5	219.3	219.6	90.22	358.2	-7,818.5	664.2	225.5	438.78	1.514		
14,700.0	6,972.5	14,699.8	6,975.5	222.1	222.4	90.22	358.7	-7,918.5	664.0	219.6	444.38	1.494 Level 3		
14,800.0	6,972.5	14,799.8	6,975.5	224.9	225.2	90.22	359.2	-8,018.5	663.8	213.8	449.99	1.475 Level 3		
14,900.0	6,972.5	14,899.8	6,975.5	227.7	228.0	90.22	359.8	-8,118.5	663.6	208.0	455.59	1.457 Level 3		
15,000.0	6,972.5	14,999.8	6,975.5	230.5	230.8	90.22	360.3	-8,218.5	663.4	202.2	461.20	1.438 Level 3		
15,100.0	6,972.5	15,099.8	6,975.5	233.3	233.6	90.22	360.8	-8,318.5	663.2	196.4	466.80	1.421 Level 3		
15,200.0	6,972.5	15,199.8	6,975.5	236.1	236.4	90.22	361.3	-8,418.5	663.0	190.5	472.41	1.403 Level 3		
15,300.0	6,972.5	15,299.8	6,975.5	238.9	239.2	90.22	361.9	-8,518.5	662.7	184.7	478.02	1.386 Level 3		
15,400.0	6,972.5	15,399.8	6,975.5	241.7	242.0	90.22	362.4	-8,618.5	662.5	178.9	483.62	1.370 Level 3		
15,500.0	6,972.5	15,499.8	6,975.5	244.5	244.8	90.22	362.9	-8,718.5	662.3	173.1	489.23	1.354 Level 3		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-1												Offset Site Error:	0.0 ft
Survey Program: 1-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,600.0	6,972.5	15,599.8	6,975.5	247.3	247.6	90.22	363.4	-8,818.5	662.1	167.3	494.84	1.338	Level 3
15,700.0	6,972.5	15,699.8	6,975.5	250.1	250.4	90.22	364.0	-8,918.5	661.9	161.4	500.45	1.323	Level 3
15,800.0	6,972.5	15,799.8	6,975.5	252.9	253.2	90.22	364.5	-9,018.5	661.7	155.6	506.05	1.308	Level 3
15,900.0	6,972.5	15,899.8	6,975.5	255.7	256.0	90.22	365.0	-9,118.5	661.5	149.8	511.66	1.293	Level 3
16,000.0	6,972.5	15,999.8	6,975.5	258.5	258.8	90.22	365.5	-9,218.5	661.2	144.0	517.27	1.278	Level 3
16,100.0	6,972.5	16,099.8	6,975.5	261.3	261.6	90.22	366.1	-9,318.5	661.0	138.2	522.88	1.264	Level 3
16,200.0	6,972.5	16,199.8	6,975.5	264.1	264.4	90.22	366.6	-9,418.5	660.8	132.3	528.49	1.250	Level 3
16,300.0	6,972.5	16,299.8	6,975.5	267.0	267.2	90.22	367.1	-9,518.5	660.6	126.5	534.10	1.237	Level 2
16,400.0	6,972.5	16,399.8	6,975.5	269.8	270.0	90.22	367.6	-9,618.5	660.4	120.7	539.71	1.224	Level 2
16,500.0	6,972.5	16,499.8	6,975.5	272.6	272.8	90.22	368.2	-9,718.5	660.2	114.9	545.32	1.211	Level 2
16,600.0	6,972.5	16,599.8	6,975.5	275.4	275.6	90.22	368.7	-9,818.5	660.0	109.0	550.93	1.198	Level 2
16,700.0	6,972.5	16,699.8	6,975.5	278.2	278.4	90.22	369.2	-9,918.4	659.8	103.2	556.54	1.185	Level 2
16,800.0	6,972.5	16,799.8	6,975.5	281.0	281.2	90.22	369.7	-10,018.4	659.5	97.4	562.15	1.173	Level 2
16,856.2	6,972.5	16,856.0	6,975.5	282.5	282.3	90.22	370.0	-10,074.6	659.4	94.7	564.75	1.168	Level 2, SF

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 223-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.0	0.0	1.0	1.0	0.0	0.0	0.00	61.9	0.0	61.9	61.9	0.00	N/A CC	
100.0	100.0	100.8	100.8	0.1	0.1	0.09	62.1	0.1	62.1	61.8	0.23	274.663 ES	
200.0	200.0	200.7	200.7	0.3	0.2	0.37	62.4	0.4	62.4	61.9	0.56	110.890	
300.0	300.0	300.6	300.6	0.6	0.4	0.95	63.0	1.0	63.0	62.0	0.98	63.944	
400.0	400.0	400.5	400.5	0.8	0.6	1.63	63.6	1.8	63.7	62.2	1.42	44.980	
500.0	500.0	500.8	500.8	1.0	0.8	1.82	64.2	2.0	64.2	62.4	1.84	34.989	
600.0	600.0	600.9	600.9	1.2	1.0	2.37	64.2	2.7	64.3	62.0	2.27	28.302	
700.0	700.0	700.7	700.7	1.5	1.2	2.67	64.7	3.0	64.8	62.1	2.70	23.955	
800.0	800.0	800.2	800.2	1.7	1.4	2.44	65.4	2.8	65.4	62.3	3.13	20.883	
900.0	900.0	900.5	900.4	1.9	1.7	1.50	66.7	1.7	66.8	63.2	3.57	18.720	
1,000.0	1,000.0	1,000.4	1,000.4	2.1	1.9	1.35	67.4	1.6	67.5	63.5	4.00	16.866	
1,100.0	1,100.0	1,100.5	1,100.5	2.4	2.1	2.56	68.3	3.0	68.4	63.9	4.43	15.418	
1,200.0	1,200.0	1,200.5	1,200.4	2.6	2.3	3.44	69.0	4.2	69.2	64.3	4.87	14.211	
1,300.0	1,300.0	1,300.5	1,300.4	2.8	2.5	3.97	69.8	4.8	70.0	64.7	5.30	13.201	
1,400.0	1,400.0	1,400.2	1,400.1	3.0	2.7	4.11	70.8	5.1	71.0	65.3	5.74	12.374	
1,500.0	1,500.0	1,499.8	1,499.7	3.3	2.9	4.20	72.2	5.3	72.4	66.2	6.17	11.720	
1,600.0	1,600.0	1,598.1	1,598.0	3.5	3.1	-157.38	75.0	5.2	76.9	70.3	6.58	11.682	
1,700.0	1,699.8	1,696.7	1,696.5	3.6	3.3	-158.92	79.5	5.0	86.3	79.3	6.96	12.389	
1,800.0	1,799.6	1,795.8	1,795.4	3.8	3.6	-160.25	84.8	5.3	97.7	90.4	7.35	13.286	
1,900.0	1,899.4	1,894.5	1,893.9	4.0	3.8	-161.91	90.1	4.4	109.4	101.6	7.75	14.114	
2,000.0	1,999.2	1,991.7	1,990.9	4.2	4.0	-162.99	96.6	4.0	122.3	114.2	8.15	15.014	
2,100.0	2,099.0	2,091.3	2,090.3	4.4	4.2	-163.47	104.4	4.5	136.4	127.9	8.55	15.952	
2,200.0	2,198.7	2,188.8	2,187.4	4.6	4.5	-163.46	111.4	6.0	149.9	140.9	8.96	16.734	
2,300.0	2,298.5	2,286.2	2,284.4	4.8	4.7	-163.09	120.3	8.5	165.1	155.8	9.37	17.627	
2,400.0	2,398.3	2,385.7	2,383.5	5.1	4.9	-162.64	129.4	11.4	180.4	170.6	9.79	18.437	
2,500.0	2,498.1	2,485.1	2,482.4	5.3	5.2	-161.82	138.0	15.9	195.3	185.1	10.20	19.137	
2,600.0	2,597.9	2,584.4	2,581.3	5.5	5.4	-161.07	146.5	20.5	210.0	199.3	10.62	19.762	
2,700.0	2,697.7	2,683.1	2,679.5	5.7	5.7	-160.81	154.8	23.6	224.6	213.5	11.05	20.333	
2,800.0	2,797.4	2,784.3	2,780.4	6.0	5.9	-160.75	163.0	26.0	238.9	227.4	11.47	20.824	
2,900.0	2,897.2	2,883.5	2,879.2	6.2	6.1	-160.55	170.4	29.0	252.6	240.7	11.90	21.233	
3,000.0	2,997.0	2,984.6	2,980.1	6.4	6.4	-160.56	177.7	31.2	266.0	253.7	12.33	21.575	
3,100.0	3,096.8	3,089.6	3,084.9	6.7	6.6	-160.50	183.5	33.8	277.7	265.0	12.76	21.756	
3,200.0	3,196.6	3,188.1	3,183.2	6.9	6.8	-160.49	188.3	36.1	288.8	275.6	13.19	21.896	
3,300.0	3,296.3	3,287.2	3,282.2	7.2	7.1	-160.77	193.0	36.9	299.8	286.2	13.62	22.011	
3,400.0	3,396.1	3,380.1	3,374.9	7.4	7.3	-161.08	198.7	37.2	312.2	298.1	14.04	22.234	
3,500.0	3,495.9	3,473.9	3,468.4	7.6	7.5	-161.23	206.1	38.3	326.3	311.8	14.47	22.556	
3,600.0	3,595.7	3,567.2	3,561.2	7.9	7.8	-161.12	215.1	40.9	342.1	327.2	14.89	22.972	
3,700.0	3,695.5	3,665.0	3,658.4	8.1	8.0	-160.88	225.5	44.4	359.0	343.6	15.33	23.409	
3,800.0	3,795.3	3,767.1	3,759.9	8.4	8.3	-160.54	235.6	48.7	375.0	359.3	15.78	23.765	
3,900.0	3,895.0	3,866.2	3,858.5	8.6	8.6	-160.16	245.6	53.5	391.3	375.0	16.22	24.116	
4,000.0	3,994.8	3,973.0	3,964.7	8.9	8.8	-159.80	254.4	58.6	405.7	389.0	16.68	24.323	
4,100.0	4,094.6	4,074.1	4,065.5	9.1	9.1	-159.65	261.9	62.1	419.4	402.3	17.12	24.493	
4,200.0	4,194.4	4,175.4	4,166.5	9.4	9.3	-159.63	268.7	64.6	432.4	414.8	17.56	24.618	
4,300.0	4,294.2	4,275.3	4,266.2	9.6	9.6	-159.64	275.3	67.0	445.1	427.1	18.00	24.728	
4,400.0	4,393.9	4,375.4	4,366.1	9.9	9.8	-159.67	281.7	69.2	457.7	439.3	18.44	24.821	
4,500.0	4,493.7	4,474.9	4,465.3	10.1	10.0	-159.77	287.8	70.8	470.2	451.3	18.88	24.902	
4,600.0	4,593.5	4,568.0	4,558.2	10.4	10.3	-159.96	294.1	71.5	483.0	463.7	19.31	25.019	
4,700.0	4,693.3	4,661.4	4,651.3	10.6	10.5	-160.02	301.7	73.1	497.4	477.7	19.74	25.201	
4,800.0	4,793.1	4,760.8	4,750.3	10.9	10.7	-159.90	310.3	76.6	512.3	492.1	20.18	25.385	
4,900.0	4,892.8	4,868.1	4,857.2	11.1	11.0	-159.80	318.7	80.0	526.4	505.7	20.64	25.501	
5,000.0	4,992.6	4,971.5	4,960.3	11.4	11.3	-159.85	325.4	82.0	539.0	517.9	21.09	25.558	
5,100.0	5,092.4	5,075.0	5,063.7	11.7	11.5	-159.99	331.2	83.2	550.8	529.3	21.54	25.575	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 223-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,200.0	5,192.2	5,170.0	5,158.5	11.9	11.7	-160.16	336.7	83.7	562.8	540.9	21.97	25.621	
5,300.0	5,292.0	5,264.7	5,253.0	12.2	12.0	-160.32	343.1	84.3	575.8	553.4	22.40	25.708	
5,400.0	5,391.8	5,361.0	5,349.0	12.4	12.2	-160.39	350.1	85.8	589.2	566.4	22.83	25.807	
5,500.0	5,491.5	5,471.1	5,458.9	12.7	12.5	-160.46	357.2	87.6	601.9	578.6	23.30	25.837	
5,600.0	5,591.3	5,571.3	5,559.0	12.9	12.7	-160.57	362.6	88.7	613.5	589.8	23.74	25.848	
5,700.0	5,691.1	5,664.5	5,652.0	13.2	12.9	-160.63	368.0	90.1	625.5	601.3	24.16	25.886	
5,800.0	5,790.9	5,748.4	5,735.7	13.4	13.1	-160.65	374.4	91.7	639.3	614.8	24.58	26.016	
5,900.0	5,890.7	5,837.0	5,823.8	13.7	13.3	-160.66	382.9	93.5	655.1	630.1	25.00	26.204	
6,000.0	5,990.4	5,948.9	5,935.2	13.9	13.6	-160.73	393.2	95.2	670.5	645.0	25.47	26.322	
6,100.0	6,090.2	6,043.6	6,029.5	14.2	13.9	-160.80	401.4	96.4	685.4	659.4	25.91	26.454	
6,200.0	6,190.0	6,138.2	6,123.7	14.5	14.1	-160.87	410.4	97.7	701.1	674.8	26.34	26.613	
6,300.0	6,289.8	6,252.8	6,237.9	14.7	14.4	144.04	419.9	98.3	715.5	688.7	26.81	26.691	
6,400.0	6,388.9	6,352.9	6,337.7	14.9	14.7	108.39	427.0	99.0	728.9	701.7	27.19	26.802	
6,500.0	6,485.4	6,452.8	6,437.4	15.1	14.9	101.59	434.2	99.7	742.7	715.2	27.55	26.958	
6,600.0	6,577.5	6,524.0	6,508.3	15.2	15.1	98.97	440.0	96.2	758.5	730.7	27.85	27.240	
6,700.0	6,663.3	6,695.8	6,676.0	15.4	15.4	100.37	450.1	63.5	772.7	744.5	28.29	27.313	
6,800.0	6,741.3	6,811.3	6,782.6	15.6	15.6	100.83	452.4	19.4	783.3	754.5	28.78	27.216	
6,900.0	6,809.8	6,916.6	6,871.6	15.9	15.8	101.12	454.7	-36.8	793.8	764.2	29.53	26.879	
7,000.0	6,867.6	7,005.5	6,941.4	16.6	16.0	101.36	458.4	-91.5	806.8	776.2	30.63	26.341	
7,100.0	6,913.6	7,097.1	7,004.8	17.7	16.4	101.47	465.4	-157.2	823.1	790.8	32.25	25.522	
7,200.0	6,946.7	7,262.4	7,090.6	19.1	17.9	102.20	479.5	-297.3	838.1	803.0	35.18	23.821	
7,300.0	6,966.5	7,441.3	7,150.5	20.9	20.4	102.98	486.9	-465.3	846.9	807.5	39.41	21.488	
7,400.0	6,972.5	7,591.9	7,165.3	22.8	23.2	103.05	488.4	-614.8	849.2	805.1	44.10	19.257	
7,500.0	6,972.5	7,708.6	7,165.1	24.9	25.6	103.04	488.2	-731.5	849.3	800.7	48.59	17.478	
7,600.0	6,972.5	7,811.6	7,163.6	27.2	27.9	102.96	486.9	-834.5	848.0	794.9	53.07	15.979	
7,682.1	6,972.5	7,883.4	7,162.3	29.1	29.6	102.87	486.5	-906.3	847.5	790.9	56.60	14.972	
7,700.0	6,972.5	7,898.7	7,162.0	29.5	29.9	102.85	486.6	-921.6	847.5	790.1	57.38	14.770	
7,800.0	6,972.5	7,984.6	7,159.8	31.9	32.0	102.68	487.9	-1,007.5	848.6	786.8	61.81	13.729	
7,900.0	6,972.5	8,071.8	7,157.7	34.4	34.1	102.50	490.6	-1,094.6	851.3	785.0	66.38	12.824	
8,000.0	6,972.5	8,170.5	7,156.5	36.9	36.6	102.37	494.2	-1,193.2	854.8	783.5	71.32	11.986	
8,100.0	6,972.5	8,272.4	7,156.4	39.5	39.2	102.31	497.8	-1,295.0	858.4	782.0	76.39	11.237	
8,200.0	6,972.5	8,421.9	7,158.2	42.1	43.0	102.41	498.9	-1,444.5	859.8	777.1	82.69	10.398	
8,300.0	6,972.5	8,530.0	7,158.9	44.7	45.8	102.52	494.1	-1,552.5	855.7	767.7	87.97	9.726	
8,400.0	6,972.5	8,624.0	7,157.2	47.3	48.2	102.45	491.1	-1,646.4	852.2	759.2	93.00	9.164	
8,500.0	6,972.5	8,700.1	7,154.9	50.0	50.3	102.30	491.0	-1,722.5	851.3	753.6	97.64	8.718	
8,501.4	6,972.5	8,701.3	7,154.8	50.0	50.3	102.30	491.0	-1,723.6	851.3	753.6	97.71	8.712	
8,600.0	6,972.5	8,781.3	7,153.7	52.7	52.4	102.21	492.1	-1,803.7	852.3	749.9	102.42	8.321	
8,700.0	6,972.5	8,877.2	7,154.9	55.3	55.0	102.26	494.5	-1,899.5	855.0	747.5	107.56	7.949	
8,800.0	6,972.5	8,990.9	7,158.1	58.0	58.1	102.44	496.1	-2,013.1	857.0	743.8	113.13	7.575	
8,900.0	6,972.5	9,103.0	7,159.7	60.8	61.1	102.55	496.0	-2,125.3	857.0	738.3	118.70	7.220	
8,925.3	6,972.5	9,124.3	7,159.8	61.4	61.6	102.55	495.9	-2,146.5	857.0	737.1	119.94	7.145	
9,000.0	6,972.5	9,189.0	7,160.0	63.5	63.4	102.56	496.4	-2,211.3	857.5	733.9	123.64	6.935	
9,100.0	6,972.5	9,287.9	7,160.4	66.2	66.1	102.57	497.8	-2,310.2	858.8	729.9	128.94	6.661	
9,200.0	6,972.5	9,390.0	7,161.1	68.9	68.9	102.60	498.9	-2,412.2	859.9	725.6	134.32	6.402	
9,300.0	6,972.5	9,489.6	7,161.7	71.7	71.6	102.63	500.0	-2,511.8	860.9	721.3	139.65	6.165	
9,400.0	6,972.5	9,593.8	7,163.5	74.4	74.4	102.74	500.8	-2,616.0	861.8	716.8	145.07	5.941	
9,500.0	6,972.5	9,715.3	7,166.4	77.2	77.8	102.95	499.6	-2,737.4	861.1	710.2	150.89	5.707	
9,600.0	6,972.5	9,825.4	7,166.7	79.9	80.8	103.02	496.5	-2,847.5	858.2	701.7	156.48	5.485	
9,700.0	6,972.5	9,922.8	7,166.0	82.7	83.4	103.02	493.8	-2,944.9	855.0	693.3	161.78	5.285	
9,800.0	6,972.5	10,014.0	7,165.3	85.4	85.9	103.00	491.9	-3,036.1	852.5	685.6	166.94	5.107	
9,900.0	6,972.5	10,103.9	7,164.4	88.2	88.4	102.96	491.1	-3,126.0	851.1	679.0	172.08	4.946	
9,948.2	6,972.5	10,144.5	7,164.3	89.5	89.5	102.96	491.1	-3,166.6	850.9	676.4	174.48	4.877	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #7 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 223-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
10,000.0	6,972.5	10,182.9	7,164.1	90.9	90.6	102.94	491.6	-3,204.9	851.3	674.4	176.93	4.812	
10,100.0	6,972.5	10,263.3	7,163.8	93.7	92.8	102.88	494.5	-3,285.2	854.3	672.4	181.85	4.698	
10,200.0	6,972.5	10,376.1	7,165.6	96.5	96.0	102.94	499.1	-3,398.0	858.3	670.7	187.57	4.576	
10,300.0	6,972.5	10,536.7	7,168.2	99.3	100.4	103.16	496.2	-3,558.5	856.1	661.6	194.44	4.403	
10,400.0	6,972.5	10,620.6	7,166.1	102.0	102.7	103.07	493.8	-3,642.3	852.2	652.7	199.48	4.272	
10,500.0	6,972.5	10,701.2	7,163.4	104.8	104.9	102.90	493.5	-3,722.8	850.5	646.0	204.49	4.159	
10,600.0	6,972.5	10,805.9	7,160.4	107.6	107.8	102.70	494.0	-3,827.5	849.8	639.6	210.20	4.043	
10,700.0	6,972.5	10,927.6	7,159.3	110.4	111.2	102.67	491.8	-3,949.1	847.3	631.0	216.23	3.918	
10,800.0	6,972.5	11,027.3	7,159.2	113.1	113.9	102.73	488.1	-4,048.8	843.0	621.4	221.60	3.804	
10,900.0	6,972.5	11,121.7	7,158.1	115.9	116.6	102.70	485.8	-4,143.2	839.7	612.8	226.90	3.701	
11,000.0	6,972.5	11,202.9	7,157.0	118.7	118.8	102.66	484.4	-4,224.3	837.2	605.4	231.86	3.611	
11,024.7	6,972.5	11,219.7	7,156.8	119.4	119.3	102.65	484.4	-4,241.2	837.1	604.1	233.00	3.593	
11,100.0	6,972.5	11,277.4	7,156.1	121.5	120.9	102.59	485.8	-4,298.8	838.1	601.4	236.67	3.541	
11,200.0	6,972.5	11,380.6	7,157.1	124.3	123.8	102.62	488.6	-4,401.9	840.3	598.1	242.18	3.470	
11,300.0	6,972.5	11,488.3	7,159.0	127.1	126.8	102.74	489.9	-4,509.6	841.0	593.3	247.73	3.395	
11,400.0	6,972.5	11,591.3	7,159.6	129.9	129.6	102.77	491.5	-4,612.6	842.0	588.8	253.22	3.325	
11,500.0	6,972.5	11,722.1	7,160.4	132.6	133.3	102.85	490.7	-4,743.4	840.9	581.4	259.42	3.241	
11,600.0	6,972.5	11,826.9	7,159.9	135.4	136.2	102.87	487.6	-4,848.1	837.2	572.2	264.96	3.160	
11,678.2	6,972.5	11,873.0	7,159.3	137.6	137.4	102.86	486.2	-4,894.2	834.8	566.4	268.35	3.111	
11,700.0	6,972.5	11,873.0	7,159.3	138.2	137.4	102.86	486.2	-4,894.2	835.1	566.1	268.95	3.105 SF	
11,800.0	6,972.5	11,873.0	7,159.3	141.0	137.4	102.86	486.2	-4,894.2	843.6	572.0	271.67	3.105	
11,900.0	6,972.5	11,873.0	7,159.3	143.8	137.4	102.86	486.2	-4,894.2	863.7	589.4	274.39	3.148	
12,000.0	6,972.5	11,873.0	7,159.3	146.6	137.4	102.86	486.2	-4,894.2	894.7	617.5	277.12	3.228	
12,100.0	6,972.5	11,873.0	7,159.3	149.4	137.4	102.86	486.2	-4,894.2	935.3	655.5	279.84	3.342	
12,200.0	6,972.5	11,873.0	7,159.3	152.2	137.4	102.86	486.2	-4,894.2	984.4	701.9	282.57	3.484	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 1-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.5	0.5	0.0	0.0	0.00	94.7	0.0	94.7					
100.0	100.0	100.5	100.5	0.1	0.1	0.00	94.7	0.0	94.7	94.5	0.23	420.375		
200.0	200.0	200.5	200.5	0.3	0.3	0.00	94.7	0.0	94.7	94.0	0.67	140.358		
300.0	300.0	300.5	300.5	0.6	0.6	0.00	94.7	0.0	94.7	93.6	1.12	84.243		
400.0	400.0	400.5	400.5	0.8	0.8	0.00	94.7	0.0	94.7	93.1	1.57	60.182		
500.0	500.0	500.5	500.5	1.0	1.0	0.00	94.7	0.0	94.7	92.7	2.02	46.812		
600.0	600.0	600.5	600.5	1.2	1.2	0.00	94.7	0.0	94.7	92.2	2.47	38.303		
700.0	700.0	700.5	700.5	1.5	1.5	0.00	94.7	0.0	94.7	91.8	2.92	32.411		
800.0	800.0	800.5	800.5	1.7	1.7	0.00	94.7	0.0	94.7	91.4	3.37	28.090		
900.0	900.0	900.5	900.5	1.9	1.9	0.00	94.7	0.0	94.7	90.9	3.82	24.786		
1,000.0	1,000.0	1,000.5	1,000.5	2.1	2.1	0.00	94.7	0.0	94.7	90.5	4.27	22.177		
1,100.0	1,100.0	1,100.5	1,100.5	2.4	2.4	0.00	94.7	0.0	94.7	90.0	4.72	20.066		
1,166.5	1,166.5	1,167.0	1,167.0	2.5	2.5	0.00	94.7	0.0	94.7	89.7	5.02	18.871 CC		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	94.7	0.0	94.7	89.6	5.17	18.325 ES		
1,300.0	1,300.0	1,297.3	1,297.3	2.8	2.8	0.21	96.3	0.3	96.4	90.8	5.61	17.174		
1,400.0	1,400.0	1,393.9	1,393.8	3.0	3.0	0.78	101.1	1.4	101.4	95.3	6.06	16.737		
1,500.0	1,500.0	1,490.2	1,489.7	3.3	3.2	1.61	109.1	3.1	109.7	103.2	6.50	16.867		
1,600.0	1,600.0	1,589.4	1,588.4	3.5	3.5	-158.58	118.9	5.2	121.2	114.3	6.93	17.505		
1,700.0	1,699.8	1,688.3	1,686.8	3.6	3.7	-158.56	128.7	7.3	136.0	128.7	7.32	18.586		
1,800.0	1,799.6	1,787.0	1,785.0	3.8	4.0	-158.82	138.4	9.3	152.1	144.4	7.72	19.697		
1,900.0	1,899.4	1,885.7	1,883.2	4.0	4.2	-159.02	148.2	11.4	168.2	160.0	8.13	20.682		
2,000.0	1,999.2	1,984.4	1,981.4	4.2	4.5	-159.20	158.0	13.5	184.2	175.7	8.55	21.557		
2,100.0	2,099.0	2,083.1	2,079.6	4.4	4.7	-159.34	167.7	15.6	200.3	191.3	8.97	22.341		
2,200.0	2,198.7	2,181.8	2,177.7	4.6	5.0	-159.46	177.5	17.7	216.4	207.0	9.39	23.043		
2,300.0	2,298.5	2,280.5	2,275.9	4.8	5.3	-159.57	187.2	19.8	232.5	222.6	9.82	23.676		
2,400.0	2,398.3	2,379.2	2,374.1	5.1	5.5	-159.66	197.0	21.9	248.5	238.3	10.25	24.249		
2,500.0	2,498.1	2,477.9	2,472.3	5.3	5.8	-159.74	206.8	23.9	264.6	253.9	10.68	24.768		
2,600.0	2,597.9	2,576.6	2,570.5	5.5	6.1	-159.81	216.5	26.0	280.7	269.6	11.12	25.241		
2,700.0	2,697.7	2,675.3	2,668.7	5.7	6.3	-159.87	226.3	28.1	296.8	285.2	11.56	25.673		
2,800.0	2,797.4	2,774.0	2,766.9	6.0	6.6	-159.93	236.1	30.2	312.9	300.8	12.00	26.070		
2,900.0	2,897.2	2,872.7	2,865.1	6.2	6.9	-159.98	245.8	32.3	328.9	316.5	12.44	26.434		
3,000.0	2,997.0	2,971.4	2,963.3	6.4	7.1	-160.03	255.6	34.4	345.0	332.1	12.89	26.770		
3,100.0	3,096.8	3,070.1	3,061.5	6.7	7.4	-160.07	265.3	36.5	361.1	347.8	13.33	27.081		
3,200.0	3,196.6	3,168.8	3,159.7	6.9	7.7	-160.11	275.1	38.5	377.2	363.4	13.78	27.369		
3,300.0	3,296.3	3,267.5	3,257.9	7.2	8.0	-160.14	284.9	40.6	393.2	379.0	14.23	27.636		
3,400.0	3,396.1	3,366.2	3,356.1	7.4	8.3	-160.18	294.6	42.7	409.3	394.6	14.68	27.885		
3,500.0	3,495.9	3,464.9	3,454.3	7.6	8.5	-160.21	304.4	44.8	425.4	410.3	15.13	28.118		
3,600.0	3,595.7	3,563.6	3,552.4	7.9	8.8	-160.24	314.1	46.9	441.5	425.9	15.58	28.335		
3,700.0	3,695.5	3,662.3	3,650.6	8.1	9.1	-160.26	323.9	49.0	457.6	441.5	16.03	28.539		
3,800.0	3,795.3	3,761.0	3,748.8	8.4	9.4	-160.29	333.7	51.1	473.6	457.2	16.49	28.730		
3,900.0	3,895.0	3,859.7	3,847.0	8.6	9.6	-160.31	343.4	53.1	489.7	472.8	16.94	28.910		
4,000.0	3,994.8	3,958.4	3,945.2	8.9	9.9	-160.33	353.2	55.2	505.8	488.4	17.39	29.079		
4,100.0	4,094.6	4,057.1	4,043.4	9.1	10.2	-160.35	363.0	57.3	521.9	504.0	17.85	29.238		
4,200.0	4,194.4	4,155.8	4,141.6	9.4	10.5	-160.37	372.7	59.4	538.0	519.7	18.31	29.389		
4,300.0	4,294.2	4,254.5	4,239.8	9.6	10.8	-160.39	382.5	61.5	554.1	535.3	18.76	29.532		
4,400.0	4,393.9	4,353.2	4,338.0	9.9	11.0	-160.40	392.2	63.6	570.1	550.9	19.22	29.667		
4,500.0	4,493.7	4,451.9	4,436.2	10.1	11.3	-160.42	402.0	65.7	586.2	566.5	19.67	29.795		
4,600.0	4,593.5	4,550.6	4,534.4	10.4	11.6	-160.43	411.8	67.7	602.3	582.2	20.13	29.917		
4,700.0	4,693.3	4,649.3	4,632.6	10.6	11.9	-160.45	421.5	69.8	618.4	597.8	20.59	30.032		
4,800.0	4,793.1	4,748.0	4,730.8	10.9	12.2	-160.46	431.3	71.9	634.5	613.4	21.05	30.142		
4,900.0	4,892.8	4,846.6	4,828.9	11.1	12.5	-160.47	441.0	74.0	650.5	629.0	21.51	30.247		
5,000.0	4,992.6	4,945.3	4,927.1	11.4	12.7	-160.49	450.8	76.1	666.6	644.7	21.97	30.347		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 1-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.0	5,092.4	5,044.0	5,025.3	11.7	13.0	-160.50	460.6	78.2	682.7	660.3	22.43	30.443	
5,200.0	5,192.2	5,142.7	5,123.5	11.9	13.3	-160.51	470.3	80.3	698.8	675.9	22.89	30.534	
5,300.0	5,292.0	5,241.4	5,221.7	12.2	13.6	-160.52	480.1	82.3	714.9	691.5	23.35	30.621	
5,400.0	5,391.8	5,340.1	5,319.9	12.4	13.9	-160.53	489.9	84.4	730.9	707.1	23.81	30.705	
5,500.0	5,491.5	5,438.8	5,418.1	12.7	14.1	-160.54	499.6	86.5	747.0	722.8	24.27	30.785	
5,600.0	5,591.3	5,537.5	5,516.3	12.9	14.4	-160.55	509.4	88.6	763.1	738.4	24.73	30.862	
5,700.0	5,691.1	5,636.2	5,614.5	13.2	14.7	-160.56	519.1	90.7	779.2	754.0	25.19	30.936	
5,800.0	5,790.9	5,734.9	5,712.7	13.4	15.0	-160.57	528.9	92.8	795.3	769.6	25.65	31.007	
5,900.0	5,890.7	5,833.6	5,810.9	13.7	15.3	-160.57	538.7	94.9	811.4	785.2	26.11	31.075	
6,000.0	5,990.4	5,932.3	5,909.1	13.9	15.6	-160.58	548.4	96.9	827.4	800.9	26.57	31.140	
6,100.0	6,090.2	6,031.0	6,007.3	14.2	15.8	-160.59	558.2	99.0	843.5	816.5	27.03	31.203	
6,200.0	6,190.0	6,129.7	6,105.4	14.5	16.1	-160.60	567.9	101.1	859.6	832.1	27.50	31.264	
6,300.0	6,289.8	6,228.4	6,203.6	14.7	16.4	144.32	577.7	103.2	875.7	847.7	27.95	31.331	
6,400.0	6,388.9	6,327.5	6,302.1	14.9	16.7	108.24	587.5	103.2	891.8	863.5	28.34	31.463	
6,500.0	6,485.4	6,428.7	6,402.0	15.1	16.9	100.06	597.4	90.5	907.7	879.0	28.69	31.638	
6,600.0	6,577.5	6,532.0	6,501.1	15.2	17.1	96.48	607.1	63.0	923.0	894.0	29.04	31.787	
6,700.0	6,663.3	6,637.5	6,597.1	15.4	17.3	94.41	616.5	20.5	937.5	908.0	29.47	31.811	
6,800.0	6,741.3	6,745.2	6,687.6	15.6	17.6	93.04	625.4	-37.0	950.8	920.7	30.12	31.568	
6,900.0	6,809.8	6,855.1	6,770.1	15.9	17.9	92.06	633.3	-109.0	962.6	931.5	31.16	30.896	
7,000.0	6,867.6	6,967.1	6,841.8	16.6	18.4	91.36	640.2	-194.5	972.7	939.9	32.77	29.680	
7,100.0	6,913.6	7,080.8	6,900.2	17.7	19.3	90.84	645.7	-291.7	980.7	945.6	35.09	27.944	
7,200.0	6,946.7	7,195.8	6,943.0	19.1	20.6	90.48	649.6	-398.3	986.5	948.3	38.16	25.851	
7,300.0	6,966.5	7,311.8	6,968.4	20.9	22.4	90.25	651.8	-511.4	989.9	948.0	41.90	23.624	
7,400.0	6,972.5	7,424.1	6,975.5	22.8	24.5	90.14	652.1	-623.3	990.9	944.9	46.05	21.520	
7,500.0	6,972.5	7,517.7	6,975.5	24.9	26.3	90.14	652.5	-716.9	991.6	941.5	50.13	19.780	
7,600.0	6,972.5	7,617.7	6,975.5	27.2	28.5	90.14	653.0	-816.9	992.5	937.9	54.59	18.179	
7,700.0	6,972.5	7,717.7	6,975.5	29.5	30.7	90.14	653.5	-916.9	993.2	934.0	59.25	16.764	
7,800.0	6,972.5	7,817.7	6,975.5	31.9	33.0	90.14	654.1	-1,016.9	994.0	929.9	64.06	15.516	
7,900.0	6,972.5	7,917.7	6,975.5	34.4	35.4	90.14	654.6	-1,116.9	994.7	925.7	68.99	14.417	
8,000.0	6,972.5	8,017.7	6,975.5	36.9	37.9	90.14	655.1	-1,216.9	995.4	921.4	74.03	13.447	
8,100.0	6,972.5	8,117.7	6,975.5	39.5	40.4	90.14	655.6	-1,316.9	996.1	917.0	79.14	12.587	
8,200.0	6,972.5	8,217.7	6,975.5	42.1	42.9	90.14	656.2	-1,416.9	996.7	912.4	84.31	11.822	
8,300.0	6,972.5	8,317.7	6,975.5	44.7	45.5	90.14	656.7	-1,516.9	997.4	907.8	89.54	11.139	
8,400.0	6,972.5	8,417.6	6,975.5	47.3	48.1	90.14	657.2	-1,616.8	997.9	903.1	94.81	10.525	
8,500.0	6,972.5	8,517.6	6,975.5	50.0	50.7	90.14	657.7	-1,716.8	998.5	898.4	100.13	9.972	
8,600.0	6,972.5	8,617.6	6,975.5	52.7	53.4	90.14	658.3	-1,816.8	999.0	893.6	105.47	9.472	
8,700.0	6,972.5	8,717.6	6,975.5	55.3	56.0	90.14	658.8	-1,916.8	999.5	888.7	110.84	9.018	
12,700.0	6,972.5	12,717.6	6,975.5	166.1	166.5	90.14	679.8	-5,916.8	999.8	667.4	332.45	3.007	
12,800.0	6,972.5	12,817.6	6,975.5	168.9	169.3	90.14	680.3	-6,016.8	999.6	661.5	338.05	2.957	
12,900.0	6,972.5	12,917.6	6,975.5	171.7	172.1	90.14	680.8	-6,116.8	999.4	655.7	343.64	2.908	
13,000.0	6,972.5	13,017.6	6,975.5	174.5	174.9	90.14	681.3	-6,216.8	999.2	649.9	349.23	2.861	
13,100.0	6,972.5	13,117.6	6,975.5	177.3	177.7	90.14	681.9	-6,316.8	999.0	644.1	354.83	2.815	
13,200.0	6,972.5	13,217.6	6,975.5	180.1	180.5	90.14	682.4	-6,416.8	998.7	638.3	360.42	2.771	
13,300.0	6,972.5	13,317.6	6,975.5	182.9	183.3	90.14	682.9	-6,516.8	998.5	632.5	366.02	2.728	
13,400.0	6,972.5	13,417.6	6,975.5	185.7	186.1	90.14	683.4	-6,616.8	998.3	626.7	371.62	2.686	
13,500.0	6,972.5	13,517.6	6,975.5	188.5	188.9	90.14	684.0	-6,716.8	998.1	620.9	377.22	2.646	
13,600.0	6,972.5	13,617.6	6,975.5	191.3	191.7	90.14	684.5	-6,816.8	997.9	615.1	382.81	2.607	
13,700.0	6,972.5	13,717.6	6,975.5	194.1	194.5	90.14	685.0	-6,916.8	997.7	609.3	388.41	2.569	
13,800.0	6,972.5	13,817.6	6,975.5	196.9	197.3	90.14	685.5	-7,016.8	997.5	603.4	394.01	2.532	
13,900.0	6,972.5	13,917.6	6,975.5	199.7	200.1	90.14	686.1	-7,116.8	997.2	597.6	399.61	2.496	
14,000.0	6,972.5	14,017.6	6,975.5	202.5	202.9	90.14	686.6	-7,216.8	997.0	591.8	405.21	2.461	
14,100.0	6,972.5	14,117.6	6,975.5	205.3	205.7	90.14	687.1	-7,316.8	996.8	586.0	410.81	2.426	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-1												Offset Site Error:	0.0 ft
Survey Program: 1-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
14,200.0	6,972.5	14,217.6	6,975.5	208.1	208.5	90.14	687.6	-7,416.8	996.6	580.2	416.42	2.393	
14,300.0	6,972.5	14,317.6	6,975.5	210.9	211.3	90.14	688.1	-7,516.8	996.4	574.4	422.02	2.361	
14,400.0	6,972.5	14,417.6	6,975.5	213.7	214.1	90.14	688.7	-7,616.7	996.2	568.6	427.62	2.330	
14,500.0	6,972.5	14,517.6	6,975.5	216.5	216.9	90.14	689.2	-7,716.7	996.0	562.7	433.22	2.299	
14,600.0	6,972.5	14,617.6	6,975.5	219.3	219.7	90.14	689.7	-7,816.7	995.8	556.9	438.83	2.269	
14,700.0	6,972.5	14,717.6	6,975.5	222.1	222.5	90.14	690.2	-7,916.7	995.5	551.1	444.43	2.240	
14,800.0	6,972.5	14,817.6	6,975.5	224.9	225.3	90.14	690.8	-8,016.7	995.3	545.3	450.04	2.212	
14,900.0	6,972.5	14,917.6	6,975.5	227.7	228.1	90.14	691.3	-8,116.7	995.1	539.5	455.64	2.184	
15,000.0	6,972.5	15,017.6	6,975.5	230.5	230.9	90.14	691.8	-8,216.7	994.9	533.7	461.25	2.157	
15,100.0	6,972.5	15,117.6	6,975.5	233.3	233.7	90.14	692.3	-8,316.7	994.7	527.8	466.85	2.131	
15,200.0	6,972.5	15,217.6	6,975.5	236.1	236.5	90.14	692.9	-8,416.7	994.5	522.0	472.46	2.105	
15,300.0	6,972.5	15,317.6	6,975.5	238.9	239.3	90.14	693.4	-8,516.7	994.3	516.2	478.06	2.080	
15,400.0	6,972.5	15,417.6	6,975.5	241.7	242.1	90.14	693.9	-8,616.7	994.1	510.4	483.67	2.055	
15,500.0	6,972.5	15,517.6	6,975.5	244.5	244.9	90.14	694.4	-8,716.7	993.8	504.6	489.28	2.031	
15,600.0	6,972.5	15,617.6	6,975.5	247.3	247.7	90.14	695.0	-8,816.7	993.6	498.7	494.89	2.008	
15,700.0	6,972.5	15,717.6	6,975.5	250.1	250.5	90.14	695.5	-8,916.7	993.4	492.9	500.49	1.985	
15,800.0	6,972.5	15,817.6	6,975.5	252.9	253.3	90.14	696.0	-9,016.7	993.2	487.1	506.10	1.962	
15,900.0	6,972.5	15,917.6	6,975.5	255.7	256.1	90.14	696.5	-9,116.7	993.0	481.3	511.71	1.941	
16,000.0	6,972.5	16,017.6	6,975.5	258.5	258.9	90.14	697.1	-9,216.7	992.8	475.5	517.32	1.919	
16,100.0	6,972.5	16,117.6	6,975.5	261.3	261.7	90.14	697.6	-9,316.7	992.6	469.6	522.93	1.898	
16,200.0	6,972.5	16,217.6	6,975.5	264.1	264.5	90.14	698.1	-9,416.7	992.3	463.8	528.53	1.878	
16,300.0	6,972.5	16,317.6	6,975.5	267.0	267.3	90.14	698.6	-9,516.7	992.1	458.0	534.14	1.857	
16,400.0	6,972.5	16,417.6	6,975.5	269.8	270.1	90.14	699.2	-9,616.7	991.9	452.2	539.75	1.838	
16,500.0	6,972.5	16,517.6	6,975.5	272.6	272.9	90.14	699.7	-9,716.7	991.7	446.3	545.36	1.818	
16,600.0	6,972.5	16,617.6	6,975.5	275.4	275.7	90.14	700.2	-9,816.7	991.5	440.5	550.97	1.800	
16,700.0	6,972.5	16,717.6	6,975.5	278.2	278.5	90.14	700.7	-9,916.7	991.3	434.7	556.58	1.781	
16,800.0	6,972.5	16,817.6	6,975.5	281.0	281.2	90.14	701.3	-10,016.7	991.1	429.0	562.02	1.763	
16,856.2	6,972.5	16,873.8	6,975.5	282.5	282.2	90.14	701.6	-10,072.9	990.9	426.3	564.61	1.755 SF	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	1.46	109.3	2.8	109.3					
100.0	100.0	100.0	100.0	0.1	0.1	1.46	109.3	2.8	109.3	109.1	0.22	486.436		
200.0	200.0	200.0	200.0	0.3	0.3	1.46	109.3	2.8	109.3	108.7	0.67	162.145		
300.0	300.0	300.0	300.0	0.6	0.6	1.46	109.3	2.8	109.3	108.2	1.12	97.287		
400.0	400.0	400.0	400.0	0.8	0.8	1.46	109.3	2.8	109.3	107.8	1.57	69.491		
500.0	500.0	500.0	500.0	1.0	1.0	1.46	109.3	2.8	109.3	107.3	2.02	54.048		
600.0	600.0	600.0	600.0	1.2	1.2	1.46	109.3	2.8	109.3	106.9	2.47	44.221		
700.0	700.0	700.0	700.0	1.5	1.5	1.46	109.3	2.8	109.3	106.4	2.92	37.418		
800.0	800.0	800.0	800.0	1.7	1.7	1.46	109.3	2.8	109.3	106.0	3.37	32.429		
900.0	900.0	900.0	900.0	1.9	1.9	1.46	109.3	2.8	109.3	105.5	3.82	28.614		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	1.46	109.3	2.8	109.3	105.1	4.27	25.602 CC, ES		
1,100.0	1,100.0	1,096.3	1,096.3	2.4	2.4	1.55	110.9	3.0	111.0	106.3	4.71	23.557		
1,200.0	1,200.0	1,192.4	1,192.3	2.6	2.6	1.81	115.7	3.7	116.0	110.9	5.16	22.503		
1,300.0	1,300.0	1,288.1	1,287.6	2.8	2.8	2.20	123.6	4.7	124.3	118.7	5.60	22.205 SF		
1,400.0	1,400.0	1,383.1	1,381.9	3.0	3.0	2.66	134.6	6.2	136.0	129.9	6.05	22.492		
1,500.0	1,500.0	1,479.5	1,477.3	3.3	3.3	3.14	148.6	8.2	150.6	144.1	6.50	23.170		
1,600.0	1,600.0	1,578.1	1,574.8	3.5	3.5	-157.39	163.4	10.2	167.2	160.3	6.92	24.162		
1,700.0	1,699.8	1,676.1	1,671.6	3.6	3.8	-157.52	178.1	12.2	187.1	179.8	7.32	25.570		
1,800.0	1,799.6	1,773.8	1,768.2	3.8	4.1	-157.88	192.7	14.2	208.2	200.4	7.72	26.960		
1,900.0	1,899.4	1,871.6	1,864.9	4.0	4.4	-158.17	207.4	16.2	229.3	221.1	8.13	28.184		
2,000.0	1,999.2	1,969.3	1,961.5	4.2	4.7	-158.42	222.0	18.2	250.4	241.8	8.55	29.274		
2,100.0	2,099.0	2,067.0	2,058.1	4.4	5.0	-158.63	236.7	20.2	271.5	262.5	8.98	30.242		
2,200.0	2,198.7	2,164.8	2,154.7	4.6	5.4	-158.80	251.4	22.2	292.6	283.2	9.41	31.108		
2,300.0	2,298.5	2,262.5	2,251.3	4.8	5.7	-158.96	266.0	24.2	313.7	303.9	9.84	31.886		
2,400.0	2,398.3	2,360.3	2,347.9	5.1	6.0	-159.09	280.7	26.2	334.8	324.6	10.28	32.587		
2,500.0	2,498.1	2,458.0	2,444.6	5.3	6.3	-159.21	295.3	28.2	356.0	345.2	10.72	33.221		
2,600.0	2,597.9	2,555.8	2,541.2	5.5	6.7	-159.31	310.0	30.2	377.1	365.9	11.16	33.797		
2,700.0	2,697.7	2,653.5	2,637.8	5.7	7.0	-159.41	324.6	32.2	398.2	386.6	11.60	34.321		
2,800.0	2,797.4	2,751.2	2,734.4	6.0	7.3	-159.49	339.3	34.2	419.3	407.3	12.05	34.801		
2,900.0	2,897.2	2,849.0	2,831.0	6.2	7.7	-159.57	353.9	36.2	440.5	428.0	12.50	35.241		
3,000.0	2,997.0	2,946.7	2,927.6	6.4	8.0	-159.64	368.6	38.2	461.6	448.6	12.95	35.645		
3,100.0	3,096.8	3,044.5	3,024.3	6.7	8.3	-159.70	383.2	40.2	482.7	469.3	13.40	36.018		
3,200.0	3,196.6	3,142.2	3,120.9	6.9	8.7	-159.76	397.9	42.2	503.8	490.0	13.86	36.363		
3,300.0	3,296.3	3,239.9	3,217.5	7.2	9.0	-159.81	412.5	44.2	525.0	510.6	14.31	36.682		
3,400.0	3,396.1	3,337.7	3,314.1	7.4	9.4	-159.86	427.2	46.2	546.1	531.3	14.77	36.979		
3,500.0	3,495.9	3,435.4	3,410.7	7.6	9.7	-159.91	441.8	48.2	567.2	552.0	15.22	37.256		
3,600.0	3,595.7	3,533.2	3,507.3	7.9	10.0	-159.95	456.5	50.2	588.3	572.7	15.68	37.514		
3,700.0	3,695.5	3,630.9	3,604.0	8.1	10.4	-159.99	471.1	52.2	609.5	593.3	16.14	37.755		
3,800.0	3,795.3	3,728.7	3,700.6	8.4	10.7	-160.02	485.8	54.2	630.6	614.0	16.60	37.981		
3,900.0	3,895.0	3,826.4	3,797.2	8.6	11.1	-160.06	500.4	56.2	651.7	634.7	17.06	38.192		
4,000.0	3,994.8	3,924.1	3,893.8	8.9	11.4	-160.09	515.1	58.2	672.9	655.3	17.53	38.392		
4,100.0	4,094.6	4,021.9	3,990.4	9.1	11.7	-160.12	529.7	60.2	694.0	676.0	17.99	38.579		
4,200.0	4,194.4	4,119.6	4,087.0	9.4	12.1	-160.15	544.4	62.2	715.1	696.7	18.45	38.756		
4,300.0	4,294.2	4,217.4	4,183.7	9.6	12.4	-160.18	559.0	64.2	736.2	717.3	18.92	38.923		
4,400.0	4,393.9	4,315.1	4,280.3	9.9	12.8	-160.20	573.7	66.2	757.4	738.0	19.38	39.081		
4,500.0	4,493.7	4,412.8	4,376.9	10.1	13.1	-160.22	588.3	68.2	778.5	758.7	19.84	39.231		
4,600.0	4,593.5	4,510.6	4,473.5	10.4	13.5	-160.25	603.0	70.2	799.6	779.3	20.31	39.372		
4,700.0	4,693.3	4,608.3	4,570.1	10.6	13.8	-160.27	617.6	72.2	820.8	800.0	20.77	39.507		
4,800.0	4,793.1	4,706.1	4,666.7	10.9	14.1	-160.29	632.3	74.2	841.9	820.6	21.24	39.635		
4,900.0	4,892.8	4,803.8	4,763.4	11.1	14.5	-160.31	646.9	76.2	863.0	841.3	21.71	39.756		
5,000.0	4,992.6	4,901.6	4,860.0	11.4	14.8	-160.33	661.6	78.2	884.1	862.0	22.17	39.872		
5,100.0	5,092.4	4,999.3	4,956.6	11.7	15.2	-160.34	676.2	80.2	905.3	882.6	22.64	39.983		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 0-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,200.0	5,192.2	5,097.0	5,053.2	11.9	15.5	-160.36	690.9	82.2	926.4	903.3	23.11	40.088	
5,300.0	5,292.0	5,194.8	5,149.8	12.2	15.9	-160.38	705.5	84.2	947.5	924.0	23.58	40.189	
5,400.0	5,391.8	5,292.5	5,246.4	12.4	16.2	-160.39	720.2	86.2	968.7	944.6	24.05	40.285	
5,500.0	5,491.5	5,390.3	5,343.1	12.7	16.6	-160.41	734.9	88.2	989.8	965.3	24.51	40.377	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 7232-UNKNOWN													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	112.81	-206.6	491.1	533.3					
100.0	100.0	76.0	76.0	0.1	1.5	112.81	-206.6	491.1	532.8	531.1	1.63	326.338		
200.0	200.0	176.0	176.0	0.3	3.5	112.81	-206.6	491.1	532.8	528.9	3.86	138.119		
300.0	300.0	276.0	276.0	0.6	5.5	112.81	-206.6	491.1	532.8	526.7	6.08	87.597		
400.0	400.0	376.0	376.0	0.8	7.5	112.81	-206.6	491.1	532.8	524.5	8.31	64.137		
500.0	500.0	476.0	476.0	1.0	9.5	112.81	-206.6	491.1	532.8	522.2	10.53	50.588		
600.0	600.0	576.0	576.0	1.2	11.5	112.81	-206.6	491.1	532.8	520.0	12.76	41.765		
700.0	700.0	676.0	676.0	1.5	13.5	112.81	-206.6	491.1	532.8	517.8	14.98	35.563		
800.0	800.0	776.0	776.0	1.7	15.5	112.81	-206.6	491.1	532.8	515.6	17.21	30.965		
900.0	900.0	876.0	876.0	1.9	17.5	112.81	-206.6	491.1	532.8	513.3	19.43	27.419		
1,000.0	1,000.0	976.0	976.0	2.1	19.5	112.81	-206.6	491.1	532.8	511.1	21.66	24.602		
1,100.0	1,100.0	1,076.0	1,076.0	2.4	21.5	112.81	-206.6	491.1	532.8	508.9	23.88	22.310		
1,200.0	1,200.0	1,176.0	1,176.0	2.6	23.5	112.81	-206.6	491.1	532.8	506.7	26.10	20.409		
1,300.0	1,300.0	1,276.0	1,276.0	2.8	25.5	112.81	-206.6	491.1	532.8	504.4	28.33	18.806		
1,400.0	1,400.0	1,376.0	1,376.0	3.0	27.5	112.81	-206.6	491.1	532.8	502.2	30.55	17.437		
1,500.0	1,500.0	1,476.0	1,476.0	3.3	29.5	112.81	-206.6	491.1	532.8	500.0	32.78	16.253		
1,600.0	1,600.0	1,576.0	1,576.0	3.5	31.5	-48.20	-206.6	491.1	531.6	496.6	34.97	15.204		
1,700.0	1,699.8	1,675.8	1,675.8	3.6	33.5	-48.66	-206.6	491.1	528.1	491.0	37.11	14.232		
1,800.0	1,799.6	1,775.6	1,775.6	3.8	35.5	-49.20	-206.6	491.1	523.8	484.5	39.28	13.333		
1,900.0	1,899.4	1,875.4	1,875.4	4.0	37.5	-49.75	-206.6	491.1	519.5	478.0	41.47	12.528		
2,000.0	1,999.2	1,975.2	1,975.2	4.2	39.5	-50.31	-206.6	491.1	515.3	471.6	43.66	11.803		
2,100.0	2,099.0	2,075.0	2,075.0	4.4	41.5	-50.88	-206.6	491.1	511.1	465.2	45.85	11.146		
2,200.0	2,198.7	2,174.7	2,174.7	4.6	43.5	-51.46	-206.6	491.1	506.9	458.9	48.05	10.549		
2,300.0	2,298.5	2,274.5	2,274.5	4.8	45.5	-52.05	-206.6	491.1	502.8	452.6	50.26	10.005		
2,400.0	2,398.3	2,374.3	2,374.3	5.1	47.5	-52.65	-206.6	491.1	498.8	446.3	52.47	9.507		
2,500.0	2,498.1	2,474.1	2,474.1	5.3	49.5	-53.26	-206.6	491.1	494.8	440.1	54.68	9.049		
2,600.0	2,597.9	2,573.9	2,573.9	5.5	51.5	-53.87	-206.6	491.1	490.9	434.0	56.89	8.627		
2,700.0	2,697.7	2,673.7	2,673.7	5.7	53.5	-54.50	-206.6	491.1	487.0	427.9	59.11	8.238		
2,800.0	2,797.4	2,773.4	2,773.4	6.0	55.5	-55.14	-206.6	491.1	483.2	421.8	61.34	7.877		
2,900.0	2,897.2	2,873.2	2,873.2	6.2	57.5	-55.78	-206.6	491.1	479.4	415.9	63.56	7.543		
3,000.0	2,997.0	2,973.0	2,973.0	6.4	59.5	-56.44	-206.6	491.1	475.7	409.9	65.79	7.231		
3,100.0	3,096.8	3,072.8	3,072.8	6.7	61.5	-57.11	-206.6	491.1	472.1	404.1	68.02	6.941		
3,200.0	3,196.6	3,172.6	3,172.6	6.9	63.5	-57.78	-206.6	491.1	468.5	398.3	70.25	6.670		
3,300.0	3,296.3	3,272.3	3,272.3	7.2	65.4	-58.47	-206.6	491.1	465.0	392.6	72.48	6.416		
3,400.0	3,396.1	3,372.1	3,372.1	7.4	67.4	-59.17	-206.6	491.1	461.6	386.9	74.72	6.178		
3,500.0	3,495.9	3,471.9	3,471.9	7.6	69.4	-59.88	-206.6	491.1	458.3	381.3	76.96	5.955		
3,600.0	3,595.7	3,571.7	3,571.7	7.9	71.4	-60.60	-206.6	491.1	455.0	375.8	79.20	5.745		
3,700.0	3,695.5	3,671.5	3,671.5	8.1	73.4	-61.33	-206.6	491.1	451.8	370.3	81.44	5.547		
3,800.0	3,795.3	3,771.3	3,771.3	8.4	75.4	-62.06	-206.6	491.1	448.6	365.0	83.68	5.361		
3,900.0	3,895.0	3,871.0	3,871.0	8.6	77.4	-62.81	-206.6	491.1	445.6	359.6	85.92	5.186		
4,000.0	3,994.8	3,970.8	3,970.8	8.9	79.4	-63.57	-206.6	491.1	442.6	354.4	88.17	5.020		
4,100.0	4,094.6	4,070.6	4,070.6	9.1	81.4	-64.34	-206.6	491.1	439.7	349.3	90.42	4.863		
4,200.0	4,194.4	4,170.4	4,170.4	9.4	83.4	-65.12	-206.6	491.1	436.9	344.2	92.66	4.714		
4,300.0	4,294.2	4,270.2	4,270.2	9.6	85.4	-65.91	-206.6	491.1	434.1	339.2	94.91	4.574		
4,400.0	4,393.9	4,369.9	4,369.9	9.9	87.4	-66.71	-206.6	491.1	431.5	334.3	97.16	4.441		
4,500.0	4,493.7	4,469.7	4,469.7	10.1	89.4	-67.52	-206.6	491.1	428.9	329.5	99.41	4.314		
4,600.0	4,593.5	4,569.5	4,569.5	10.4	91.4	-68.34	-206.6	491.1	426.4	324.7	101.66	4.194		
4,700.0	4,693.3	4,669.3	4,669.3	10.6	93.4	-69.17	-206.6	491.1	424.0	320.1	103.92	4.080		
4,800.0	4,793.1	4,769.1	4,769.1	10.9	95.4	-70.01	-206.6	491.1	421.7	315.5	106.17	3.972		
4,900.0	4,892.8	4,868.8	4,868.8	11.1	97.4	-70.85	-206.6	491.1	419.5	311.0	108.42	3.869		
5,000.0	4,992.6	4,968.6	4,968.6	11.4	99.4	-71.71	-206.6	491.1	417.3	306.7	110.68	3.771		
5,100.0	5,092.4	5,068.4	5,068.4	11.7	101.4	-72.57	-206.6	491.1	415.3	302.4	112.93	3.677		

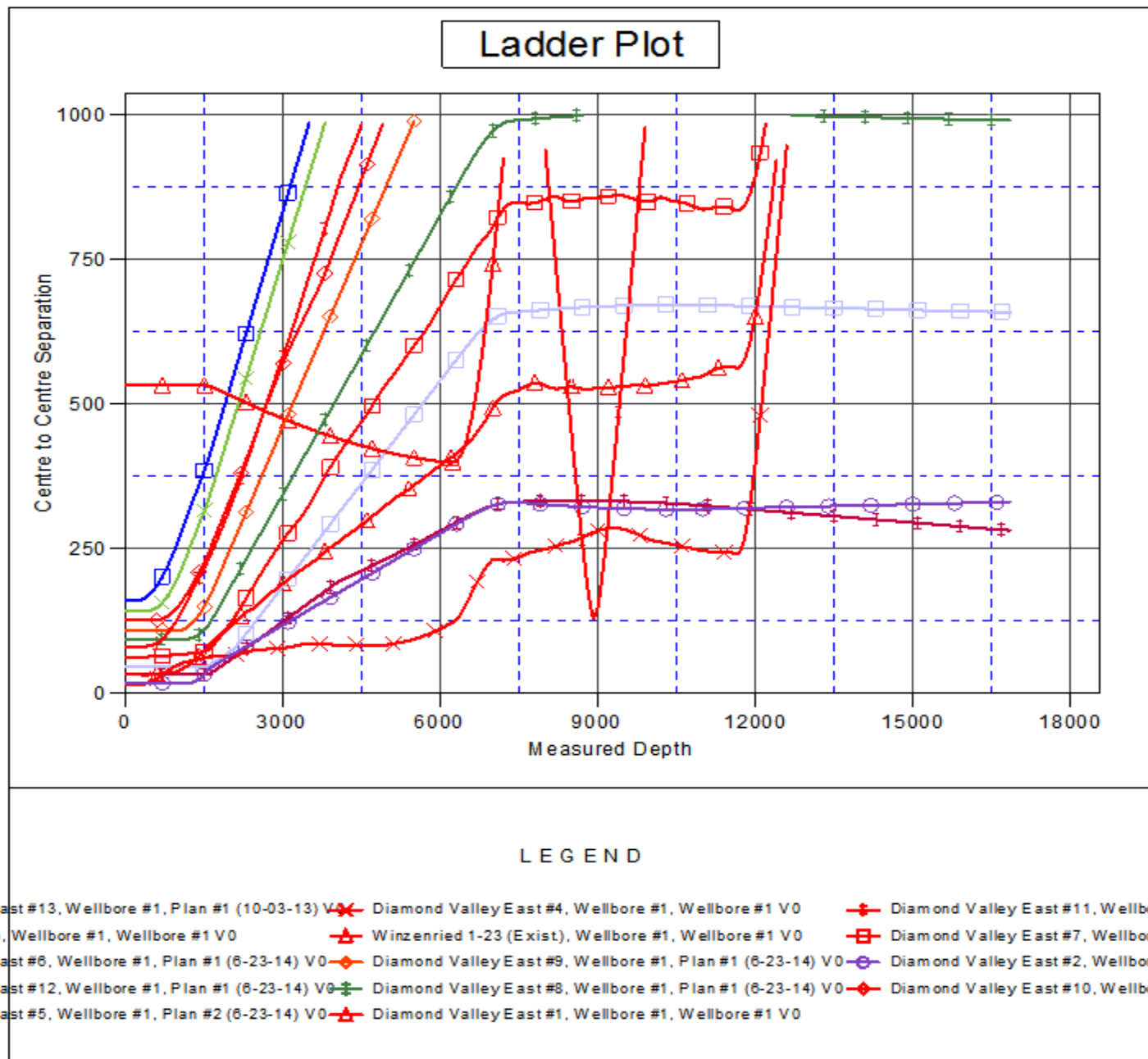
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Winzenried 1-23 (Exist.) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 7232-UNKNOWN												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,200.0	5,192.2	5,168.2	5,168.2	11.9	103.4	-73.44	-206.6	491.1	413.4	298.2	115.19	3.589	
5,300.0	5,292.0	5,268.0	5,268.0	12.2	105.4	-74.32	-206.6	491.1	411.5	294.1	117.45	3.504	
5,400.0	5,391.8	5,367.8	5,367.8	12.4	107.4	-75.21	-206.6	491.1	409.8	290.1	119.70	3.423	
5,500.0	5,491.5	5,467.5	5,467.5	12.7	109.4	-76.11	-206.6	491.1	408.2	286.2	121.96	3.347	
5,600.0	5,591.3	5,567.3	5,567.3	12.9	111.3	-77.01	-206.6	491.1	406.6	282.4	124.22	3.273	
5,700.0	5,691.1	5,667.1	5,667.1	13.2	113.3	-77.92	-206.6	491.1	405.2	278.7	126.48	3.204	
5,800.0	5,790.9	5,766.9	5,766.9	13.4	115.3	-78.83	-206.6	491.1	403.8	275.1	128.73	3.137	
5,900.0	5,890.7	5,866.7	5,866.7	13.7	117.3	-79.75	-206.6	491.1	402.6	271.6	130.99	3.074	
6,000.0	5,990.4	5,966.4	5,966.4	13.9	119.3	-80.68	-206.6	491.1	401.5	268.2	133.25	3.013	
6,100.0	6,090.2	6,066.2	6,066.2	14.2	121.3	-81.61	-206.6	491.1	400.5	265.0	135.50	2.955	
6,200.0	6,190.0	6,166.0	6,166.0	14.5	123.3	-82.54	-206.6	491.1	399.6	261.8	137.76	2.900 CC	
6,246.1	6,236.1	6,212.1	6,212.1	14.6	124.2	-110.20	-206.6	491.1	399.9	261.1	138.77	2.882	
6,300.0	6,289.8	6,265.8	6,265.8	14.7	125.3	-138.01	-206.6	491.1	400.3	260.5	139.78	2.864 ES, SF	
6,400.0	6,388.9	6,364.9	6,364.9	14.9	127.3	-174.26	-206.6	491.1	412.8	273.2	139.57	2.958	
6,500.0	6,485.4	6,461.4	6,461.4	15.1	129.2	177.48	-206.6	491.1	438.7	302.0	136.67	3.210	
6,600.0	6,577.5	6,553.5	6,553.5	15.2	131.1	173.91	-206.6	491.1	477.3	346.3	131.09	3.641	
6,700.0	6,663.3	6,639.3	6,639.3	15.4	132.8	171.80	-206.6	491.1	528.2	405.2	122.91	4.297	
6,800.0	6,741.3	6,717.3	6,717.3	15.6	134.3	170.17	-206.6	491.1	590.2	477.8	112.41	5.250	
6,900.0	6,809.8	6,785.8	6,785.8	15.9	135.7	168.49	-206.6	491.1	662.3	562.1	100.14	6.614	
7,000.0	6,867.6	6,843.6	6,843.6	16.6	136.9	166.24	-206.6	491.1	743.1	655.8	87.30	8.512	
7,100.0	6,913.6	6,889.6	6,889.6	17.7	137.8	162.60	-206.6	491.1	831.1	754.2	76.98	10.797	
7,200.0	6,946.7	6,922.7	6,922.7	19.1	138.5	155.49	-206.6	491.1	924.7	846.9	77.80	11.886	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Diamond Valley East #3	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #2 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4791.0ft (Frontier 10 RKB - Coordinates are relative to: Diamond Valley East #3
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000 °
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.41°



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #3
Project:	SEC.23-T6N-R67W	TVD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
Reference Site:	Diamond Valley East Pad Sec.23-T6N-R67W	MD Reference:	WELL @ 4791.0ft (Frontier 10 RKB - 22')
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