

Extraction Oil & Gas

Well Name: **Diamond Valley East #2**

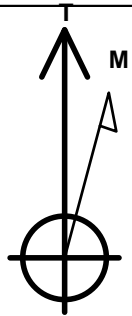
Surface Location: Diamond Valley East Pad Sec.23-T6N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 4769.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1413751.78	3175338.36	40.467440	-104.869810	

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

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
BHL 165'FSL, 460'FWL, SEC.21	6974.0	-602.7	-10078.2	Point
T2 165'FSL, 460'FEL, SEC.22	6974.0	-652.1	-617.7	Point



Azimuths to True North
Magnetic North: 8.52°

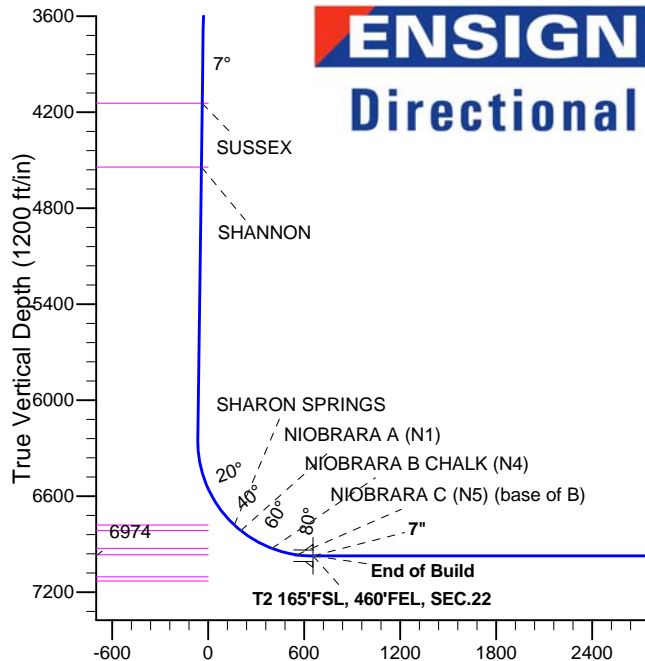
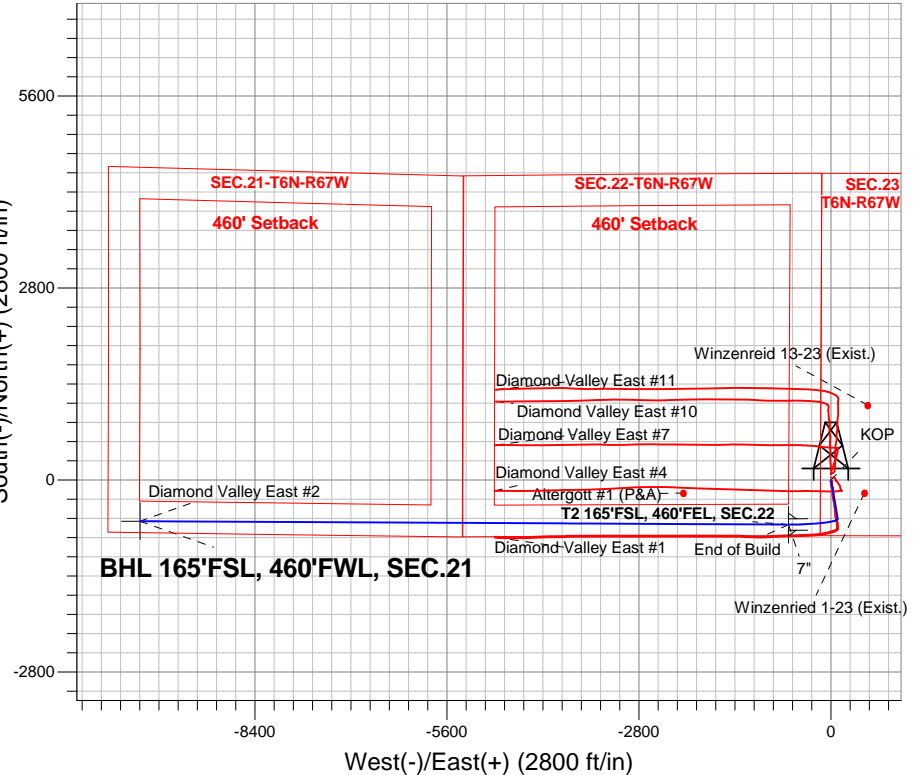
Magnetic Field
Strength: 52834.6nT
Dip Angle: 66.98°
Date: 7/3/2014
Model: IGRF2010

Diamond Valley East Pad Sec.23-T6N-R67W
Diamond Valley East #2
Plan #1 (6-23-14)
12:01, July 03 2014

ANNOTATIONS

TVD	MD	Annotation
1200.0	1200.0	KOP
6974.0	7420.9	End of Build

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



ENSIGN
Directional

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	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
3	1535.5	6.71	170.16	1534.7	-19.3	3.4	2.00	170.16	-2.2	
4	6281.9	6.71	170.16	6248.6	-565.7	98.1	0.00	0.00	-64.1	
5	7420.9	90.00	269.82	6974.0	-652.1	-617.7	8.00	99.59	655.5	T2 165'FSL, 460'FEL, SEC.22
6	7469.0	90.00	270.30	6974.0	-652.0	-665.8	1.00	90.00	703.5	
7	16881.6	90.00	270.30	6974.0	-602.7	-10078.2	0.00	0.00	10096.2	BHL 165'FSL, 460'FWL, SEC.21

BHL 165'FSL, 460'FWL, SEC.21

Vertical Section at 266.58° (1200 ft/in)



Extraction Oil & Gas

SEC.23-T6N-R67W

Diamond Valley East Pad Sec.23-T6N-R67W

Diamond Valley East #2

Wellbore #1

Plan: Plan #1 (6-23-14)

Standard Planning Report

03 July, 2014



Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (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 #2					
Well Position	+N/-S	-18.2 ft	Northing:	1,413,751.78 ft	Latitude:	40.467440
	+E/-W	0.0 ft	Easting:	3,175,338.36 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 #1 (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	266.58

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	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,535.5	6.71	170.16	1,534.7	-19.3	3.4	2.00	2.00	0.00	170.16	
6,281.9	6.71	170.16	6,248.6	-565.7	98.1	0.00	0.00	0.00	0.00	
7,420.9	90.00	269.82	6,974.0	-652.1	-617.7	8.00	7.31	8.75	99.59	T2 165'FSL, 460'FE
7,469.0	90.00	270.30	6,974.0	-652.0	-665.8	1.00	0.00	1.00	90.00	
16,881.6	90.00	270.30	6,974.0	-602.7	-10,078.2	0.00	0.00	0.00	0.00	BHL 165'FSL, 460'F

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Site:	Diamond Valley East Pad Sec.23-T6N-R67W	North Reference:	True
Well:	Diamond Valley East #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (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
KOP									
1,300.0	2.00	170.16	1,300.0	-1.7	0.3	-0.2	2.00	2.00	0.00
1,400.0	4.00	170.16	1,399.8	-6.9	1.2	-0.8	2.00	2.00	0.00
1,500.0	6.00	170.16	1,499.5	-15.5	2.7	-1.8	2.00	2.00	0.00
1,535.5	6.71	170.16	1,534.7	-19.3	3.4	-2.2	2.00	2.00	0.00
1,600.0	6.71	170.16	1,598.8	-26.8	4.6	-3.0	0.00	0.00	0.00
1,700.0	6.71	170.16	1,698.1	-38.3	6.6	-4.3	0.00	0.00	0.00
1,800.0	6.71	170.16	1,797.4	-49.8	8.6	-5.6	0.00	0.00	0.00
1,900.0	6.71	170.16	1,896.7	-61.3	10.6	-6.9	0.00	0.00	0.00
2,000.0	6.71	170.16	1,996.1	-72.8	12.6	-8.3	0.00	0.00	0.00
2,100.0	6.71	170.16	2,095.4	-84.3	14.6	-9.6	0.00	0.00	0.00
2,200.0	6.71	170.16	2,194.7	-95.8	16.6	-10.9	0.00	0.00	0.00
2,300.0	6.71	170.16	2,294.0	-107.3	18.6	-12.2	0.00	0.00	0.00
2,400.0	6.71	170.16	2,393.3	-118.9	20.6	-13.5	0.00	0.00	0.00
2,500.0	6.71	170.16	2,492.6	-130.4	22.6	-14.8	0.00	0.00	0.00
2,600.0	6.71	170.16	2,591.9	-141.9	24.6	-16.1	0.00	0.00	0.00
2,700.0	6.71	170.16	2,691.3	-153.4	26.6	-17.4	0.00	0.00	0.00
2,800.0	6.71	170.16	2,790.6	-164.9	28.6	-18.7	0.00	0.00	0.00
2,900.0	6.71	170.16	2,889.9	-176.4	30.6	-20.0	0.00	0.00	0.00
3,000.0	6.71	170.16	2,989.2	-187.9	32.6	-21.3	0.00	0.00	0.00
3,100.0	6.71	170.16	3,088.5	-199.4	34.6	-22.6	0.00	0.00	0.00
3,200.0	6.71	170.16	3,187.8	-210.9	36.6	-23.9	0.00	0.00	0.00
3,300.0	6.71	170.16	3,287.1	-222.5	38.6	-25.2	0.00	0.00	0.00
3,400.0	6.71	170.16	3,386.5	-234.0	40.6	-26.5	0.00	0.00	0.00
3,486.1	6.71	170.16	3,472.0	-243.9	42.3	-27.6	0.00	0.00	0.00
PARKMAN									
3,500.0	6.71	170.16	3,485.8	-245.5	42.6	-27.8	0.00	0.00	0.00
3,600.0	6.71	170.16	3,585.1	-257.0	44.6	-29.1	0.00	0.00	0.00
3,700.0	6.71	170.16	3,684.4	-268.5	46.5	-30.4	0.00	0.00	0.00
3,800.0	6.71	170.16	3,783.7	-280.0	48.5	-31.7	0.00	0.00	0.00
3,900.0	6.71	170.16	3,883.0	-291.5	50.5	-33.0	0.00	0.00	0.00
4,000.0	6.71	170.16	3,982.4	-303.0	52.5	-34.4	0.00	0.00	0.00
4,100.0	6.71	170.16	4,081.7	-314.6	54.5	-35.7	0.00	0.00	0.00
4,162.8	6.71	170.16	4,144.0	-321.8	55.8	-36.5	0.00	0.00	0.00
SUSSEX									
4,200.0	6.71	170.16	4,181.0	-326.1	56.5	-37.0	0.00	0.00	0.00
4,300.0	6.71	170.16	4,280.3	-337.6	58.5	-38.3	0.00	0.00	0.00
4,400.0	6.71	170.16	4,379.6	-349.1	60.5	-39.6	0.00	0.00	0.00
4,500.0	6.71	170.16	4,478.9	-360.6	62.5	-40.9	0.00	0.00	0.00
4,565.5	6.71	170.16	4,544.0	-368.1	63.8	-41.7	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 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (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	6.71	170.16	4,578.2	-372.1	64.5	-42.2	0.00	0.00	0.00
4,700.0	6.71	170.16	4,677.6	-383.6	66.5	-43.5	0.00	0.00	0.00
4,800.0	6.71	170.16	4,776.9	-395.1	68.5	-44.8	0.00	0.00	0.00
4,900.0	6.71	170.16	4,876.2	-406.6	70.5	-46.1	0.00	0.00	0.00
5,000.0	6.71	170.16	4,975.5	-418.2	72.5	-47.4	0.00	0.00	0.00
5,100.0	6.71	170.16	5,074.8	-429.7	74.5	-48.7	0.00	0.00	0.00
5,200.0	6.71	170.16	5,174.1	-441.2	76.5	-50.0	0.00	0.00	0.00
5,300.0	6.71	170.16	5,273.5	-452.7	78.5	-51.3	0.00	0.00	0.00
5,400.0	6.71	170.16	5,372.8	-464.2	80.5	-52.6	0.00	0.00	0.00
5,500.0	6.71	170.16	5,472.1	-475.7	82.5	-53.9	0.00	0.00	0.00
5,600.0	6.71	170.16	5,571.4	-487.2	84.5	-55.2	0.00	0.00	0.00
5,700.0	6.71	170.16	5,670.7	-498.7	86.5	-56.5	0.00	0.00	0.00
5,800.0	6.71	170.16	5,770.0	-510.3	88.5	-57.8	0.00	0.00	0.00
5,900.0	6.71	170.16	5,869.3	-521.8	90.5	-59.2	0.00	0.00	0.00
6,000.0	6.71	170.16	5,968.7	-533.3	92.4	-60.5	0.00	0.00	0.00
6,100.0	6.71	170.16	6,068.0	-544.8	94.4	-61.8	0.00	0.00	0.00
6,200.0	6.71	170.16	6,167.3	-556.3	96.4	-63.1	0.00	0.00	0.00
6,281.9	6.71	170.16	6,248.6	-565.7	98.1	-64.1	0.00	0.00	0.00
6,300.0	6.62	182.64	6,266.6	-567.8	98.2	-64.1	8.00	-0.48	68.93
6,400.0	10.62	231.61	6,365.6	-579.3	90.7	-56.0	8.00	4.00	48.97
6,500.0	17.58	248.35	6,462.5	-590.6	69.4	-34.0	8.00	6.96	16.74
6,600.0	25.16	255.52	6,555.6	-601.5	34.7	1.2	8.00	7.58	7.17
6,700.0	32.92	259.50	6,643.0	-611.8	-12.6	49.1	8.00	7.77	3.98
6,800.0	40.77	262.09	6,723.0	-621.3	-71.8	108.7	8.00	7.85	2.59
6,879.2	47.02	263.62	6,780.0	-628.1	-126.3	163.5	8.00	7.89	1.93
SHARON SPRINGS									
6,900.0	48.66	263.96	6,794.0	-629.7	-141.6	178.9	8.00	7.90	1.68
6,932.7	51.25	264.48	6,815.0	-632.2	-166.5	203.9	8.00	7.91	1.57
NIORARA A (N1)									
7,000.0	56.58	265.43	6,854.6	-637.0	-220.6	258.3	8.00	7.92	1.41
7,100.0	64.51	266.65	6,903.8	-643.0	-307.4	345.3	8.00	7.93	1.22
7,159.1	69.20	267.30	6,927.0	-645.8	-361.7	399.6	8.00	7.94	1.09
NIORARA B CHALK (N4)									
7,200.0	72.45	267.72	6,940.4	-647.5	-400.3	438.2	8.00	7.94	1.03
7,300.0	80.39	268.69	6,963.9	-650.5	-497.4	535.3	8.00	7.94	0.98
7,320.4	82.01	268.89	6,967.0	-651.0	-517.5	555.4	8.00	7.95	0.94
NIORARA C (N5) (base of B)									
7,400.0	88.34	269.63	6,973.7	-652.0	-596.8	634.6	8.00	7.95	0.93
7,420.9	90.00	269.82	6,974.0	-652.1	-617.7	655.5	8.00	7.95	0.92
End of Build - 7"									
7,469.0	90.00	270.30	6,974.0	-652.0	-665.8	703.5	1.00	0.01	1.00
7,500.0	90.00	270.30	6,974.0	-651.9	-696.8	734.4	0.00	0.00	0.00
7,600.0	90.00	270.30	6,974.0	-651.4	-796.8	834.2	0.00	0.00	0.00
7,700.0	90.00	270.30	6,974.0	-650.8	-896.8	934.0	0.00	0.00	0.00
7,800.0	90.00	270.30	6,974.0	-650.3	-996.8	1,033.8	0.00	0.00	0.00
7,900.0	90.00	270.30	6,974.0	-649.8	-1,096.8	1,133.6	0.00	0.00	0.00
8,000.0	90.00	270.30	6,974.0	-649.3	-1,196.8	1,233.4	0.00	0.00	0.00
8,100.0	90.00	270.30	6,974.0	-648.7	-1,296.8	1,333.2	0.00	0.00	0.00
8,200.0	90.00	270.30	6,974.0	-648.2	-1,396.8	1,433.0	0.00	0.00	0.00
8,300.0	90.00	270.30	6,974.0	-647.7	-1,496.8	1,532.8	0.00	0.00	0.00
8,400.0	90.00	270.30	6,974.0	-647.2	-1,596.8	1,632.5	0.00	0.00	0.00
8,500.0	90.00	270.30	6,974.0	-646.6	-1,696.8	1,732.3	0.00	0.00	0.00
8,600.0	90.00	270.30	6,974.0	-646.1	-1,796.8	1,832.1	0.00	0.00	0.00

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Well:	Diamond Valley East #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (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)	
8,700.0	90.00	270.30	6,974.0	-645.6	-1,896.8	1,931.9	0.00	0.00	0.00	
8,800.0	90.00	270.30	6,974.0	-645.1	-1,996.8	2,031.7	0.00	0.00	0.00	
8,900.0	90.00	270.30	6,974.0	-644.5	-2,096.8	2,131.5	0.00	0.00	0.00	
9,000.0	90.00	270.30	6,974.0	-644.0	-2,196.8	2,231.3	0.00	0.00	0.00	
9,100.0	90.00	270.30	6,974.0	-643.5	-2,296.8	2,331.1	0.00	0.00	0.00	
9,200.0	90.00	270.30	6,974.0	-643.0	-2,396.8	2,430.9	0.00	0.00	0.00	
9,300.0	90.00	270.30	6,974.0	-642.4	-2,496.8	2,530.6	0.00	0.00	0.00	
9,400.0	90.00	270.30	6,974.0	-641.9	-2,596.8	2,630.4	0.00	0.00	0.00	
9,500.0	90.00	270.30	6,974.0	-641.4	-2,696.8	2,730.2	0.00	0.00	0.00	
9,600.0	90.00	270.30	6,974.0	-640.9	-2,796.7	2,830.0	0.00	0.00	0.00	
9,700.0	90.00	270.30	6,974.0	-640.3	-2,896.7	2,929.8	0.00	0.00	0.00	
9,800.0	90.00	270.30	6,974.0	-639.8	-2,996.7	3,029.6	0.00	0.00	0.00	
9,900.0	90.00	270.30	6,974.0	-639.3	-3,096.7	3,129.4	0.00	0.00	0.00	
10,000.0	90.00	270.30	6,974.0	-638.8	-3,196.7	3,229.2	0.00	0.00	0.00	
10,100.0	90.00	270.30	6,974.0	-638.2	-3,296.7	3,329.0	0.00	0.00	0.00	
10,200.0	90.00	270.30	6,974.0	-637.7	-3,396.7	3,428.7	0.00	0.00	0.00	
10,300.0	90.00	270.30	6,974.0	-637.2	-3,496.7	3,528.5	0.00	0.00	0.00	
10,400.0	90.00	270.30	6,974.0	-636.7	-3,596.7	3,628.3	0.00	0.00	0.00	
10,500.0	90.00	270.30	6,974.0	-636.2	-3,696.7	3,728.1	0.00	0.00	0.00	
10,600.0	90.00	270.30	6,974.0	-635.6	-3,796.7	3,827.9	0.00	0.00	0.00	
10,700.0	90.00	270.30	6,974.0	-635.1	-3,896.7	3,927.7	0.00	0.00	0.00	
10,800.0	90.00	270.30	6,974.0	-634.6	-3,996.7	4,027.5	0.00	0.00	0.00	
10,900.0	90.00	270.30	6,974.0	-634.1	-4,096.7	4,127.3	0.00	0.00	0.00	
11,000.0	90.00	270.30	6,974.0	-633.5	-4,196.7	4,227.1	0.00	0.00	0.00	
11,100.0	90.00	270.30	6,974.0	-633.0	-4,296.7	4,326.9	0.00	0.00	0.00	
11,200.0	90.00	270.30	6,974.0	-632.5	-4,396.7	4,426.6	0.00	0.00	0.00	
11,300.0	90.00	270.30	6,974.0	-632.0	-4,496.7	4,526.4	0.00	0.00	0.00	
11,400.0	90.00	270.30	6,974.0	-631.4	-4,596.7	4,626.2	0.00	0.00	0.00	
11,500.0	90.00	270.30	6,974.0	-630.9	-4,696.7	4,726.0	0.00	0.00	0.00	
11,600.0	90.00	270.30	6,974.0	-630.4	-4,796.7	4,825.8	0.00	0.00	0.00	
11,700.0	90.00	270.30	6,974.0	-629.9	-4,896.7	4,925.6	0.00	0.00	0.00	
11,800.0	90.00	270.30	6,974.0	-629.3	-4,996.7	5,025.4	0.00	0.00	0.00	
11,900.0	90.00	270.30	6,974.0	-628.8	-5,096.7	5,125.2	0.00	0.00	0.00	
12,000.0	90.00	270.30	6,974.0	-628.3	-5,196.7	5,225.0	0.00	0.00	0.00	
12,100.0	90.00	270.30	6,974.0	-627.8	-5,296.7	5,324.7	0.00	0.00	0.00	
12,200.0	90.00	270.30	6,974.0	-627.2	-5,396.7	5,424.5	0.00	0.00	0.00	
12,300.0	90.00	270.30	6,974.0	-626.7	-5,496.7	5,524.3	0.00	0.00	0.00	
12,400.0	90.00	270.30	6,974.0	-626.2	-5,596.7	5,624.1	0.00	0.00	0.00	
12,500.0	90.00	270.30	6,974.0	-625.7	-5,696.7	5,723.9	0.00	0.00	0.00	
12,600.0	90.00	270.30	6,974.0	-625.1	-5,796.7	5,823.7	0.00	0.00	0.00	
12,700.0	90.00	270.30	6,974.0	-624.6	-5,896.7	5,923.5	0.00	0.00	0.00	
12,800.0	90.00	270.30	6,974.0	-624.1	-5,996.7	6,023.3	0.00	0.00	0.00	
12,900.0	90.00	270.30	6,974.0	-623.6	-6,096.7	6,123.1	0.00	0.00	0.00	
13,000.0	90.00	270.30	6,974.0	-623.0	-6,196.7	6,222.8	0.00	0.00	0.00	
13,100.0	90.00	270.30	6,974.0	-622.5	-6,296.7	6,322.6	0.00	0.00	0.00	
13,200.0	90.00	270.30	6,974.0	-622.0	-6,396.7	6,422.4	0.00	0.00	0.00	
13,300.0	90.00	270.30	6,974.0	-621.5	-6,496.7	6,522.2	0.00	0.00	0.00	
13,400.0	90.00	270.30	6,974.0	-620.9	-6,596.7	6,622.0	0.00	0.00	0.00	
13,500.0	90.00	270.30	6,974.0	-620.4	-6,696.7	6,721.8	0.00	0.00	0.00	
13,600.0	90.00	270.30	6,974.0	-619.9	-6,796.7	6,821.6	0.00	0.00	0.00	
13,700.0	90.00	270.30	6,974.0	-619.4	-6,896.7	6,921.4	0.00	0.00	0.00	
13,800.0	90.00	270.30	6,974.0	-618.8	-6,996.7	7,021.2	0.00	0.00	0.00	
13,900.0	90.00	270.30	6,974.0	-618.3	-7,096.7	7,120.9	0.00	0.00	0.00	
14,000.0	90.00	270.30	6,974.0	-617.8	-7,196.7	7,220.7	0.00	0.00	0.00	

Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (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	270.30	6,974.0	-617.3	-7,296.7	7,320.5	0.00	0.00	0.00	
14,200.0	90.00	270.30	6,974.0	-616.7	-7,396.7	7,420.3	0.00	0.00	0.00	
14,300.0	90.00	270.30	6,974.0	-616.2	-7,496.7	7,520.1	0.00	0.00	0.00	
14,400.0	90.00	270.30	6,974.0	-615.7	-7,596.7	7,619.9	0.00	0.00	0.00	
14,500.0	90.00	270.30	6,974.0	-615.2	-7,696.7	7,719.7	0.00	0.00	0.00	
14,600.0	90.00	270.30	6,974.0	-614.6	-7,796.7	7,819.5	0.00	0.00	0.00	
14,700.0	90.00	270.30	6,974.0	-614.1	-7,896.7	7,919.3	0.00	0.00	0.00	
14,800.0	90.00	270.30	6,974.0	-613.6	-7,996.7	8,019.0	0.00	0.00	0.00	
14,900.0	90.00	270.30	6,974.0	-613.1	-8,096.7	8,118.8	0.00	0.00	0.00	
15,000.0	90.00	270.30	6,974.0	-612.6	-8,196.7	8,218.6	0.00	0.00	0.00	
15,100.0	90.00	270.30	6,974.0	-612.0	-8,296.7	8,318.4	0.00	0.00	0.00	
15,200.0	90.00	270.30	6,974.0	-611.5	-8,396.7	8,418.2	0.00	0.00	0.00	
15,300.0	90.00	270.30	6,974.0	-611.0	-8,496.7	8,518.0	0.00	0.00	0.00	
15,400.0	90.00	270.30	6,974.0	-610.5	-8,596.7	8,617.8	0.00	0.00	0.00	
15,500.0	90.00	270.30	6,974.0	-609.9	-8,696.7	8,717.6	0.00	0.00	0.00	
15,600.0	90.00	270.30	6,974.0	-609.4	-8,796.7	8,817.4	0.00	0.00	0.00	
15,700.0	90.00	270.30	6,974.0	-608.9	-8,896.7	8,917.1	0.00	0.00	0.00	
15,800.0	90.00	270.30	6,974.0	-608.4	-8,996.7	9,016.9	0.00	0.00	0.00	
15,900.0	90.00	270.30	6,974.0	-607.8	-9,096.7	9,116.7	0.00	0.00	0.00	
16,000.0	90.00	270.30	6,974.0	-607.3	-9,196.7	9,216.5	0.00	0.00	0.00	
16,100.0	90.00	270.30	6,974.0	-606.8	-9,296.7	9,316.3	0.00	0.00	0.00	
16,200.0	90.00	270.30	6,974.0	-606.3	-9,396.7	9,416.1	0.00	0.00	0.00	
16,300.0	90.00	270.30	6,974.0	-605.7	-9,496.7	9,515.9	0.00	0.00	0.00	
16,400.0	90.00	270.30	6,974.0	-605.2	-9,596.7	9,615.7	0.00	0.00	0.00	
16,500.0	90.00	270.30	6,974.0	-604.7	-9,696.7	9,715.5	0.00	0.00	0.00	
16,600.0	90.00	270.30	6,974.0	-604.2	-9,796.7	9,815.2	0.00	0.00	0.00	
16,700.0	90.00	270.30	6,974.0	-603.6	-9,896.7	9,915.0	0.00	0.00	0.00	
16,800.0	90.00	270.30	6,974.0	-603.1	-9,996.7	10,014.8	0.00	0.00	0.00	
16,881.6	90.00	270.30	6,974.0	-602.7	-10,078.2	10,096.2	0.00	0.00	0.00	

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
7,420.9	6,974.0	7"	7	7-1/2	

Database:	landmark	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-23-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,486.1	3,472.0	PARKMAN				
4,162.8	4,144.0	SUSSEX				
4,565.5	4,544.0	SHANNON				
6,879.2	6,780.0	SHARON SPRINGS				
6,932.7	6,815.0	NIOBRARA A (N1)				
7,159.1	6,927.0	NIOBRARA B CHALK (N4)				
7,320.4	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	
1,200.0	1,200.0	0.0	0.0	KOP	
7,420.9	6,974.0	-19.3	3.4	End of Build	



Extraction Oil & Gas

SEC.23-T6N-R67W

Diamond Valley East Pad Sec.23-T6N-R67W

Diamond Valley East #2

Wellbore #1

Plan #1 (6-23-14)

Anticollision Report

03 July, 2014



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (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 7/3/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,881.6	Plan #1 (6-23-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance 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	8,958.1	6,974.5	452.4	251.4	2.251	CC, ES
Altergott #1 (P&A) - Wellbore #1 - Wellbore #1	9,000.0	6,974.5	454.3	252.2	2.248	SF
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	365.8	366.3	14.2	12.9	10.877	CC
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	500.0	500.4	14.7	12.8	7.747	ES
Diamond Valley East #1 - Wellbore #1 - Wellbore #1	11,700.0	11,874.0	282.5	74.7	1.359	Level 3, SF
Diamond Valley East #10 - Wellbore #1 - Wellbore #1	516.8	517.3	144.6	142.6	73.950	CC, ES
Diamond Valley East #10 - Wellbore #1 - Wellbore #1	1,200.0	1,170.8	195.5	190.6	39.526	SF
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	114.9	115.9	98.4	98.1	356.249	CC
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	200.0	200.1	98.7	98.1	154.933	ES
Diamond Valley East #11 - Wellbore #1 - Wellbore #1	1,000.0	981.8	146.9	142.7	34.839	SF
Diamond Valley East #12 - Wellbore #1 - Plan #1 (6-23-14)	400.0	400.0	160.3	158.8	101.901	CC, ES
Diamond Valley East #12 - Wellbore #1 - Plan #1 (6-23-14)	1,200.0	1,146.5	263.5	258.3	50.803	SF
Diamond Valley East #13 - Wellbore #1 - Plan #1 (10-03)	200.0	200.0	178.5	177.9	264.786	CC, ES
Diamond Valley East #13 - Wellbore #1 - Plan #1 (10-03)	1,300.0	1,230.0	356.4	350.7	62.639	SF
Diamond Valley East #3 - Wellbore #1 - Plan #2 (6-23-14)	1,200.0	1,200.0	18.2	13.1	3.525	CC
Diamond Valley East #3 - Wellbore #1 - Plan #2 (6-23-14)	16,882.6	16,854.9	331.5	-233.5	0.587	Level 1, ES, SF
Diamond Valley East #4 - Wellbore #1 - Wellbore #1	227.6	228.1	32.8	32.0	44.084	CC
Diamond Valley East #4 - Wellbore #1 - Wellbore #1	300.0	300.4	32.9	31.9	31.054	ES
Diamond Valley East #4 - Wellbore #1 - Wellbore #1	11,700.0	11,903.6	507.0	249.3	1.968	SF
Diamond Valley East #5 - Wellbore #1 - Plan #2 (6-23-14)	1,200.0	1,200.0	51.0	45.8	9.867	CC, ES
Diamond Valley East #5 - Wellbore #1 - Plan #2 (6-23-14)	16,882.6	16,844.0	613.7	48.6	1.086	Level 2, SF
Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-14)	1,200.0	1,200.5	65.6	60.4	12.685	CC, ES
Diamond Valley East #6 - Wellbore #1 - Plan #1 (6-23-14)	16,882.6	16,855.3	990.9	426.2	1.755	SF
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	0.0	1.0	80.2	80.2	10,000.000	CC
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	100.0	100.8	80.3	80.1	355.398	ES
Diamond Valley East #7 - Wellbore #1 - Wellbore #1	1,400.0	1,399.7	96.0	90.4	16.978	SF
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	1,166.5	1,167.0	112.9	107.9	22.501	CC
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	1,200.0	1,200.0	112.9	107.8	21.851	ES
Diamond Valley East #8 - Wellbore #1 - Plan #1 (6-23-14)	1,300.0	1,296.7	116.3	110.7	20.837	SF
Diamond Valley East #9 - Wellbore #1 - Plan #1 (6-23-14)	1,000.0	1,000.0	127.6	123.3	29.868	CC, ES
Diamond Valley East #9 - Wellbore #1 - Plan #1 (6-23-14)	1,300.0	1,286.2	144.2	138.6	25.879	SF
Winzenried 13-23 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Winzenried 1-23 (Exist.) - Wellbore #1 - Wellbore #1	3,673.8	3,634.4	451.7	369.8	5.513	CC
Winzenried 1-23 (Exist.) - Wellbore #1 - Wellbore #1	4,400.0	4,355.6	459.6	361.1	4.664	ES
Winzenried 1-23 (Exist.) - Wellbore #1 - Wellbore #1	6,300.0	6,242.6	546.2	405.4	3.877	SF

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 #2
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 #2	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 #1 (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							
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	
8,100.0	6,974.0	6,974.5	6,974.5	39.5	139.5	90.00	-191.9	-2,152.5	970.1	791.9	178.18	5.444		
8,200.0	6,974.0	6,974.5	6,974.5	42.0	139.5	90.00	-191.9	-2,152.5	882.8	702.1	180.77	4.884		
8,300.0	6,974.0	6,974.5	6,974.5	44.6	139.5	90.00	-191.9	-2,152.5	798.6	615.2	183.37	4.355		
8,400.0	6,974.0	6,974.5	6,974.5	47.2	139.5	90.00	-191.9	-2,152.5	718.4	532.4	186.01	3.862		
8,500.0	6,974.0	6,974.5	6,974.5	49.8	139.5	90.00	-191.9	-2,152.5	643.8	455.2	188.66	3.413		
8,600.0	6,974.0	6,974.5	6,974.5	52.4	139.5	90.00	-191.9	-2,152.5	577.0	385.6	191.33	3.016		
8,700.0	6,974.0	6,974.5	6,974.5	55.1	139.5	90.00	-191.9	-2,152.5	520.8	326.8	194.01	2.685		
8,800.0	6,974.0	6,974.5	6,974.5	57.7	139.5	90.00	-191.9	-2,152.5	479.2	282.5	196.70	2.436		
8,900.0	6,974.0	6,974.5	6,974.5	60.4	139.5	90.00	-191.9	-2,152.5	456.1	256.7	199.41	2.287		
8,958.1	6,974.0	6,974.5	6,974.5	62.0	139.5	90.00	-191.9	-2,152.5	452.4	251.4	200.99	2.251 CC, ES		
9,000.0	6,974.0	6,974.5	6,974.5	63.1	139.5	90.00	-191.9	-2,152.5	454.3	252.2	202.12	2.248 SF		
9,100.0	6,974.0	6,974.5	6,974.5	65.8	139.5	90.00	-191.9	-2,152.5	474.1	269.2	204.85	2.314		
9,200.0	6,974.0	6,974.5	6,974.5	68.5	139.5	90.00	-191.9	-2,152.5	513.0	305.4	207.58	2.471		
9,300.0	6,974.0	6,974.5	6,974.5	71.2	139.5	90.00	-191.9	-2,152.5	567.0	356.7	210.31	2.696		
9,400.0	6,974.0	6,974.5	6,974.5	74.0	139.5	90.00	-191.9	-2,152.5	632.4	419.3	213.05	2.968		
9,500.0	6,974.0	6,974.5	6,974.5	76.7	139.5	90.00	-191.9	-2,152.5	705.9	490.1	215.80	3.271		
9,600.0	6,974.0	6,974.5	6,974.5	79.4	139.5	90.00	-191.9	-2,152.5	785.3	566.7	218.55	3.593		
9,700.0	6,974.0	6,974.5	6,974.5	82.2	139.5	90.00	-191.9	-2,152.5	868.9	647.6	221.31	3.926		
9,800.0	6,974.0	6,974.5	6,974.5	84.9	139.5	90.00	-191.9	-2,152.5	955.7	731.6	224.06	4.265		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	-14.6	0.0	14.6	14.6	0.00	N/A		
100.0	100.0	100.5	100.5	0.1	0.1	179.65	-14.5	0.1	14.5	14.3	0.23	64.306		
200.0	200.0	200.5	200.5	0.3	0.3	178.72	-14.3	0.3	14.3	13.7	0.60	23.942		
300.0	300.0	300.5	300.5	0.6	0.5	178.82	-14.3	0.3	14.3	13.3	1.03	13.912		
365.8	365.8	366.3	366.3	0.7	0.6	-179.98	-14.2	0.0	14.2	12.9	1.31	10.877 CC		
400.0	400.0	400.5	400.5	0.8	0.7	-178.98	-14.3	-0.3	14.3	12.8	1.46	9.795		
500.0	500.0	500.4	500.4	1.0	0.9	-175.70	-14.6	-1.1	14.7	12.8	1.89	7.747 ES		
600.0	600.0	600.3	600.3	1.2	1.1	-173.77	-15.4	-1.7	15.5	13.2	2.33	6.654		
700.0	700.0	700.2	700.2	1.5	1.3	-172.06	-17.1	-2.4	17.3	14.5	2.77	6.241		
800.0	800.0	800.5	800.4	1.7	1.5	-172.18	-18.5	-2.5	18.7	15.5	3.20	5.832		
900.0	900.0	900.5	900.5	1.9	1.7	-178.47	-18.7	-0.5	18.7	15.0	3.63	5.143		
1,000.0	1,000.0	999.9	999.8	2.1	1.9	173.98	-20.0	2.1	20.1	16.1	4.07	4.945		
1,100.0	1,100.0	1,099.2	1,098.9	2.4	2.2	170.33	-24.8	4.2	25.2	20.6	4.51	5.577		
1,200.0	1,200.0	1,198.8	1,198.3	2.6	2.4	172.27	-31.5	4.3	31.9	27.0	4.95	6.442		
1,300.0	1,300.0	1,299.0	1,298.3	2.8	2.6	3.55	-38.1	4.3	36.7	31.3	5.35	6.849		
1,400.0	1,399.8	1,397.5	1,396.5	3.0	2.8	4.36	-45.7	4.9	39.2	33.4	5.73	6.838		
1,500.0	1,499.5	1,496.3	1,494.7	3.1	3.1	4.93	-56.8	6.2	41.9	35.8	6.12	6.843		
1,600.0	1,598.8	1,596.5	1,594.1	3.3	3.3	5.11	-68.9	8.1	42.6	36.1	6.52	6.534		
1,700.0	1,698.1	1,695.8	1,692.5	3.6	3.6	5.16	-81.6	10.1	43.9	37.0	6.93	6.337		
1,800.0	1,797.4	1,795.8	1,791.5	3.8	3.9	4.70	-95.8	12.7	46.7	39.3	7.36	6.341		
1,900.0	1,896.7	1,895.9	1,890.7	4.1	4.2	2.17	-108.4	16.9	48.0	40.2	7.78	6.165		
2,000.0	1,996.1	1,994.9	1,988.5	4.3	4.5	-1.52	-122.5	22.6	51.3	43.1	8.22	6.243		
2,100.0	2,095.4	2,095.2	2,087.6	4.6	4.8	-2.35	-137.7	26.2	55.2	46.6	8.65	6.384		
2,200.0	2,194.7	2,195.9	2,187.3	4.9	5.1	0.08	-152.3	26.3	57.9	48.8	9.09	6.366		
2,300.0	2,294.0	2,296.8	2,287.2	5.1	5.4	2.08	-165.6	26.5	59.2	49.7	9.53	6.216		
2,400.0	2,393.3	2,397.6	2,387.4	5.4	5.7	3.52	-177.2	27.0	59.1	49.1	9.97	5.927		
2,438.3	2,431.4	2,435.5	2,425.0	5.5	5.8	4.02	-181.4	27.3	58.8	48.7	10.13	5.802		
2,500.0	2,492.6	2,495.6	2,484.6	5.7	5.9	5.29	-189.2	27.2	59.6	49.2	10.41	5.727		
2,600.0	2,591.9	2,595.1	2,583.1	6.0	6.3	7.73	-203.9	26.8	62.8	51.9	10.87	5.776		
2,700.0	2,691.3	2,695.8	2,682.7	6.3	6.6	9.79	-218.4	26.5	65.7	54.3	11.34	5.790		
2,800.0	2,790.6	2,795.3	2,781.2	6.6	6.9	10.78	-232.5	27.3	68.3	56.5	11.80	5.787		
2,900.0	2,889.9	2,896.1	2,881.0	6.9	7.2	10.51	-246.5	29.6	70.7	58.5	12.26	5.768		
3,000.0	2,989.2	2,997.0	2,981.0	7.2	7.5	9.52	-259.0	32.9	71.6	58.9	12.71	5.632		
3,100.0	3,088.5	3,095.6	3,078.8	7.5	7.8	9.02	-272.2	35.5	73.5	60.3	13.16	5.581		
3,200.0	3,187.8	3,196.6	3,178.8	7.8	8.1	8.36	-285.3	38.4	75.0	61.4	13.62	5.508		
3,300.0	3,287.1	3,296.6	3,278.0	8.1	8.4	8.17	-298.2	40.7	76.4	62.3	14.07	5.426		
3,400.0	3,386.5	3,396.8	3,377.4	8.4	8.7	7.50	-310.2	43.6	76.9	62.4	14.53	5.296		
3,500.0	3,485.8	3,496.2	3,475.9	8.7	9.0	6.32	-323.2	47.3	78.5	63.5	14.97	5.243		
3,600.0	3,585.1	3,596.1	3,574.9	9.0	9.3	5.15	-336.0	51.0	80.0	64.6	15.42	5.185		
3,700.0	3,684.4	3,695.5	3,673.4	9.3	9.6	5.65	-349.6	52.4	82.2	66.3	15.89	5.171		
3,800.0	3,783.7	3,795.7	3,772.6	9.6	9.9	6.29	-363.6	53.6	84.5	68.2	16.36	5.168		
3,900.0	3,883.0	3,896.7	3,872.7	9.9	10.3	6.69	-377.0	55.2	86.3	69.4	16.83	5.125		
4,000.0	3,982.4	3,997.0	3,972.2	10.3	10.6	6.98	-389.1	56.7	86.8	69.5	17.29	5.019		
4,100.0	4,081.7	4,095.4	4,069.8	10.6	10.8	8.00	-401.8	57.2	88.2	70.4	17.77	4.962		
4,200.0	4,181.0	4,195.9	4,169.3	10.9	11.2	9.00	-416.1	57.7	90.8	72.6	18.25	4.976		
4,300.0	4,280.3	4,298.1	4,270.7	11.2	11.5	9.43	-428.6	59.1	91.6	72.9	18.73	4.890		
4,343.4	4,323.4	4,341.1	4,313.4	11.3	11.6	9.51	-433.3	59.8	91.4	72.4	18.93	4.826		
4,400.0	4,379.6	4,396.0	4,367.9	11.5	11.8	9.64	-440.1	60.7	91.9	72.7	19.19	4.786		
4,500.0	4,478.9	4,495.0	4,465.9	11.8	12.1	9.67	-453.9	62.6	94.3	74.6	19.66	4.795		
4,600.0	4,578.2	4,596.9	4,566.8	12.1	12.4	9.14	-467.6	65.6	96.2	76.1	20.12	4.782		
4,700.0	4,677.6	4,695.0	4,664.1	12.4	12.7	9.24	-480.6	67.3	98.0	77.4	20.59	4.760		
4,800.0	4,776.9	4,796.0	4,764.1	12.8	13.0	10.17	-494.5	67.8	100.2	79.1	21.08	4.753		

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 #2
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 #2	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 #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design		Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #1 - Wellbore #1 - Wellbore #1										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 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				
4,900.0	4,876.2	4,895.9	4,863.2	13.1	13.3	11.48	-507.7	67.4	102.0	80.4	21.59	4.723				
5,000.0	4,975.5	4,995.4	4,961.7	13.4	13.6	11.80	-521.2	68.8	104.1	82.0	22.07	4.716				
5,100.0	5,074.8	5,095.8	5,061.1	13.7	14.0	11.72	-535.1	70.8	106.4	83.9	22.54	4.723				
5,200.0	5,174.1	5,197.9	5,162.4	14.0	14.3	11.64	-547.4	73.0	107.0	84.0	23.01	4.652				
5,203.1	5,177.2	5,200.9	5,165.4	14.0	14.3	11.62	-547.8	73.1	107.0	84.0	23.02	4.649				
5,300.0	5,273.5	5,297.2	5,260.9	14.3	14.6	10.84	-559.3	76.5	107.4	83.9	23.45	4.580				
5,400.0	5,372.8	5,396.5	5,359.4	14.7	14.9	10.08	-571.6	79.9	108.3	84.4	23.89	4.532				
5,500.0	5,472.1	5,496.3	5,458.4	15.0	15.2	10.26	-584.8	81.5	110.0	85.6	24.36	4.513				
5,600.0	5,571.4	5,596.4	5,557.6	15.3	15.5	10.83	-597.3	82.4	111.0	86.2	24.85	4.467				
5,700.0	5,670.7	5,695.8	5,656.1	15.6	15.8	10.66	-610.6	84.7	112.9	87.6	25.32	4.461				
5,800.0	5,770.0	5,796.0	5,755.4	15.9	16.1	10.47	-623.9	87.0	114.7	88.9	25.78	4.449				
5,900.0	5,869.3	5,895.6	5,854.1	16.2	16.4	9.99	-637.2	90.0	116.5	90.2	26.23	4.440				
6,000.0	5,968.7	5,995.6	5,953.2	16.6	16.7	9.97	-650.8	92.0	118.6	91.9	26.70	4.441				
6,100.0	6,068.0	6,098.6	6,055.3	16.9	17.0	10.48	-663.7	93.0	119.7	92.5	27.20	4.400				
6,156.2	6,123.7	6,154.1	6,110.5	17.0	17.2	10.82	-669.7	93.4	119.3	91.8	27.47	4.342				
6,200.0	6,167.3	6,195.9	6,152.0	17.2	17.3	11.09	-674.9	93.6	119.7	92.0	27.69	4.323				
6,300.0	6,266.6	6,295.2	6,250.3	17.5	17.6	-0.70	-688.7	94.1	122.1	93.9	28.18	4.333				
6,400.0	6,365.6	6,394.9	6,349.0	17.8	17.9	-52.74	-702.4	94.6	124.3	95.8	28.46	4.368				
6,500.0	6,462.5	6,495.3	6,448.6	18.0	18.2	-77.56	-715.2	92.8	127.6	98.8	28.78	4.435				
6,600.0	6,555.6	6,593.3	6,544.7	18.2	18.6	-92.72	-729.6	80.7	136.5	107.1	29.36	4.648				
6,700.0	6,643.0	6,698.1	6,645.5	18.4	18.9	-104.74	-743.9	55.9	148.9	118.9	30.01	4.961				
6,800.0	6,723.0	6,809.7	6,747.6	18.7	19.2	-114.09	-757.8	13.7	162.9	132.5	30.40	5.359				
6,900.0	6,794.0	6,920.9	6,841.2	18.9	19.5	-120.40	-772.0	-44.5	178.5	148.1	30.40	5.871				
7,000.0	6,854.6	7,034.8	6,928.4	19.3	19.9	-125.27	-787.6	-115.9	197.5	167.3	30.21	6.537				
7,100.0	6,903.8	7,172.8	7,016.3	19.9	20.5	-129.53	-800.8	-221.2	211.9	181.9	30.05	7.051				
7,200.0	6,940.4	7,302.7	7,077.0	20.8	21.4	-132.07	-808.3	-335.6	220.3	190.1	30.19	7.298				
7,300.0	6,963.9	7,430.7	7,115.4	22.1	22.7	-133.50	-812.9	-457.4	225.3	194.4	30.88	7.297				
7,400.0	6,973.7	7,555.7	7,133.9	23.8	24.5	-134.29	-815.9	-580.8	229.4	197.3	32.10	7.147				
7,500.0	6,974.0	7,663.0	7,137.9	25.7	26.4	-134.45	-818.5	-688.0	233.6	198.9	34.67	6.736				
7,600.0	6,974.0	7,758.4	7,140.6	27.7	28.3	-134.08	-822.9	-783.3	239.1	201.2	37.93	6.305				
7,700.0	6,974.0	7,864.5	7,141.6	29.9	30.5	-133.26	-828.4	-889.2	244.0	202.1	41.86	5.829				
7,800.0	6,974.0	7,968.9	7,141.7	32.2	32.9	-132.64	-831.9	-993.5	246.8	201.0	45.86	5.382				
7,900.0	6,974.0	8,074.4	7,141.5	34.6	35.3	-132.54	-831.8	-1,099.1	247.0	197.3	49.71	4.970				
8,000.0	6,974.0	8,178.7	7,142.6	37.0	37.7	-133.22	-828.1	-1,203.3	245.5	192.4	53.03	4.629				
8,100.0	6,974.0	8,277.3	7,142.9	39.5	40.1	-133.83	-824.1	-1,301.8	243.2	186.9	56.29	4.320				
8,200.0	6,974.0	8,375.0	7,143.4	42.0	42.5	-134.25	-821.6	-1,399.5	242.1	182.4	59.68	4.057				
8,226.5	6,974.0	8,399.7	7,143.5	42.7	43.1	-134.28	-821.3	-1,424.2	242.0	181.4	60.63	3.992				
8,300.0	6,974.0	8,468.4	7,144.1	44.6	44.9	-134.31	-821.4	-1,492.8	242.8	179.4	63.32	3.834				
8,400.0	6,974.0	8,567.1	7,145.4	47.2	47.4	-134.19	-823.0	-1,591.5	245.3	178.0	67.29	3.645				
8,500.0	6,974.0	8,670.0	7,146.8	49.8	50.0	-134.15	-824.1	-1,694.4	247.4	176.1	71.30	3.470				
8,600.0	6,974.0	8,777.1	7,147.7	52.4	52.8	-134.50	-822.4	-1,801.5	247.2	172.2	74.99	3.296				
8,700.0	6,974.0	8,874.7	7,147.5	55.1	55.4	-134.70	-820.4	-1,899.1	245.9	167.3	78.64	3.127				
8,800.0	6,974.0	8,973.5	7,147.5	57.7	58.0	-134.83	-819.1	-1,997.9	245.4	163.0	82.40	2.979				
8,805.2	6,974.0	8,978.5	7,147.6	57.9	58.1	-134.84	-819.1	-2,002.9	245.4	162.8	82.59	2.972				
8,900.0	6,974.0	9,068.1	7,148.9	60.4	60.5	-134.96	-819.1	-2,092.4	246.8	160.7	86.07	2.867				
9,000.0	6,974.0	9,168.8	7,150.1	63.1	63.2	-134.91	-820.1	-2,193.1	248.7	158.6	90.12	2.760				
9,100.0	6,974.0	9,270.9	7,150.8	65.8	65.9	-134.79	-821.1	-2,295.2	250.3	155.9	94.31	2.653				
9,200.0	6,974.0	9,373.1	7,151.1	68.5	68.7	-134.74	-821.2	-2,397.4	250.9	152.4	98.44	2.549				
9,300.0	6,974.0	9,471.8	7,151.8	71.2	71.4	-134.91	-820.3	-2,496.1	251.2	149.0	102.16	2.459				
9,400.0	6,974.0	9,570.1	7,152.5	74.0	74.0	-134.93	-820.4	-2,594.4	252.1	146.0	106.10	2.376				
9,500.0	6,974.0	9,670.3	7,153.3	76.7	76.7	-134.88	-821.0	-2,694.6	253.5	143.3	110.20	2.300				
9,600.0	6,974.0	9,770.4	7,154.0	79.4	79.5	-134.84	-821.4	-2,794.7	254.6	140.3	114.30	2.228				

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 #2
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 #2	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 #1 (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	
9,700.0	6,974.0	9,870.9	7,154.9	82.2	82.2	-134.87	-821.6	-2,895.2	255.7	137.5	118.28	2.162	
9,800.0	6,974.0	9,972.6	7,155.6	84.9	85.0	-134.95	-821.3	-2,996.9	256.4	134.2	122.22	2.098	
9,900.0	6,974.0	10,074.2	7,156.0	87.7	87.8	-135.07	-820.3	-3,098.5	256.3	130.2	126.06	2.033	
9,925.5	6,974.0	10,098.9	7,156.1	88.4	88.4	-135.12	-820.0	-3,123.2	256.3	129.3	126.98	2.018	
10,000.0	6,974.0	10,170.8	7,156.6	90.4	90.4	-135.21	-819.6	-3,195.1	256.6	126.9	129.75	1.978	
10,100.0	6,974.0	10,267.4	7,157.9	93.2	93.1	-135.19	-820.4	-3,291.6	258.5	124.8	133.75	1.933	
10,200.0	6,974.0	10,370.7	7,158.4	96.0	95.9	-135.02	-821.5	-3,395.0	260.0	121.8	138.21	1.881	
10,300.0	6,974.0	10,469.2	7,159.1	98.7	98.6	-134.92	-822.3	-3,493.5	261.4	119.0	142.45	1.835	
10,400.0	6,974.0	10,570.2	7,159.8	101.5	101.4	-134.83	-823.1	-3,594.4	262.9	116.1	146.74	1.791	
10,500.0	6,974.0	10,671.5	7,159.9	104.3	104.2	-134.65	-823.9	-3,695.7	263.9	112.6	151.26	1.745	
10,600.0	6,974.0	10,771.2	7,159.3	107.0	107.0	-134.33	-824.8	-3,795.5	264.5	108.4	156.08	1.695	
10,700.0	6,974.0	10,868.0	7,159.3	109.8	109.6	-134.05	-826.2	-3,892.3	265.9	105.1	160.80	1.653	
10,800.0	6,974.0	10,973.2	7,159.0	112.6	112.5	-133.55	-828.7	-3,997.5	267.8	101.5	166.26	1.611	
10,900.0	6,974.0	11,073.7	7,156.8	115.3	115.3	-133.04	-829.3	-4,097.9	267.1	95.4	171.69	1.556	
10,903.5	6,974.0	11,077.1	7,156.8	115.4	115.4	-133.02	-829.3	-4,101.3	267.1	95.2	171.87	1.554	
11,000.0	6,974.0	11,166.5	7,155.8	118.1	117.9	-132.54	-831.2	-4,190.7	268.3	91.3	177.00	1.516	
11,100.0	6,974.0	11,259.9	7,156.6	120.9	120.5	-132.06	-834.9	-4,284.0	272.2	89.9	182.30	1.493	Level 3
11,200.0	6,974.0	11,361.8	7,158.6	123.7	123.3	-131.63	-839.7	-4,385.7	277.4	89.7	187.71	1.478	Level 3
11,300.0	6,974.0	11,468.7	7,159.4	126.5	126.3	-131.23	-842.9	-4,492.6	280.5	87.3	193.18	1.452	Level 3
11,400.0	6,974.0	11,570.5	7,159.7	129.2	129.1	-131.06	-844.1	-4,594.4	282.0	84.0	197.98	1.424	Level 3
11,500.0	6,974.0	11,673.1	7,161.3	132.0	131.9	-131.35	-843.2	-4,697.0	282.7	81.2	201.57	1.403	Level 3
11,600.0	6,974.0	11,773.8	7,163.1	134.8	134.7	-131.79	-841.4	-4,797.6	283.0	78.4	204.62	1.383	Level 3
11,699.9	6,974.0	11,874.0	7,164.2	137.6	137.5	-132.18	-839.2	-4,897.8	282.5	74.7	207.79	1.359	Level 3
11,700.0	6,974.0	11,874.0	7,164.2	137.6	137.5	-132.18	-839.2	-4,897.8	282.5	74.7	207.79	1.359	Level 3, SF
11,800.0	6,974.0	11,874.0	7,164.2	140.4	137.5	-132.18	-839.2	-4,897.8	299.7	89.7	209.92	1.428	Level 3
11,900.0	6,974.0	11,874.0	7,164.2	143.2	137.5	-132.18	-839.2	-4,897.8	346.1	134.1	212.05	1.632	
12,000.0	6,974.0	11,874.0	7,164.2	146.0	137.5	-132.18	-839.2	-4,897.8	412.1	197.9	214.18	1.924	
12,100.0	6,974.0	11,874.0	7,164.2	148.8	137.5	-132.18	-839.2	-4,897.8	489.7	273.4	216.32	2.264	
12,200.0	6,974.0	11,874.0	7,164.2	151.5	137.5	-132.18	-839.2	-4,897.8	574.3	355.8	218.45	2.629	
12,300.0	6,974.0	11,874.0	7,164.2	154.3	137.5	-132.18	-839.2	-4,897.8	663.2	442.6	220.58	3.007	
12,400.0	6,974.0	11,874.0	7,164.2	157.1	137.5	-132.18	-839.2	-4,897.8	754.9	532.2	222.71	3.389	
12,500.0	6,974.0	11,874.0	7,164.2	159.9	137.5	-132.18	-839.2	-4,897.8	848.4	623.6	224.84	3.773	
12,600.0	6,974.0	11,874.0	7,164.2	162.7	137.5	-132.18	-839.2	-4,897.8	943.3	716.3	226.98	4.156	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	1.09	145.7	2.8	145.8					
100.0	100.0	100.8	100.8	0.1	0.1	1.19	145.6	3.0	145.7	145.4	0.23	644.484		
200.0	200.0	200.9	200.9	0.3	0.3	1.45	145.4	3.7	145.4	144.8	0.59	247.031		
300.0	300.0	300.8	300.8	0.6	0.5	1.62	145.1	4.1	145.2	144.2	1.02	142.705		
400.0	400.0	401.0	401.0	0.8	0.7	1.83	144.8	4.6	144.9	143.4	1.45	99.851		
500.0	500.0	500.7	500.7	1.0	0.9	1.93	144.5	4.9	144.6	142.7	1.88	76.774		
516.8	516.8	517.3	517.3	1.0	0.9	1.92	144.5	4.8	144.6	142.6	1.95	73.950 CC, ES		
600.0	600.0	598.6	598.6	1.2	1.1	1.73	144.9	4.4	145.0	142.7	2.31	62.742		
700.0	700.0	695.6	695.5	1.5	1.3	1.53	147.2	3.9	147.3	144.6	2.74	53.749		
800.0	800.0	791.9	791.7	1.7	1.5	1.39	151.5	3.7	151.8	148.6	3.17	47.816		
900.0	900.0	888.2	887.8	1.9	1.7	1.05	158.1	2.9	158.6	155.0	3.61	43.909		
1,000.0	1,000.0	983.3	982.5	2.1	1.9	0.50	167.1	1.5	168.0	164.0	4.05	41.460		
1,100.0	1,100.0	1,077.0	1,075.5	2.4	2.2	-0.08	178.5	-0.2	180.2	175.7	4.50	40.076		
1,200.0	1,200.0	1,170.8	1,168.1	2.6	2.5	-0.42	192.8	-1.4	195.5	190.6	4.95	39.526 SF		
1,300.0	1,300.0	1,270.0	1,265.9	2.8	2.8	-171.00	209.5	-3.0	214.0	208.7	5.37	39.889		
1,400.0	1,399.8	1,367.2	1,361.9	3.0	3.1	-171.62	225.0	-5.2	235.1	229.4	5.75	40.889		
1,500.0	1,499.5	1,459.8	1,453.1	3.1	3.4	-172.31	240.7	-7.7	260.7	254.5	6.14	42.458		
1,600.0	1,598.8	1,554.8	1,546.4	3.3	3.7	-173.01	258.0	-10.5	290.0	283.5	6.54	44.366		
1,700.0	1,698.1	1,651.8	1,641.8	3.6	4.0	-173.43	275.4	-12.3	319.3	312.4	6.94	46.022		
1,800.0	1,797.4	1,756.6	1,745.2	3.8	4.4	-173.45	292.9	-12.0	347.3	340.0	7.35	47.226		
1,900.0	1,896.7	1,850.1	1,837.5	4.1	4.7	-173.35	307.4	-11.0	374.1	366.4	7.76	48.212		
2,000.0	1,996.1	1,945.6	1,931.8	4.3	5.0	-173.32	322.8	-10.4	401.6	393.4	8.19	49.057		
2,100.0	2,095.4	2,043.0	2,027.9	4.6	5.3	-173.41	338.4	-10.6	428.9	420.3	8.61	49.801		
2,200.0	2,194.7	2,137.0	2,120.7	4.9	5.7	-173.41	353.6	-10.2	456.3	447.3	9.04	50.500		
2,300.0	2,294.0	2,231.0	2,213.4	5.1	6.0	-173.32	369.4	-9.2	484.4	474.9	9.47	51.150		
2,400.0	2,393.3	2,317.3	2,298.2	5.4	6.3	-173.35	384.8	-9.1	513.5	503.6	9.89	51.902		
2,500.0	2,492.6	2,414.8	2,394.1	5.7	6.7	-173.51	402.8	-10.3	543.3	532.9	10.34	52.528		
2,600.0	2,591.9	2,509.7	2,487.4	6.0	7.0	-173.62	420.1	-11.2	572.9	562.1	10.78	53.137		
2,700.0	2,691.3	2,610.8	2,586.8	6.3	7.4	-173.66	438.3	-11.4	602.1	590.8	11.23	53.604		
2,800.0	2,790.6	2,714.6	2,689.2	6.6	7.7	-173.84	455.4	-13.0	630.0	618.3	11.69	53.905		
2,900.0	2,889.9	2,803.5	2,776.9	6.9	8.1	-173.93	470.4	-13.8	658.2	646.0	12.12	54.323		
3,000.0	2,989.2	2,906.8	2,878.7	7.2	8.4	-173.90	487.8	-13.4	686.3	673.7	12.58	54.568		
3,100.0	3,088.5	3,018.7	2,989.2	7.5	8.8	-173.99	504.7	-14.2	712.8	699.7	13.05	54.620		
3,200.0	3,187.8	3,125.2	3,094.9	7.8	9.1	-174.10	518.6	-15.2	737.3	723.8	13.51	54.580		
3,300.0	3,287.1	3,219.9	3,188.8	8.1	9.4	-174.11	530.6	-15.1	761.4	747.5	13.95	54.596		
3,400.0	3,386.5	3,321.4	3,289.4	8.4	9.7	-174.06	543.9	-14.1	785.9	771.5	14.40	54.566		
3,500.0	3,485.8	3,414.6	3,381.9	8.7	10.0	-174.10	555.4	-14.4	809.6	794.8	14.84	54.555		
3,600.0	3,585.1	3,527.4	3,493.8	9.0	10.3	-174.15	569.6	-14.6	833.8	818.5	15.32	54.419		
3,700.0	3,684.4	3,607.0	3,572.9	9.3	10.6	-174.10	578.9	-13.6	856.9	841.2	15.73	54.471		
3,800.0	3,783.7	3,685.6	3,650.6	9.6	10.8	-174.02	590.3	-12.3	882.6	866.5	16.15	54.663		
3,900.0	3,883.0	3,767.4	3,731.3	9.9	11.1	-173.93	603.4	-10.9	909.8	893.3	16.57	54.894		
4,000.0	3,982.4	3,851.4	3,814.0	10.3	11.4	-173.89	618.2	-10.2	938.7	921.7	17.01	55.192		
4,100.0	4,081.7	3,955.0	3,915.9	10.6	11.8	-174.03	636.5	-12.4	967.8	950.3	17.48	55.349		
4,200.0	4,181.0	4,056.6	4,016.1	10.9	12.2	-174.34	653.0	-17.5	995.7	977.8	17.95	55.474		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	98.4	0.0	98.4	98.4	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	0.08	98.4	0.1	98.4	98.1	0.23	435.288		
114.9	114.9	115.9	115.9	0.1	0.1	0.10	98.4	0.2	98.4	98.1	0.28	356.249 CC		
200.0	200.0	200.1	200.1	0.3	0.3	0.52	98.7	0.9	98.7	98.1	0.64	154.933 ES		
300.0	300.0	300.4	300.3	0.6	0.5	2.39	99.6	4.2	99.7	98.6	1.09	91.365		
400.0	400.0	400.7	400.4	0.8	0.8	6.20	99.7	10.8	100.2	98.7	1.56	64.290		
500.0	500.0	500.1	499.5	1.0	1.0	10.88	99.8	19.2	101.6	99.6	2.03	50.126		
600.0	600.0	598.5	597.4	1.2	1.3	15.54	100.1	27.8	103.9	101.5	2.47	42.006		
700.0	700.0	693.0	691.5	1.5	1.5	19.27	103.5	36.2	110.1	107.2	2.93	37.633		
800.0	800.0	789.4	787.4	1.7	1.7	21.12	111.7	43.1	120.5	117.1	3.36	35.826		
900.0	900.0	886.4	883.6	1.9	2.0	21.63	122.2	48.4	132.6	128.8	3.79	34.986		
1,000.0	1,000.0	981.8	978.1	2.1	2.3	21.43	135.1	53.0	146.9	142.7	4.22	34.839 SF		
1,100.0	1,100.0	1,078.0	1,072.8	2.4	2.6	20.54	150.8	56.5	163.5	158.9	4.65	35.168		
1,200.0	1,200.0	1,174.7	1,168.0	2.6	2.9	19.18	168.3	58.5	181.2	176.1	5.09	35.627		
1,300.0	1,300.0	1,273.2	1,264.6	2.8	3.2	-152.50	186.9	59.7	201.1	195.6	5.54	36.326		
1,400.0	1,399.8	1,372.5	1,362.3	3.0	3.5	-154.24	205.1	60.2	223.4	217.5	5.91	37.787		
1,500.0	1,499.5	1,470.4	1,458.7	3.1	3.8	-156.01	222.3	60.3	248.2	241.9	6.29	39.483		
1,600.0	1,598.8	1,564.0	1,550.7	3.3	4.2	-157.83	238.9	59.8	275.7	269.0	6.67	41.305		
1,700.0	1,698.1	1,666.9	1,652.1	3.6	4.5	-159.69	256.8	58.6	303.3	296.2	7.09	42.759		
1,800.0	1,797.4	1,761.0	1,745.0	3.8	4.8	-160.72	271.8	59.3	329.9	322.4	7.50	44.008		
1,900.0	1,896.7	1,854.3	1,837.0	4.1	5.1	-161.49	287.3	60.8	357.4	349.5	7.92	45.127		
2,000.0	1,996.1	1,945.2	1,926.4	4.3	5.5	-162.29	303.5	61.4	385.9	377.6	8.35	46.244		
2,100.0	2,095.4	2,040.4	2,020.0	4.6	5.8	-163.14	321.0	61.1	415.1	406.3	8.78	47.267		
2,200.0	2,194.7	2,132.0	2,109.9	4.9	6.2	-164.00	338.5	59.9	444.9	435.7	9.21	48.290		
2,300.0	2,294.0	2,224.8	2,200.9	5.1	6.5	-164.70	356.8	59.3	475.3	465.7	9.65	49.264		
2,400.0	2,393.3	2,310.9	2,285.1	5.4	6.9	-165.13	374.6	59.9	506.9	496.8	10.08	50.310		
2,500.0	2,492.6	2,404.2	2,376.2	5.7	7.3	-165.55	394.8	60.7	539.5	529.0	10.53	51.255		
2,600.0	2,591.9	2,499.4	2,469.1	6.0	7.6	-165.94	415.5	61.4	572.2	561.2	10.98	52.128		
2,700.0	2,691.3	2,594.9	2,562.3	6.3	8.0	-166.24	436.1	62.5	604.7	593.3	11.42	52.928		
2,800.0	2,790.6	2,702.8	2,668.0	6.6	8.5	-166.55	458.1	63.6	636.1	624.2	11.90	53.465		
2,900.0	2,889.9	2,796.9	2,760.2	6.9	8.8	-166.86	476.5	63.8	666.7	654.3	12.34	54.008		
3,000.0	2,989.2	2,889.8	2,851.3	7.2	9.2	-167.09	494.8	64.6	697.5	684.7	12.79	54.513		
3,100.0	3,088.5	2,987.3	2,946.9	7.5	9.6	-167.13	513.9	67.6	728.2	714.9	13.26	54.921		
3,200.0	3,187.8	3,076.0	3,033.6	7.8	9.9	-167.01	531.8	72.3	759.6	745.9	13.71	55.399		
3,300.0	3,287.1	3,158.5	3,114.1	8.1	10.3	-166.88	549.4	77.1	792.1	778.0	14.16	55.956		
3,400.0	3,386.5	3,237.5	3,191.0	8.4	10.7	-166.83	567.2	80.7	825.9	811.3	14.59	56.594		
3,500.0	3,485.8	3,337.3	3,287.9	8.7	11.1	-166.98	591.0	82.6	860.7	845.7	15.08	57.093		
3,600.0	3,585.1	3,456.0	3,403.7	9.0	11.6	-167.32	616.9	82.0	893.5	877.9	15.59	57.321		
3,700.0	3,684.4	3,546.2	3,492.0	9.3	12.0	-167.57	635.5	81.3	925.2	909.1	16.03	57.701		
3,800.0	3,783.7	3,628.6	3,572.4	9.6	12.3	-167.71	653.3	81.9	957.7	941.2	16.47	58.142		
3,900.0	3,883.0	3,714.3	3,655.9	9.9	12.7	-167.77	672.6	83.8	991.3	974.4	16.92	58.576		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	713.308	
200.0	200.0	200.0	200.0	0.3	0.3	0.99	160.3	2.8	160.3	159.7	0.67	237.769	
300.0	300.0	300.0	300.0	0.6	0.6	0.99	160.3	2.8	160.3	159.2	1.12	142.662	
400.0	400.0	400.0	400.0	0.8	0.8	0.99	160.3	2.8	160.3	158.8	1.57	101.901 CC, ES	
500.0	500.0	494.7	494.7	1.0	1.0	1.03	161.9	2.9	162.0	160.0	2.01	80.493	
600.0	600.0	589.1	589.0	1.2	1.2	1.13	166.5	3.3	166.9	164.5	2.46	67.955	
700.0	700.0	683.2	682.7	1.5	1.4	1.28	174.2	3.9	175.1	172.2	2.90	60.336	
800.0	800.0	776.7	775.6	1.7	1.7	1.48	184.9	4.8	186.6	183.3	3.35	55.680	
900.0	900.0	869.3	867.2	1.9	2.0	1.69	198.5	5.9	201.3	197.5	3.80	52.939	
1,000.0	1,000.0	961.0	957.4	2.1	2.3	1.92	214.9	7.2	219.2	214.9	4.26	51.489	
1,100.0	1,100.0	1,051.5	1,045.9	2.4	2.6	2.14	233.8	8.7	240.2	235.4	4.71	50.938	
1,200.0	1,200.0	1,146.5	1,138.3	2.6	3.0	2.35	255.9	10.5	263.5	258.3	5.19	50.803 SF	
1,300.0	1,300.0	1,243.3	1,232.4	2.8	3.4	-167.60	278.5	12.3	288.5	282.9	5.62	51.358	
1,400.0	1,399.8	1,339.2	1,325.6	3.0	3.8	-167.52	300.9	14.1	316.9	310.9	6.02	52.600	
1,500.0	1,499.5	1,434.1	1,417.8	3.1	4.3	-167.55	323.1	15.9	348.5	342.1	6.43	54.180	
1,600.0	1,598.8	1,528.0	1,509.2	3.3	4.7	-167.73	345.0	17.7	382.7	375.8	6.85	55.899	
1,700.0	1,698.1	1,621.9	1,600.5	3.6	5.2	-167.93	367.0	19.5	417.0	409.8	7.27	57.328	
1,800.0	1,797.4	1,715.8	1,691.8	3.8	5.6	-168.11	388.9	21.2	451.4	443.7	7.71	58.541	
1,900.0	1,896.7	1,809.7	1,783.0	4.1	6.0	-168.26	410.8	23.0	485.8	477.6	8.15	59.579	
2,000.0	1,996.1	1,903.6	1,874.3	4.3	6.5	-168.39	432.8	24.8	520.2	511.6	8.60	60.472	
2,100.0	2,095.4	1,997.5	1,965.6	4.6	6.9	-168.50	454.7	26.5	554.6	545.5	9.05	61.246	
2,200.0	2,194.7	2,091.4	2,056.9	4.9	7.4	-168.60	476.7	28.3	588.9	579.4	9.51	61.921	
2,300.0	2,294.0	2,185.3	2,148.2	5.1	7.8	-168.69	498.6	30.1	623.3	613.4	9.97	62.512	
2,400.0	2,393.3	2,279.2	2,239.4	5.4	8.3	-168.77	520.5	31.9	657.7	647.3	10.43	63.035	
2,500.0	2,492.6	2,373.1	2,330.7	5.7	8.7	-168.84	542.5	33.6	692.1	681.2	10.90	63.498	
2,600.0	2,591.9	2,467.0	2,422.0	6.0	9.2	-168.90	564.4	35.4	726.5	715.1	11.37	63.910	
2,700.0	2,691.3	2,560.9	2,513.3	6.3	9.6	-168.96	586.3	37.2	760.9	749.1	11.84	64.279	
2,800.0	2,790.6	2,654.8	2,604.6	6.6	10.1	-169.02	608.3	38.9	795.3	783.0	12.31	64.611	
2,900.0	2,889.9	2,748.7	2,695.9	6.9	10.6	-169.07	630.2	40.7	829.7	816.9	12.78	64.910	
3,000.0	2,989.2	2,842.6	2,787.1	7.2	11.0	-169.11	652.1	42.5	864.1	850.8	13.26	65.180	
3,100.0	3,088.5	2,936.5	2,878.4	7.5	11.5	-169.15	674.1	44.3	898.5	884.7	13.73	65.426	
3,200.0	3,187.8	3,030.4	2,969.7	7.8	11.9	-169.19	696.0	46.0	932.9	918.7	14.21	65.651	
3,300.0	3,287.1	3,124.3	3,061.0	8.1	12.4	-169.23	717.9	47.8	967.3	952.6	14.69	65.856	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	0.89	178.5	2.8	178.5				
100.0	100.0	100.0	100.0	0.1	0.1	0.89	178.5	2.8	178.5	178.3	0.22	794.359	
200.0	200.0	200.0	200.0	0.3	0.3	0.89	178.5	2.8	178.5	177.9	0.67	264.786 CC, ES	
300.0	300.0	294.1	294.1	0.6	0.6	0.92	180.1	2.9	180.2	179.1	1.11	161.860	
400.0	400.0	388.0	387.9	0.8	0.8	1.00	184.7	3.2	185.1	183.5	1.56	118.665	
500.0	500.0	481.5	481.1	1.0	1.0	1.13	192.3	3.8	193.3	191.3	2.01	96.202	
600.0	600.0	574.4	573.4	1.2	1.3	1.29	202.9	4.6	204.7	202.2	2.46	83.172	
700.0	700.0	666.5	664.5	1.5	1.5	1.47	216.3	5.5	219.3	216.4	2.92	75.216	
800.0	800.0	757.7	754.2	1.7	1.9	1.66	232.5	6.7	237.1	233.7	3.37	70.269	
900.0	900.0	847.7	842.2	1.9	2.2	1.85	251.2	8.1	257.9	254.1	3.84	67.251	
1,000.0	1,000.0	939.5	931.4	2.1	2.6	2.03	273.0	9.7	281.7	277.4	4.30	65.427	
1,100.0	1,100.0	1,036.5	1,025.4	2.4	3.1	2.20	296.6	11.4	306.0	301.2	4.79	63.948	
1,200.0	1,200.0	1,133.5	1,119.5	2.6	3.5	2.35	320.2	13.1	330.4	325.1	5.26	62.761	
1,300.0	1,300.0	1,230.0	1,213.1	2.8	4.0	-167.64	343.6	14.8	356.4	350.7	5.69	62.639 SF	
1,400.0	1,399.8	1,325.6	1,305.8	3.0	4.5	-167.57	366.9	16.5	385.7	379.6	6.10	63.196	
1,500.0	1,499.5	1,420.2	1,397.5	3.1	4.9	-167.58	389.9	18.2	418.3	411.7	6.51	64.242	
1,600.0	1,598.8	1,513.8	1,488.3	3.3	5.4	-167.74	412.7	19.9	453.3	446.4	6.93	65.421	
1,700.0	1,698.1	1,607.4	1,579.1	3.6	5.9	-167.93	435.4	21.6	488.6	481.3	7.36	66.350	
1,800.0	1,797.4	1,700.9	1,669.8	3.8	6.3	-168.09	458.2	23.2	523.9	516.1	7.81	67.115	
1,900.0	1,896.7	1,794.5	1,760.5	4.1	6.8	-168.24	480.9	24.9	559.2	551.0	8.25	67.751	
2,000.0	1,996.1	1,888.0	1,851.2	4.3	7.3	-168.37	503.7	26.5	594.5	585.8	8.71	68.282	
2,100.0	2,095.4	1,981.6	1,942.0	4.6	7.7	-168.48	526.4	28.2	629.8	620.7	9.16	68.730	
2,200.0	2,194.7	2,075.1	2,032.7	4.9	8.2	-168.58	549.2	29.9	665.1	655.5	9.62	69.109	
2,300.0	2,294.0	2,168.7	2,123.4	5.1	8.7	-168.67	571.9	31.5	700.5	690.4	10.09	69.431	
2,400.0	2,393.3	2,262.2	2,214.2	5.4	9.1	-168.75	594.7	33.2	735.8	725.2	10.55	69.708	
2,500.0	2,492.6	2,355.8	2,304.9	5.7	9.6	-168.83	617.4	34.9	771.1	760.1	11.02	69.946	
2,600.0	2,591.9	2,449.3	2,395.6	6.0	10.1	-168.89	640.2	36.5	806.4	794.9	11.49	70.152	
2,700.0	2,691.3	2,542.9	2,486.4	6.3	10.5	-168.96	662.9	38.2	841.7	829.7	11.97	70.331	
2,800.0	2,790.6	2,636.4	2,577.1	6.6	11.0	-169.01	685.7	39.8	877.0	864.6	12.44	70.487	
2,900.0	2,889.9	2,730.0	2,667.8	6.9	11.5	-169.07	708.4	41.5	912.3	899.4	12.92	70.623	
3,000.0	2,989.2	2,823.5	2,758.5	7.2	11.9	-169.11	731.2	43.2	947.6	934.3	13.40	70.743	
3,100.0	3,088.5	2,917.1	2,849.3	7.5	12.4	-169.16	753.9	44.8	983.0	969.1	13.87	70.848	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	0.00	18.2	0.0	18.2	18.2	0.00	N/A	
100.0	100.0	100.0	100.0	0.1	0.1	0.00	18.2	0.0	18.2	18.0	0.22	81.080	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	18.2	0.0	18.2	17.5	0.67	27.027	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	18.2	0.0	18.2	17.1	1.12	16.216	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	18.2	0.0	18.2	16.7	1.57	11.583	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	18.2	0.0	18.2	16.2	2.02	9.009	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	18.2	0.0	18.2	15.8	2.47	7.371	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	18.2	0.0	18.2	15.3	2.92	6.237	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	18.2	0.0	18.2	14.9	3.37	5.405	
900.0	900.0	900.0	900.0	1.9	1.9	0.00	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	0.00	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	0.00	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	0.00	18.2	0.0	18.2	13.1	5.17	3.525 CC	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-171.02	18.2	0.0	19.9	14.4	5.59	3.568	
1,400.0	1,399.8	1,399.8	1,399.8	3.0	3.0	-172.87	18.2	0.0	25.1	19.1	5.98	4.201	
1,500.0	1,499.5	1,499.5	1,499.5	3.1	3.3	-174.69	18.2	0.0	33.8	27.4	6.37	5.301	
1,600.0	1,598.8	1,600.3	1,600.3	3.3	3.5	-175.51	16.6	0.6	43.5	36.8	6.75	6.448	
1,700.0	1,698.1	1,701.5	1,701.3	3.6	3.6	-175.12	11.6	2.3	50.1	43.0	7.12	7.041	
1,800.0	1,797.4	1,801.3	1,801.0	3.8	3.8	-174.48	5.3	4.5	55.4	47.9	7.50	7.385	
1,900.0	1,896.7	1,901.2	1,900.6	4.1	4.0	-173.94	-0.9	6.6	60.6	52.8	7.89	7.687	
2,000.0	1,996.1	2,001.1	2,000.2	4.3	4.2	-173.49	-7.1	8.8	65.9	57.6	8.29	7.953	
2,100.0	2,095.4	2,100.9	2,099.9	4.6	4.4	-173.11	-13.4	11.0	71.2	62.5	8.69	8.187	
2,200.0	2,194.7	2,200.8	2,199.5	4.9	4.6	-172.78	-19.6	13.1	76.5	67.4	9.11	8.395	
2,300.0	2,294.0	2,300.6	2,299.2	5.1	4.8	-172.49	-25.8	15.3	81.7	72.2	9.53	8.581	
2,400.0	2,393.3	2,400.5	2,398.8	5.4	5.1	-172.24	-32.1	17.5	87.0	77.1	9.95	8.746	
2,500.0	2,492.6	2,500.4	2,498.5	5.7	5.3	-172.02	-38.3	19.6	92.3	81.9	10.38	8.894	
2,600.0	2,591.9	2,600.2	2,598.1	6.0	5.5	-171.82	-44.5	21.8	97.6	86.8	10.81	9.027	
2,700.0	2,691.3	2,700.1	2,697.7	6.3	5.7	-171.64	-50.8	24.0	102.9	91.6	11.24	9.147	
2,800.0	2,790.6	2,799.9	2,797.4	6.6	6.0	-171.48	-57.0	26.1	108.1	96.5	11.68	9.256	
2,900.0	2,889.9	2,899.8	2,897.0	6.9	6.2	-171.33	-63.2	28.3	113.4	101.3	12.12	9.355	
3,000.0	2,989.2	2,999.7	2,996.7	7.2	6.4	-171.20	-69.5	30.5	118.7	106.1	12.57	9.446	
3,100.0	3,088.5	3,099.5	3,096.3	7.5	6.7	-171.08	-75.7	32.6	124.0	111.0	13.01	9.528	
3,200.0	3,187.8	3,199.4	3,195.9	7.8	6.9	-170.97	-81.9	34.8	129.3	115.8	13.46	9.604	
3,300.0	3,287.1	3,299.2	3,295.6	8.1	7.2	-170.86	-88.2	36.9	134.6	120.7	13.91	9.673	
3,400.0	3,386.5	3,399.1	3,395.2	8.4	7.4	-170.77	-94.4	39.1	139.9	125.5	14.36	9.737	
3,500.0	3,485.8	3,499.0	3,494.9	8.7	7.6	-170.68	-100.6	41.3	145.1	130.3	14.82	9.797	
3,600.0	3,585.1	3,598.8	3,594.5	9.0	7.9	-170.60	-106.9	43.4	150.4	135.2	15.27	9.852	
3,700.0	3,684.4	3,698.7	3,694.2	9.3	8.1	-170.52	-113.1	45.6	155.7	140.0	15.73	9.902	
3,800.0	3,783.7	3,798.5	3,793.8	9.6	8.4	-170.45	-119.3	47.8	161.0	144.8	16.18	9.950	
3,900.0	3,883.0	3,898.4	3,893.4	9.9	8.6	-170.38	-125.6	49.9	166.3	149.7	16.64	9.994	
4,000.0	3,982.4	3,998.3	3,993.1	10.3	8.9	-170.32	-131.8	52.1	171.6	154.5	17.10	10.035	
4,100.0	4,081.7	4,098.1	4,092.7	10.6	9.1	-170.26	-138.0	54.3	176.9	159.3	17.56	10.074	
4,200.0	4,181.0	4,198.0	4,192.4	10.9	9.4	-170.20	-144.3	56.4	182.2	164.1	18.02	10.110	
4,300.0	4,280.3	4,297.8	4,292.0	11.2	9.6	-170.15	-150.5	58.6	187.5	169.0	18.48	10.144	
4,400.0	4,379.6	4,397.7	4,391.6	11.5	9.9	-170.10	-156.7	60.8	192.7	173.8	18.94	10.176	
4,500.0	4,478.9	4,497.6	4,491.3	11.8	10.1	-170.05	-162.9	62.9	198.0	178.6	19.40	10.206	
4,600.0	4,578.2	4,597.4	4,590.9	12.1	10.4	-170.01	-169.2	65.1	203.3	183.5	19.87	10.234	
4,700.0	4,677.6	4,697.3	4,690.6	12.4	10.6	-169.97	-175.4	67.2	208.6	188.3	20.33	10.261	
4,800.0	4,776.9	4,797.1	4,790.2	12.8	10.9	-169.93	-181.6	69.4	213.9	193.1	20.80	10.286	
4,900.0	4,876.2	4,897.0	4,889.9	13.1	11.1	-169.89	-187.9	71.6	219.2	197.9	21.26	10.310	
5,000.0	4,975.5	4,996.9	4,989.5	13.4	11.4	-169.85	-194.1	73.7	224.5	202.8	21.73	10.333	
5,100.0	5,074.8	5,096.7	5,089.1	13.7	11.6	-169.82	-200.3	75.9	229.8	207.6	22.19	10.355	

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 #2
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 #2	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 #1 (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	5,174.1	5,196.6	5,188.8	14.0	11.9	-169.78	-206.6	78.1	235.1	212.4	22.66	10.375	
5,300.0	5,273.5	5,296.4	5,288.4	14.3	12.2	-169.75	-212.8	80.2	240.4	217.2	23.12	10.395	
5,400.0	5,372.8	5,396.3	5,388.1	14.7	12.4	-169.72	-219.0	82.4	245.6	222.1	23.59	10.413	
5,500.0	5,472.1	5,496.2	5,487.7	15.0	12.7	-169.69	-225.3	84.6	250.9	226.9	24.06	10.431	
5,600.0	5,571.4	5,596.0	5,587.3	15.3	12.9	-169.66	-231.5	86.7	256.2	231.7	24.52	10.448	
5,700.0	5,670.7	5,695.9	5,687.0	15.6	13.2	-169.64	-237.7	88.9	261.5	236.5	24.99	10.464	
5,800.0	5,770.0	5,795.7	5,786.6	15.9	13.4	-169.61	-244.0	91.1	266.8	241.3	25.46	10.479	
5,900.0	5,869.3	5,895.6	5,886.3	16.2	13.7	-169.59	-250.2	93.2	272.1	246.2	25.93	10.494	
6,000.0	5,968.7	5,995.5	5,985.9	16.6	13.9	-169.56	-256.4	95.4	277.4	251.0	26.40	10.508	
6,100.0	6,068.0	6,095.3	6,085.6	16.9	14.2	-169.54	-262.7	97.5	282.7	255.8	26.87	10.522	
6,200.0	6,167.3	6,195.2	6,185.2	17.2	14.4	-169.52	-268.9	99.7	288.0	260.6	27.34	10.535	
6,300.0	6,266.6	6,295.3	6,285.1	17.5	14.7	-177.83	-275.2	100.6	293.3	265.5	27.78	10.555	
6,400.0	6,365.6	6,395.3	6,384.3	17.8	14.9	-128.27	-281.4	89.8	298.5	270.4	28.12	10.615	
6,500.0	6,462.5	6,494.9	6,480.6	18.0	15.1	-110.97	-287.5	65.5	303.7	275.3	28.43	10.683	
6,600.0	6,555.6	6,594.1	6,572.2	18.2	15.2	-103.31	-293.4	28.1	308.7	279.9	28.76	10.733	
6,700.0	6,643.0	6,692.9	6,657.5	18.4	15.4	-98.93	-298.9	-21.3	313.4	284.2	29.21	10.728	
6,800.0	6,723.0	6,791.3	6,734.9	18.7	15.6	-96.04	-303.9	-81.7	317.7	287.8	29.90	10.626	
6,900.0	6,794.0	6,889.4	6,803.1	18.9	15.9	-93.98	-308.4	-152.0	321.6	290.6	30.97	10.385	
7,000.0	6,854.6	6,987.2	6,860.9	19.3	16.5	-92.47	-312.3	-230.7	324.9	292.4	32.53	9.987	
7,100.0	6,903.8	7,084.7	6,907.4	19.9	17.5	-91.35	-315.5	-316.3	327.6	292.9	34.68	9.446	
7,200.0	6,940.4	7,182.1	6,941.8	20.8	18.9	-90.55	-318.0	-407.2	329.6	292.2	37.42	8.809	
7,300.0	6,963.9	7,279.3	6,963.5	22.1	20.5	-90.03	-319.6	-501.8	330.9	290.3	40.68	8.135	
7,400.0	6,973.7	7,376.3	6,972.3	23.8	22.4	-89.76	-320.5	-598.4	331.5	287.2	44.34	7.476	
7,500.0	6,974.0	7,475.7	6,972.5	25.7	24.4	-89.74	-320.8	-697.8	331.1	282.6	48.41	6.839	
7,600.0	6,974.0	7,575.6	6,972.5	27.7	26.6	-89.74	-321.1	-797.7	330.2	277.4	52.83	6.251	
7,700.0	6,974.0	7,675.5	6,972.5	29.9	28.9	-89.74	-321.4	-897.6	329.4	272.0	57.46	5.733	
7,800.0	6,974.0	7,775.4	6,972.5	32.2	31.3	-89.74	-321.6	-997.5	328.7	266.4	62.26	5.279	
7,900.0	6,974.0	7,875.3	6,972.5	34.6	33.8	-89.74	-321.8	-1,097.4	327.9	260.8	67.18	4.881	
8,000.0	6,974.0	7,975.2	6,972.5	37.0	36.3	-89.74	-322.0	-1,197.3	327.2	255.0	72.21	4.532	
8,100.0	6,974.0	8,075.1	6,972.5	39.5	38.8	-89.74	-322.2	-1,297.2	326.6	249.3	77.31	4.224	
8,200.0	6,974.0	8,175.1	6,972.5	42.0	41.4	-89.74	-322.3	-1,397.1	325.9	243.4	82.48	3.951	
8,300.0	6,974.0	8,275.0	6,972.5	44.6	44.0	-89.74	-322.4	-1,497.0	325.3	237.6	87.71	3.709	
8,400.0	6,974.0	8,374.9	6,972.5	47.2	46.7	-89.74	-322.5	-1,596.9	324.7	231.7	92.98	3.492	
8,500.0	6,974.0	8,474.8	6,972.5	49.8	49.3	-89.73	-322.5	-1,696.9	324.1	225.8	98.29	3.298	
8,600.0	6,974.0	8,574.7	6,972.5	52.4	52.0	-89.73	-322.5	-1,796.8	323.6	220.0	103.64	3.122	
8,700.0	6,974.0	8,674.6	6,972.5	55.1	54.7	-89.73	-322.5	-1,896.7	323.1	214.1	109.01	2.964	
8,800.0	6,974.0	8,774.5	6,972.5	57.7	57.4	-89.73	-322.5	-1,996.6	322.6	208.2	114.40	2.820	
8,900.0	6,974.0	8,874.4	6,972.5	60.4	60.1	-89.73	-322.4	-2,096.5	322.1	202.3	119.81	2.689	
9,000.0	6,974.0	8,974.3	6,972.5	63.1	62.8	-89.73	-322.3	-2,196.4	321.7	196.5	125.25	2.569	
9,100.0	6,974.0	9,074.2	6,972.5	65.8	65.5	-89.73	-322.2	-2,296.3	321.3	190.6	130.69	2.459	
9,200.0	6,974.0	9,174.1	6,972.5	68.5	68.2	-89.73	-322.0	-2,396.2	320.9	184.8	136.16	2.357	
9,300.0	6,974.0	9,274.0	6,972.5	71.2	70.9	-89.73	-321.8	-2,496.1	320.6	179.0	141.63	2.264	
9,400.0	6,974.0	9,374.0	6,972.5	74.0	73.7	-89.73	-321.6	-2,596.0	320.3	173.2	147.11	2.177	
9,500.0	6,974.0	9,473.9	6,972.5	76.7	76.4	-89.73	-321.4	-2,695.9	320.0	167.4	152.61	2.097	
9,600.0	6,974.0	9,573.8	6,972.5	79.4	79.2	-89.73	-321.1	-2,795.9	319.7	161.6	158.11	2.022	
9,700.0	6,974.0	9,673.7	6,972.5	82.2	81.9	-89.73	-320.8	-2,895.8	319.5	155.9	163.62	1.953	
9,800.0	6,974.0	9,773.6	6,972.5	84.9	84.7	-89.73	-320.5	-2,995.7	319.3	150.2	169.14	1.888	
9,900.0	6,974.0	9,873.5	6,972.5	87.7	87.4	-89.73	-320.2	-3,095.6	319.1	144.5	174.66	1.827	
10,000.0	6,974.0	9,973.4	6,972.5	90.4	90.2	-89.73	-319.8	-3,195.5	319.0	138.8	180.19	1.770	
10,100.0	6,974.0	10,073.3	6,972.5	93.2	93.0	-89.73	-319.4	-3,295.4	318.9	133.1	185.73	1.717	
10,200.0	6,974.0	10,173.2	6,972.5	96.0	95.7	-89.73	-319.0	-3,395.3	318.8	127.5	191.27	1.667	
10,300.0	6,974.0	10,273.1	6,972.5	98.7	98.5	-89.73	-318.5	-3,495.2	318.7	121.9	196.81	1.619	

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 #2
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 #2	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 #1 (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	6,974.0	10,373.1	6,972.5	101.5	101.3	89.73	-318.0	-3,595.1	318.7	116.3	202.36	1.575		
10,472.4	6,974.0	10,445.4	6,972.5	103.5	103.3	89.73	-317.6	-3,667.5	318.7	112.3	206.38	1.544		
10,500.0	6,974.0	10,473.0	6,972.5	104.3	104.1	89.73	-317.5	-3,695.0	318.7	110.8	207.91	1.533		
10,600.0	6,974.0	10,572.9	6,972.5	107.0	106.8	89.73	-316.9	-3,795.0	318.7	105.2	213.47	1.493 Level 3		
10,700.0	6,974.0	10,672.8	6,972.5	109.8	109.6	89.73	-316.4	-3,894.9	318.7	99.7	219.03	1.455 Level 3		
10,800.0	6,974.0	10,772.7	6,972.5	112.6	112.4	89.73	-315.8	-3,994.8	318.8	94.2	224.59	1.420 Level 3		
10,900.0	6,974.0	10,872.6	6,972.5	115.3	115.2	89.73	-315.1	-4,094.7	318.9	88.8	230.16	1.386 Level 3		
11,000.0	6,974.0	10,972.5	6,972.5	118.1	117.9	89.73	-314.5	-4,194.6	319.1	83.3	235.72	1.354 Level 3		
11,100.0	6,974.0	11,072.4	6,972.5	120.9	120.7	89.73	-313.8	-4,294.5	319.2	77.9	241.29	1.323 Level 3		
11,200.0	6,974.0	11,172.3	6,972.5	123.7	123.5	89.73	-313.1	-4,394.4	319.4	72.6	246.86	1.294 Level 3		
11,300.0	6,974.0	11,272.3	6,972.5	126.5	126.3	89.73	-312.3	-4,494.4	319.6	67.2	252.44	1.266 Level 3		
11,400.0	6,974.0	11,372.3	6,972.5	129.2	129.1	89.73	-311.6	-4,594.4	319.8	61.8	258.01	1.240 Level 2		
11,500.0	6,974.0	11,472.3	6,972.5	132.0	131.9	89.73	-310.9	-4,694.4	320.1	56.5	263.59	1.214 Level 2		
11,600.0	6,974.0	11,572.3	6,972.5	134.8	134.7	89.73	-310.1	-4,794.4	320.3	51.1	269.17	1.190 Level 2		
11,700.0	6,974.0	11,672.3	6,972.5	137.6	137.4	89.73	-309.4	-4,894.4	320.5	45.7	274.75	1.166 Level 2		
11,800.0	6,974.0	11,772.3	6,972.5	140.4	140.2	89.73	-308.7	-4,994.4	320.7	40.4	280.33	1.144 Level 2		
11,900.0	6,974.0	11,872.3	6,972.5	143.2	143.0	89.73	-307.9	-5,094.4	320.9	35.0	285.91	1.122 Level 2		
12,000.0	6,974.0	11,972.3	6,972.5	146.0	145.8	89.73	-307.2	-5,194.3	321.1	29.6	291.49	1.102 Level 2		
12,100.0	6,974.0	12,072.3	6,972.5	148.8	148.6	89.73	-306.4	-5,294.3	321.3	24.3	297.08	1.082 Level 2		
12,200.0	6,974.0	12,172.3	6,972.5	151.5	151.4	89.73	-305.7	-5,394.3	321.5	18.9	302.66	1.062 Level 2		
12,300.0	6,974.0	12,272.3	6,972.5	154.3	154.2	89.73	-305.0	-5,494.3	321.8	13.5	308.25	1.044 Level 2		
12,400.0	6,974.0	12,372.3	6,972.5	157.1	157.0	89.73	-304.2	-5,594.3	322.0	8.1	313.84	1.026 Level 2		
12,500.0	6,974.0	12,472.3	6,972.5	159.9	159.8	89.73	-303.5	-5,694.3	322.2	2.8	319.43	1.009 Level 2		
12,600.0	6,974.0	12,572.3	6,972.5	162.7	162.6	89.73	-302.7	-5,794.3	322.4	-2.6	325.02	0.992 Level 1		
12,700.0	6,974.0	12,672.3	6,972.5	165.5	165.4	89.73	-302.0	-5,894.3	322.6	-8.0	330.62	0.976 Level 1		
12,800.0	6,974.0	12,772.3	6,972.5	168.3	168.1	89.73	-301.3	-5,994.3	322.8	-13.4	336.21	0.960 Level 1		
12,900.0	6,974.0	12,872.3	6,972.5	171.1	170.9	89.73	-300.5	-6,094.3	323.0	-18.8	341.80	0.945 Level 1		
13,000.0	6,974.0	12,972.3	6,972.5	173.9	173.7	89.73	-299.8	-6,194.3	323.3	-24.1	347.40	0.930 Level 1		
13,100.0	6,974.0	13,072.3	6,972.5	176.7	176.5	89.73	-299.1	-6,294.3	323.5	-29.5	352.99	0.916 Level 1		
13,200.0	6,974.0	13,172.3	6,972.5	179.5	179.3	89.73	-298.3	-6,394.3	323.7	-34.9	358.59	0.903 Level 1		
13,300.0	6,974.0	13,272.3	6,972.5	182.3	182.1	89.73	-297.6	-6,494.3	323.9	-40.3	364.19	0.889 Level 1		
13,400.0	6,974.0	13,372.3	6,972.5	185.1	184.9	89.73	-296.8	-6,594.3	324.1	-45.7	369.78	0.876 Level 1		
13,500.0	6,974.0	13,472.3	6,972.5	187.9	187.7	89.73	-296.1	-6,694.3	324.3	-51.1	375.38	0.864 Level 1		
13,600.0	6,974.0	13,572.3	6,972.5	190.7	190.5	89.74	-295.4	-6,794.3	324.5	-56.5	380.98	0.852 Level 1		
13,700.0	6,974.0	13,672.3	6,972.5	193.5	193.3	89.74	-294.6	-6,894.3	324.7	-61.8	386.58	0.840 Level 1		
13,800.0	6,974.0	13,772.3	6,972.5	196.3	196.1	89.74	-293.9	-6,994.3	325.0	-67.2	392.18	0.829 Level 1		
13,900.0	6,974.0	13,872.3	6,972.5	199.1	198.9	89.74	-293.2	-7,094.3	325.2	-72.6	397.78	0.817 Level 1		
14,000.0	6,974.0	13,972.3	6,972.5	201.9	201.7	89.74	-292.4	-7,194.3	325.4	-78.0	403.38	0.807 Level 1		
14,100.0	6,974.0	14,072.3	6,972.5	204.7	204.5	89.74	-291.7	-7,294.3	325.6	-83.4	408.99	0.796 Level 1		
14,200.0	6,974.0	14,172.3	6,972.5	207.5	207.3	89.74	-290.9	-7,394.3	325.8	-88.8	414.59	0.786 Level 1		
14,300.0	6,974.0	14,272.3	6,972.5	210.3	210.1	89.74	-290.2	-7,494.3	326.0	-94.2	420.19	0.776 Level 1		
14,400.0	6,974.0	14,372.3	6,972.5	213.1	212.9	89.74	-289.5	-7,594.3	326.2	-99.6	425.79	0.766 Level 1		
14,500.0	6,974.0	14,472.3	6,972.5	215.9	215.7	89.74	-288.7	-7,694.3	326.4	-104.9	431.40	0.757 Level 1		
14,600.0	6,974.0	14,572.3	6,972.5	218.7	218.5	89.74	-288.0	-7,794.3	326.7	-110.3	437.00	0.748 Level 1		
14,700.0	6,974.0	14,672.3	6,972.5	221.5	221.3	89.74	-287.3	-7,894.3	326.9	-115.7	442.61	0.739 Level 1		
14,800.0	6,974.0	14,772.3	6,972.5	224.3	224.1	89.74	-286.5	-7,994.3	327.1	-121.1	448.21	0.730 Level 1		
14,900.0	6,974.0	14,872.3	6,972.5	227.1	226.9	89.74	-285.8	-8,094.3	327.3	-126.5	453.82	0.721 Level 1		
15,000.0	6,974.0	14,972.3	6,972.5	229.9	229.7	89.74	-285.0	-8,194.3	327.5	-131.9	459.42	0.713 Level 1		
15,100.0	6,974.0	15,072.3	6,972.5	232.7	232.5	89.74	-284.3	-8,294.3	327.7	-137.3	465.03	0.705 Level 1		
15,200.0	6,974.0	15,172.3	6,972.5	235.5	235.3	89.74	-283.6	-8,394.3	327.9	-142.7	470.64	0.697 Level 1		
15,300.0	6,974.0	15,272.3	6,972.5	238.3	238.1	89.74	-282.8	-8,494.3	328.2	-148.1	476.24	0.689 Level 1		
15,400.0	6,974.0	15,372.3	6,972.5	241.1	240.9	89.74	-282.1	-8,594.2	328.4	-153.5	481.85	0.681 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 #2
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 #2	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 #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #3 - 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
15,500.0	6,974.0	15,472.3	6,972.5	243.9	243.7	89.74	-281.4	-8,694.2	328.6	-158.9	487.46	0.674	Level 1
15,600.0	6,974.0	15,572.3	6,972.5	246.7	246.5	89.74	-280.6	-8,794.2	328.8	-164.3	493.06	0.667	Level 1
15,700.0	6,974.0	15,672.3	6,972.5	249.5	249.3	89.74	-279.9	-8,894.2	329.0	-169.7	498.67	0.660	Level 1
15,800.0	6,974.0	15,772.3	6,972.5	252.3	252.2	89.74	-279.1	-8,994.2	329.2	-175.1	504.28	0.653	Level 1
15,900.0	6,974.0	15,872.3	6,972.5	255.1	255.0	89.74	-278.4	-9,094.2	329.4	-180.5	509.89	0.646	Level 1
16,000.0	6,974.0	15,972.3	6,972.5	257.9	257.8	89.74	-277.7	-9,194.2	329.6	-185.9	515.50	0.639	Level 1
16,100.0	6,974.0	16,072.3	6,972.5	260.7	260.6	89.74	-276.9	-9,294.2	329.9	-191.2	521.11	0.633	Level 1
16,200.0	6,974.0	16,172.3	6,972.5	263.5	263.4	89.74	-276.2	-9,394.2	330.1	-196.6	526.72	0.627	Level 1
16,300.0	6,974.0	16,272.3	6,972.5	266.3	266.2	89.74	-275.5	-9,494.2	330.3	-202.0	532.32	0.620	Level 1
16,400.0	6,974.0	16,372.3	6,972.5	269.1	269.0	89.74	-274.7	-9,594.2	330.5	-207.4	537.93	0.614	Level 1
16,500.0	6,974.0	16,472.3	6,972.5	271.9	271.8	89.74	-274.0	-9,694.2	330.7	-212.8	543.54	0.608	Level 1
16,600.0	6,974.0	16,572.3	6,972.5	274.7	274.6	89.74	-273.2	-9,794.2	330.9	-218.2	549.15	0.603	Level 1
16,700.0	6,974.0	16,672.3	6,972.5	277.5	277.4	89.74	-272.5	-9,894.2	331.1	-223.6	554.76	0.597	Level 1
16,800.0	6,974.0	16,772.3	6,972.5	280.3	280.2	89.74	-271.8	-9,994.2	331.3	-229.0	560.38	0.591	Level 1
16,882.6	6,974.0	16,854.9	6,972.5	282.6	282.5	89.74	-271.2	-10,076.8	331.5	-233.5	565.00	0.587	Level 1, ES, SF

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	0.5	0.5	0.0	0.0	0.00	32.8	0.0	32.8	32.8	0.00	N/A		
100.0	100.0	100.5	100.5	0.1	0.1	-0.12	32.8	-0.1	32.8	32.6	0.23	145.502		
200.0	200.0	200.5	200.5	0.3	0.3	0.83	32.8	0.5	32.8	32.1	0.62	52.491		
227.6	227.6	228.1	228.1	0.4	0.3	1.96	32.7	1.1	32.8	32.0	0.74	44.084 CC		
300.0	300.0	300.4	300.3	0.6	0.5	7.05	32.7	4.0	32.9	31.9	1.06	31.054 ES		
400.0	400.0	400.1	399.8	0.8	0.7	17.08	32.7	10.0	34.2	32.7	1.52	22.535		
500.0	500.0	500.0	499.6	1.0	1.0	26.26	32.7	16.1	36.5	34.5	1.96	18.595		
600.0	600.0	599.4	598.8	1.2	1.2	33.52	33.3	22.0	40.0	37.6	2.40	16.640		
700.0	700.0	698.9	698.1	1.5	1.4	39.14	34.8	28.3	44.9	42.1	2.84	15.796		
800.0	800.0	799.3	798.3	1.7	1.7	44.31	35.8	34.9	50.1	46.8	3.28	15.250		
900.0	900.0	899.7	898.4	1.9	1.9	50.68	34.2	41.8	54.1	50.3	3.72	14.533		
1,000.0	1,000.0	1,000.4	998.8	2.1	2.1	57.11	31.3	48.3	57.6	53.4	4.16	13.858		
1,100.0	1,100.0	1,101.9	1,100.1	2.4	2.4	62.88	27.1	52.9	59.5	54.9	4.59	12.949		
1,200.0	1,200.0	1,201.9	1,200.1	2.6	2.6	67.15	23.3	55.2	59.9	54.9	5.02	11.926		
1,300.0	1,300.0	1,302.0	1,300.1	2.8	2.8	-101.01	20.0	57.3	61.0	55.5	5.45	11.184		
1,400.0	1,399.8	1,402.1	1,400.1	3.0	3.0	-102.53	16.9	59.0	62.5	56.6	5.85	10.688		
1,500.0	1,499.5	1,501.4	1,499.3	3.1	3.2	-105.82	13.1	61.8	65.7	59.4	6.26	10.485		
1,600.0	1,598.8	1,602.4	1,600.1	3.3	3.4	-109.96	7.5	64.3	68.8	62.1	6.71	10.262		
1,700.0	1,698.1	1,701.9	1,699.5	3.6	3.7	-114.29	2.2	66.2	72.1	64.9	7.16	10.061		
1,800.0	1,797.4	1,801.3	1,798.7	3.8	3.9	-118.70	-2.2	68.1	76.2	68.6	7.62	9.993		
1,900.0	1,896.7	1,900.4	1,897.7	4.1	4.1	-122.23	-6.6	70.9	81.4	73.3	8.09	10.060		
2,000.0	1,996.1	2,000.7	1,997.7	4.3	4.3	-124.46	-11.9	74.8	87.1	78.5	8.56	10.169		
2,100.0	2,095.4	2,099.9	2,096.8	4.6	4.6	-126.84	-16.9	77.9	92.4	83.4	9.03	10.229		
2,200.0	2,194.7	2,198.3	2,195.0	4.9	4.8	-128.64	-21.3	82.1	99.2	89.7	9.51	10.429		
2,300.0	2,294.0	2,298.5	2,295.0	5.1	5.0	-130.29	-25.3	86.8	106.7	96.7	9.99	10.677		
2,400.0	2,393.3	2,398.0	2,394.3	5.4	5.3	-131.56	-29.7	91.3	113.8	103.3	10.47	10.867		
2,500.0	2,492.6	2,500.4	2,496.5	5.7	5.5	-132.85	-34.7	95.4	120.3	109.3	10.96	10.976		
2,600.0	2,591.9	2,600.6	2,596.5	6.0	5.7	-134.02	-40.7	98.4	125.3	113.8	11.44	10.952		
2,700.0	2,691.3	2,698.6	2,694.3	6.3	5.9	-135.64	-45.4	100.6	130.9	119.0	11.90	11.003		
2,800.0	2,790.6	2,798.1	2,793.7	6.6	6.2	-137.39	-49.1	102.8	137.5	125.2	12.36	11.129		
2,900.0	2,889.9	2,899.0	2,894.5	6.9	6.4	-138.71	-53.7	105.5	143.9	131.0	12.82	11.219		
3,000.0	2,989.2	2,999.1	2,994.4	7.2	6.6	-139.64	-59.1	108.4	149.5	136.2	13.29	11.247		
3,100.0	3,088.5	3,096.4	3,091.6	7.5	6.8	-140.56	-63.4	111.5	156.3	142.5	13.76	11.360		
3,200.0	3,187.8	3,196.6	3,191.6	7.8	7.1	-141.47	-67.3	114.9	163.7	149.4	14.23	11.504		
3,300.0	3,287.1	3,298.0	3,292.8	8.1	7.3	-141.94	-72.4	118.9	170.3	155.6	14.71	11.578		
3,400.0	3,386.5	3,398.4	3,393.0	8.4	7.6	-142.12	-78.5	123.2	176.1	160.9	15.20	11.587		
3,500.0	3,485.8	3,500.1	3,494.4	8.7	7.8	-142.73	-84.2	126.3	181.9	166.3	15.68	11.602		
3,600.0	3,585.1	3,603.0	3,597.0	9.0	8.0	-143.32	-91.8	128.4	185.6	169.4	16.16	11.483		
3,700.0	3,684.4	3,703.2	3,696.9	9.3	8.3	-143.82	-99.8	130.4	188.8	172.1	16.64	11.345		
3,800.0	3,783.7	3,802.7	3,796.1	9.6	8.5	-144.30	-107.8	132.3	191.9	174.8	17.11	11.212		
3,900.0	3,883.0	3,902.3	3,895.3	9.9	8.8	-144.83	-115.3	134.1	195.4	177.8	17.58	11.111		
4,000.0	3,982.4	4,000.4	3,993.2	10.3	9.0	-145.46	-122.3	135.7	199.2	181.2	18.04	11.042		
4,100.0	4,081.7	4,097.0	4,089.7	10.6	9.2	-146.20	-127.8	137.4	204.4	186.0	18.49	11.058		
4,200.0	4,181.0	4,194.9	4,187.4	10.9	9.4	-146.90	-132.1	139.6	211.1	192.1	18.94	11.147		
4,300.0	4,280.3	4,293.5	4,285.9	11.2	9.7	-147.73	-135.6	141.5	218.4	199.0	19.38	11.270		
4,400.0	4,379.6	4,393.3	4,385.7	11.5	9.9	-148.61	-138.8	143.2	226.0	206.2	19.81	11.407		
4,500.0	4,478.9	4,494.2	4,486.5	11.8	10.1	-149.55	-142.2	144.3	233.3	213.1	20.24	11.527		
4,600.0	4,578.2	4,592.9	4,585.1	12.1	10.3	-150.58	-145.4	144.8	240.6	219.9	20.66	11.645		
4,700.0	4,677.6	4,691.4	4,683.7	12.4	10.5	-151.62	-148.1	145.1	248.4	227.3	21.07	11.788		
4,800.0	4,776.9	4,788.2	4,780.4	12.8	10.7	-152.51	-150.1	145.9	257.0	235.5	21.48	11.963		
4,900.0	4,876.2	4,887.7	4,879.8	13.1	10.9	-153.34	-151.6	147.0	266.3	244.4	21.91	12.155		
5,000.0	4,975.5	4,986.2	4,978.4	13.4	11.1	-154.16	-153.0	147.9	275.7	253.4	22.32	12.351		

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 #2
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 #2	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 #1 (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		
5,100.0	5,074.8	5,085.2	5,077.4	13.7	11.3	-154.97	-154.0	148.7	285.5	262.8	22.74	12.555		
5,200.0	5,174.1	5,184.9	5,177.0	14.0	11.5	-155.82	-154.9	149.1	295.4	272.2	23.16	12.756		
5,300.0	5,273.5	5,283.7	5,275.8	14.3	11.7	-156.62	-155.6	149.3	305.4	281.8	23.57	12.957		
5,400.0	5,372.8	5,383.0	5,375.1	14.7	11.9	-157.49	-156.1	149.1	315.6	291.7	23.98	13.165		
5,500.0	5,472.1	5,483.8	5,476.0	15.0	12.1	-158.20	-157.1	149.3	325.6	301.2	24.39	13.346		
5,600.0	5,571.4	5,582.7	5,574.8	15.3	12.3	-158.71	-158.3	150.5	335.5	310.7	24.82	13.518		
5,700.0	5,670.7	5,682.6	5,674.7	15.6	12.5	-159.14	-159.5	151.9	345.5	320.3	25.25	13.682		
5,800.0	5,770.0	5,781.0	5,773.1	15.9	12.7	-159.60	-160.7	152.9	355.4	329.7	25.68	13.839		
5,900.0	5,869.3	5,877.3	5,869.4	16.2	12.9	-160.14	-161.0	153.4	366.2	340.1	26.10	14.030		
6,000.0	5,968.7	5,976.7	5,968.8	16.6	13.1	-160.67	-160.9	153.9	377.4	350.9	26.52	14.229		
6,100.0	6,068.0	6,077.9	6,069.9	16.9	13.3	-161.08	-161.2	155.0	388.3	361.3	26.96	14.404		
6,200.0	6,167.3	6,176.7	6,168.7	17.2	13.5	-161.42	-161.9	156.3	399.0	371.6	27.39	14.566		
6,300.0	6,266.6	6,275.1	6,267.2	17.5	13.7	-174.26	-162.1	157.7	410.0	382.2	27.81	14.743		
6,400.0	6,365.6	6,375.7	6,367.7	17.8	13.9	-137.24	-162.5	159.1	422.4	394.2	28.17	14.995		
6,500.0	6,462.5	6,476.7	6,468.7	18.0	14.1	-122.33	-163.1	158.3	436.7	408.2	28.50	15.320		
6,600.0	6,555.6	6,578.4	6,569.5	18.2	14.3	-116.89	-161.8	145.2	453.6	424.9	28.72	15.793		
6,700.0	6,643.0	6,726.7	6,712.0	18.4	14.5	-115.84	-164.2	105.0	467.8	438.9	28.91	16.183		
6,800.0	6,723.0	6,830.8	6,805.7	18.7	14.6	-114.88	-167.9	60.1	479.3	450.2	29.05	16.499		
6,900.0	6,794.0	6,960.9	6,910.3	18.9	14.8	-114.32	-169.7	-16.9	490.5	461.1	29.47	16.645		
7,000.0	6,854.6	7,073.1	6,987.8	19.3	15.3	-113.49	-168.2	-97.7	502.5	472.2	30.38	16.542		
7,100.0	6,903.8	7,232.1	7,065.7	19.9	16.7	-111.73	-164.8	-235.6	509.8	477.1	32.68	15.602		
7,200.0	6,940.4	7,358.5	7,105.1	20.8	18.5	-110.05	-163.6	-355.6	513.0	477.2	35.76	14.345		
7,300.0	6,963.9	7,483.7	7,133.7	22.1	20.6	-109.54	-164.9	-477.5	514.7	475.2	39.49	13.034		
7,400.0	6,973.7	7,599.1	7,145.9	23.8	22.9	-109.48	-166.2	-592.1	515.3	471.7	43.58	11.824		
7,500.0	6,974.0	7,683.0	7,148.4	25.7	24.7	-109.66	-165.2	-676.0	517.2	470.1	47.17	10.965		
7,600.0	6,974.0	7,781.4	7,150.6	27.7	26.9	-109.77	-161.6	-774.3	520.9	469.6	51.31	10.153		
7,700.0	6,974.0	7,884.1	7,151.8	29.9	29.3	-109.77	-157.6	-876.9	524.5	468.8	55.75	9.408		
7,800.0	6,974.0	7,989.2	7,152.1	32.2	31.9	-109.69	-154.0	-982.0	527.3	466.9	60.42	8.727		
7,900.0	6,974.0	8,091.0	7,152.3	34.6	34.4	-109.64	-151.5	-1,083.7	529.3	464.1	65.12	8.127		
8,000.0	6,974.0	8,187.0	7,151.7	37.0	36.8	-109.48	-148.3	-1,179.7	531.6	461.8	69.83	7.613		
8,100.0	6,974.0	8,283.6	7,151.3	39.5	39.3	-109.32	-144.6	-1,276.2	534.7	460.0	74.64	7.163		
8,200.0	6,974.0	8,385.1	7,150.9	42.0	41.9	-109.14	-140.1	-1,377.6	538.2	458.5	79.64	6.757		
8,300.0	6,974.0	8,490.4	7,151.7	44.6	44.7	-109.14	-137.2	-1,482.9	540.5	455.8	84.72	6.380		
8,400.0	6,974.0	8,591.4	7,152.8	47.2	47.4	-109.19	-134.9	-1,583.8	542.5	452.8	89.72	6.047		
8,500.0	6,974.0	8,694.7	7,154.2	49.8	50.1	-109.28	-133.1	-1,687.1	544.2	449.4	94.78	5.742		
8,600.0	6,974.0	8,787.3	7,155.4	52.4	52.6	-109.36	-131.4	-1,779.7	545.9	446.3	99.60	5.480		
8,700.0	6,974.0	8,877.6	7,156.8	55.1	55.0	-109.40	-128.0	-1,869.9	549.4	445.0	104.42	5.262		
8,800.0	6,974.0	8,976.4	7,158.0	57.7	57.7	-109.36	-122.9	-1,968.6	554.2	444.7	109.52	5.060		
8,900.0	6,974.0	9,078.3	7,158.9	60.4	60.5	-109.30	-118.0	-2,070.3	558.6	443.8	114.73	4.869		
9,000.0	6,974.0	9,179.3	7,159.2	63.1	63.2	-109.17	-113.1	-2,171.2	562.7	442.7	119.98	4.690		
9,100.0	6,974.0	9,284.5	7,159.1	65.8	66.1	-109.03	-108.5	-2,276.3	566.3	441.0	125.37	4.517		
9,200.0	6,974.0	9,393.6	7,158.8	68.5	69.1	-108.91	-105.1	-2,385.3	568.7	437.9	130.86	4.346		
9,300.0	6,974.0	9,505.3	7,159.3	71.2	72.1	-108.95	-104.3	-2,497.0	569.0	432.6	136.33	4.173		
9,400.0	6,974.0	9,609.2	7,159.1	74.0	75.0	-108.96	-104.7	-2,600.9	568.1	426.5	141.62	4.011		
9,500.0	6,974.0	9,716.0	7,158.3	76.7	77.9	-108.94	-105.8	-2,707.7	566.4	419.3	147.02	3.852		
9,600.0	6,974.0	9,822.6	7,157.6	79.4	80.8	-108.99	-108.5	-2,814.3	563.3	410.9	152.36	3.697		
9,700.0	6,974.0	9,928.9	7,157.5	82.2	83.7	-109.13	-112.6	-2,920.5	559.1	401.5	157.62	3.547		
9,800.0	6,974.0	10,040.8	7,158.0	84.9	86.8	-109.42	-119.0	-3,032.3	553.3	390.4	162.87	3.397		
9,900.0	6,974.0	10,135.2	7,159.2	87.7	89.4	-109.77	-125.4	-3,126.4	546.9	379.3	167.59	3.263		
10,000.0	6,974.0	10,226.0	7,160.5	90.4	91.9	-110.11	-130.7	-3,217.0	541.4	369.2	172.23	3.144		
10,100.0	6,974.0	10,320.0	7,161.7	93.2	94.5	-110.40	-134.8	-3,310.9	537.3	360.4	176.98	3.036		
10,200.0	6,974.0	10,418.9	7,162.8	96.0	97.2	-110.65	-137.8	-3,409.8	534.3	352.5	181.89	2.938		

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 #2
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 #2	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 #1 (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						
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
10,300.0	6,974.0	10,519.6	7,164.0	98.7	100.0	110.90	-141.0	-3,510.4	531.3	344.5	186.81	2.844	
10,400.0	6,974.0	10,619.2	7,165.1	101.5	102.7	111.16	-144.2	-3,609.9	528.2	336.5	191.70	2.756	
10,500.0	6,974.0	10,714.9	7,165.4	104.3	105.4	111.30	-146.4	-3,705.7	525.7	329.1	196.62	2.674	
10,600.0	6,974.0	10,816.2	7,164.4	107.0	108.2	111.27	-147.9	-3,806.9	523.5	321.6	201.87	2.593	
10,700.0	6,974.0	10,917.3	7,163.1	109.8	111.0	111.23	-149.8	-3,908.0	520.8	313.7	207.15	2.514	
10,800.0	6,974.0	11,016.1	7,163.6	112.6	113.7	111.40	-152.1	-4,006.8	518.3	306.2	212.10	2.444	
10,900.0	6,974.0	11,117.3	7,163.9	115.3	116.6	111.54	-154.4	-4,108.0	515.8	298.7	217.13	2.376	
11,000.0	6,974.0	11,216.2	7,163.4	118.1	119.3	111.60	-156.5	-4,206.8	513.1	290.9	222.21	2.309	
11,100.0	6,974.0	11,314.0	7,164.4	120.9	122.0	111.83	-158.7	-4,304.6	510.9	283.9	227.03	2.251	
11,200.0	6,974.0	11,413.8	7,165.6	123.7	124.8	112.05	-160.8	-4,404.4	509.0	277.1	231.88	2.195	
11,300.0	6,974.0	11,511.3	7,166.5	126.5	127.5	112.25	-162.6	-4,501.8	507.2	270.4	236.70	2.143	
11,400.0	6,974.0	11,604.9	7,166.7	129.2	130.1	112.31	-163.1	-4,595.4	506.2	264.6	241.61	2.095	
11,415.2	6,974.0	11,618.9	7,166.6	129.7	130.5	112.30	-163.0	-4,609.4	506.2	263.8	242.39	2.088	
11,500.0	6,974.0	11,701.1	7,165.8	132.0	132.8	112.19	-162.0	-4,691.6	506.5	259.6	246.89	2.051	
11,600.0	6,974.0	11,802.7	7,165.2	134.8	135.6	112.09	-160.7	-4,793.2	506.9	254.7	252.29	2.009	
11,700.0	6,974.0	11,903.6	7,164.3	137.6	138.4	111.99	-159.8	-4,894.1	507.0	249.3	257.67	1.968 SF	
11,800.0	6,974.0	11,915.0	7,164.2	140.4	138.8	111.98	-159.7	-4,905.5	514.7	254.1	260.59	1.975	
11,900.0	6,974.0	11,915.0	7,164.2	143.2	138.8	111.98	-159.7	-4,905.5	541.0	277.8	263.19	2.056	
12,000.0	6,974.0	11,915.0	7,164.2	146.0	138.8	111.98	-159.7	-4,905.5	583.5	317.7	265.79	2.195	
12,100.0	6,974.0	11,915.0	7,164.2	148.8	138.8	111.98	-159.7	-4,905.5	638.9	370.5	268.39	2.380	
12,200.0	6,974.0	11,915.0	7,164.2	151.5	138.8	111.98	-159.7	-4,905.5	704.2	433.2	270.99	2.599	
12,300.0	6,974.0	11,915.0	7,164.2	154.3	138.8	111.98	-159.7	-4,905.5	777.0	503.4	273.60	2.840	
12,400.0	6,974.0	11,915.0	7,164.2	157.1	138.8	111.98	-159.7	-4,905.5	855.2	579.0	276.20	3.096	
12,500.0	6,974.0	11,915.0	7,164.2	159.9	138.8	111.98	-159.7	-4,905.5	937.6	658.8	278.80	3.363	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	0.00	51.0	0.0	51.0				
100.0	100.0	100.0	100.0	0.1	0.1	0.00	51.0	0.0	51.0	50.8	0.22	226.940	
200.0	200.0	200.0	200.0	0.3	0.3	0.00	51.0	0.0	51.0	50.3	0.67	75.647	
300.0	300.0	300.0	300.0	0.6	0.6	0.00	51.0	0.0	51.0	49.9	1.12	45.388	
400.0	400.0	400.0	400.0	0.8	0.8	0.00	51.0	0.0	51.0	49.4	1.57	32.420	
500.0	500.0	500.0	500.0	1.0	1.0	0.00	51.0	0.0	51.0	49.0	2.02	25.216	
600.0	600.0	600.0	600.0	1.2	1.2	0.00	51.0	0.0	51.0	48.5	2.47	20.631	
700.0	700.0	700.0	700.0	1.5	1.5	0.00	51.0	0.0	51.0	48.1	2.92	17.457	
800.0	800.0	800.0	800.0	1.7	1.7	0.00	51.0	0.0	51.0	47.6	3.37	15.129	
900.0	900.0	900.0	900.0	1.9	1.9	0.00	51.0	0.0	51.0	47.2	3.82	13.349	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	0.00	51.0	0.0	51.0	46.7	4.27	11.944	
1,100.0	1,100.0	1,100.0	1,100.0	2.4	2.4	0.00	51.0	0.0	51.0	46.3	4.72	10.807	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	51.0	0.0	51.0	45.8	5.17	9.867 CC, ES	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-170.48	51.0	0.0	52.7	47.1	5.59	9.434	
1,400.0	1,399.8	1,399.8	1,399.8	3.0	3.0	-171.32	51.0	0.0	57.9	51.9	5.98	9.678	
1,500.0	1,499.5	1,499.5	1,499.5	3.1	3.3	-172.43	51.0	0.0	66.5	60.2	6.38	10.435	
1,600.0	1,598.8	1,598.8	1,598.8	3.3	3.5	-173.53	51.0	0.0	77.9	71.1	6.78	11.491	
1,700.0	1,698.1	1,698.1	1,698.1	3.6	3.7	-174.38	51.0	0.0	89.5	82.3	7.20	12.442	
1,800.0	1,797.4	1,797.4	1,797.4	3.8	3.9	-175.03	51.0	0.0	101.2	93.5	7.62	13.281	
1,900.0	1,896.7	1,896.7	1,896.7	4.1	4.2	-175.54	51.0	0.0	112.8	104.8	8.04	14.026	
2,000.0	1,996.1	1,996.1	1,996.1	4.3	4.4	-175.96	51.0	0.0	124.5	116.0	8.47	14.690	
2,100.0	2,095.4	2,095.4	2,095.4	4.6	4.6	-176.30	51.0	0.0	136.1	127.2	8.90	15.285	
2,200.0	2,194.7	2,194.7	2,194.7	4.9	4.8	-176.60	51.0	0.0	147.8	138.4	9.34	15.821	
2,300.0	2,294.0	2,294.0	2,294.0	5.1	5.0	-176.85	51.0	0.0	159.4	149.7	9.78	16.305	
2,400.0	2,393.3	2,393.3	2,393.3	5.4	5.3	-177.06	51.0	0.0	171.1	160.9	10.22	16.744	
2,500.0	2,492.6	2,492.6	2,492.6	5.7	5.5	-177.25	51.0	0.0	182.8	172.1	10.66	17.144	
2,600.0	2,591.9	2,591.9	2,591.9	6.0	5.7	-177.41	51.0	0.0	194.4	183.3	11.10	17.510	
2,700.0	2,691.3	2,691.3	2,691.3	6.3	5.9	-177.56	51.0	0.0	206.1	194.6	11.55	17.846	
2,800.0	2,790.6	2,790.6	2,790.6	6.6	6.2	-177.69	51.0	0.0	217.8	205.8	12.00	18.154	
2,900.0	2,889.9	2,889.9	2,889.9	6.9	6.4	-177.81	51.0	0.0	229.5	217.0	12.44	18.439	
3,000.0	2,989.2	2,989.2	2,989.2	7.2	6.6	-177.92	51.0	0.0	241.1	228.2	12.89	18.703	
3,100.0	3,088.5	3,088.5	3,088.5	7.5	6.8	-178.01	51.0	0.0	252.8	239.5	13.34	18.948	
3,200.0	3,187.8	3,187.8	3,187.8	7.8	7.1	-178.10	51.0	0.0	264.5	250.7	13.79	19.176	
3,300.0	3,287.1	3,287.1	3,287.1	8.1	7.3	-178.18	51.0	0.0	276.2	261.9	14.24	19.388	
3,400.0	3,386.5	3,386.5	3,386.5	8.4	7.5	-178.25	51.0	0.0	287.9	273.2	14.70	19.587	
3,500.0	3,485.8	3,485.8	3,485.8	8.7	7.7	-178.32	51.0	0.0	299.5	284.4	15.15	19.773	
3,600.0	3,585.1	3,585.1	3,585.1	9.0	7.9	-178.38	51.0	0.0	311.2	295.6	15.60	19.947	
3,700.0	3,684.4	3,684.4	3,684.4	9.3	8.2	-178.44	51.0	0.0	322.9	306.8	16.06	20.111	
3,800.0	3,783.7	3,783.7	3,783.7	9.6	8.4	-178.50	51.0	0.0	334.6	318.1	16.51	20.265	
3,900.0	3,883.0	3,883.0	3,883.0	9.9	8.6	-178.55	51.0	0.0	346.2	329.3	16.96	20.411	
4,000.0	3,982.4	3,982.4	3,982.4	10.3	8.8	-178.60	51.0	0.0	357.9	340.5	17.42	20.548	
4,100.0	4,081.7	4,086.3	4,086.3	10.6	9.1	-178.46	50.6	1.2	369.1	351.2	17.87	20.655	
4,200.0	4,181.0	4,188.7	4,188.5	10.9	9.3	-177.89	49.4	5.5	379.0	360.7	18.30	20.707	
4,300.0	4,280.3	4,288.1	4,287.9	11.2	9.4	-177.30	48.0	10.2	388.7	369.9	18.73	20.753	
4,400.0	4,379.6	4,387.6	4,387.2	11.5	9.6	-176.74	46.6	14.8	398.4	379.3	19.16	20.796	
4,500.0	4,478.9	4,487.0	4,486.5	11.8	9.8	-176.20	45.3	19.5	408.2	388.6	19.59	20.836	
4,600.0	4,578.2	4,586.5	4,585.9	12.1	10.0	-175.69	43.9	24.1	418.0	398.0	20.03	20.873	
4,700.0	4,677.6	4,685.9	4,685.2	12.4	10.2	-175.21	42.5	28.7	427.9	407.4	20.47	20.908	
4,800.0	4,776.9	4,785.4	4,784.5	12.8	10.4	-174.74	41.1	33.4	437.8	416.9	20.91	20.940	
4,900.0	4,876.2	4,884.8	4,883.9	13.1	10.6	-174.30	39.8	38.0	447.7	426.3	21.35	20.970	
5,000.0	4,975.5	4,984.3	4,983.2	13.4	10.9	-173.88	38.4	42.6	457.6	435.8	21.79	20.998	
5,100.0	5,074.8	5,083.7	5,082.5	13.7	11.1	-173.47	37.0	47.3	467.6	445.3	22.24	21.025	

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 #2
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 #2	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 #1 (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	5,174.1	5,183.2	5,181.9	14.0	11.3	-173.08	35.7	51.9	477.5	454.9	22.69	21.049	
5,300.0	5,273.5	5,282.6	5,281.2	14.3	11.5	-172.71	34.3	56.5	487.5	464.4	23.14	21.072	
5,400.0	5,372.8	5,382.1	5,380.5	14.7	11.7	-172.35	32.9	61.2	497.6	474.0	23.59	21.093	
5,500.0	5,472.1	5,481.5	5,479.9	15.0	11.9	-172.01	31.6	65.8	507.6	483.6	24.04	21.113	
5,600.0	5,571.4	5,580.9	5,579.2	15.3	12.1	-171.67	30.2	70.5	517.7	493.2	24.50	21.131	
5,700.0	5,670.7	5,680.4	5,678.5	15.6	12.3	-171.36	28.8	75.1	527.7	502.8	24.95	21.148	
5,800.0	5,770.0	5,779.8	5,777.9	15.9	12.5	-171.05	27.4	79.7	537.8	512.4	25.41	21.164	
5,900.0	5,869.3	5,879.3	5,877.2	16.2	12.8	-170.76	26.1	84.4	547.9	522.1	25.87	21.179	
6,000.0	5,968.7	5,978.7	5,976.5	16.6	13.0	-170.47	24.7	89.0	558.0	531.7	26.33	21.193	
6,100.0	6,068.0	6,078.2	6,075.8	16.9	13.2	-170.20	23.3	93.6	568.2	541.4	26.79	21.206	
6,200.0	6,167.3	6,177.6	6,175.2	17.2	13.4	-169.93	22.0	98.3	578.3	551.1	27.26	21.218	
6,300.0	6,266.6	6,277.3	6,274.8	17.5	13.6	-170.62	20.6	101.0	588.5	560.8	27.70	21.247	
6,400.0	6,365.6	6,377.1	6,374.0	17.8	13.8	-171.11	19.2	91.6	598.6	570.5	28.05	21.342	
6,500.0	6,462.5	6,476.5	6,470.6	18.0	14.0	-171.86	17.9	68.5	608.6	580.2	28.38	21.446	
6,600.0	6,555.6	6,575.8	6,563.0	18.2	14.1	-172.23	16.6	32.3	618.2	589.4	28.74	21.513	
6,700.0	6,643.0	6,674.9	6,649.3	18.4	14.4	-172.88	15.4	-16.2	627.3	598.1	29.21	21.476	
6,800.0	6,723.0	6,773.9	6,728.0	18.7	14.7	-173.01	14.3	-76.0	635.6	605.7	29.91	21.248	
6,900.0	6,794.0	6,872.7	6,797.7	18.9	15.3	-173.98	13.4	-146.0	643.1	612.1	30.99	20.750	
7,000.0	6,854.6	6,971.5	6,857.0	19.3	16.1	-174.49	12.6	-224.9	649.6	617.0	32.58	19.939	
7,100.0	6,903.8	7,070.2	6,904.9	19.9	17.2	-175.39	11.9	-311.1	654.9	620.1	34.75	18.846	
7,200.0	6,940.4	7,168.9	6,940.5	20.8	18.7	-176.62	11.4	-403.1	658.9	621.4	37.52	17.560	
7,300.0	6,963.9	7,267.5	6,963.1	22.1	20.4	-177.12	11.1	-499.0	661.6	620.8	40.84	16.202	
7,400.0	6,973.7	7,366.0	6,972.3	23.8	22.3	-177.89	11.0	-597.0	663.0	618.4	44.56	14.877	
7,500.0	6,974.0	7,465.8	6,972.5	25.7	24.4	-178.87	11.0	-696.8	662.8	614.2	48.65	13.624	
7,600.0	6,974.0	7,565.8	6,972.5	27.7	26.6	-179.87	11.0	-796.8	662.3	609.3	53.07	12.481	
7,700.0	6,974.0	7,665.8	6,972.5	29.9	28.9	-180.87	11.0	-896.8	661.8	604.1	57.69	11.472	
7,800.0	6,974.0	7,765.8	6,972.5	32.2	31.3	-181.87	11.0	-996.8	661.3	598.8	62.48	10.584	
7,900.0	6,974.0	7,865.8	6,972.5	34.6	33.8	-182.87	11.0	-1,096.8	660.7	593.4	67.39	9.805	
8,000.0	6,974.0	7,965.8	6,972.5	37.0	36.3	-183.87	11.0	-1,196.8	660.2	587.8	72.41	9.118	
8,100.0	6,974.0	8,065.8	6,972.5	39.5	38.8	-184.87	11.0	-1,296.8	659.7	582.2	77.51	8.511	
8,200.0	6,974.0	8,165.8	6,972.5	42.0	41.4	-185.87	11.0	-1,396.8	659.2	576.5	82.68	7.973	
8,300.0	6,974.0	8,265.8	6,972.5	44.6	44.0	-186.87	11.0	-1,496.8	658.6	570.7	87.90	7.493	
8,400.0	6,974.0	8,365.8	6,972.5	47.2	46.7	-187.87	11.0	-1,596.8	658.1	565.0	93.17	7.064	
8,500.0	6,974.0	8,465.8	6,972.5	49.8	49.3	-188.87	11.0	-1,696.8	657.6	559.1	98.48	6.678	
8,600.0	6,974.0	8,565.8	6,972.5	52.4	52.0	-189.87	11.0	-1,796.8	657.1	553.3	103.82	6.329	
8,700.0	6,974.0	8,665.8	6,972.5	55.1	54.7	-190.87	11.0	-1,896.8	656.6	547.4	109.19	6.013	
8,800.0	6,974.0	8,765.8	6,972.5	57.7	57.4	-191.87	11.0	-1,996.8	656.0	541.4	114.58	5.726	
8,900.0	6,974.0	8,865.7	6,972.5	60.4	60.1	-192.87	11.0	-2,096.8	655.5	535.5	119.99	5.463	
9,000.0	6,974.0	8,965.7	6,972.5	63.1	62.8	-193.87	11.0	-2,196.8	655.0	529.6	125.42	5.222	
9,100.0	6,974.0	9,065.7	6,972.5	65.8	65.5	-194.87	11.0	-2,296.8	654.5	523.6	130.87	5.001	
9,200.0	6,974.0	9,165.7	6,972.5	68.5	68.3	-195.87	11.0	-2,396.8	653.9	517.6	136.33	4.797	
9,300.0	6,974.0	9,265.7	6,972.5	71.2	71.0	-196.87	11.0	-2,496.8	653.4	511.6	141.81	4.608	
9,400.0	6,974.0	9,365.7	6,972.5	74.0	73.7	-197.87	11.0	-2,596.8	652.9	505.6	147.29	4.433	
9,500.0	6,974.0	9,465.7	6,972.5	76.7	76.5	-198.87	11.0	-2,696.8	652.4	499.6	152.78	4.270	
9,600.0	6,974.0	9,565.7	6,972.5	79.4	79.2	-199.87	11.0	-2,796.7	651.8	493.5	158.29	4.118	
9,700.0	6,974.0	9,665.7	6,972.5	82.2	82.0	-200.87	11.0	-2,896.7	651.3	487.5	163.80	3.976	
9,800.0	6,974.0	9,765.7	6,972.5	84.9	84.7	-201.87	11.0	-2,996.7	650.8	481.5	169.32	3.844	
9,900.0	6,974.0	9,865.7	6,972.5	87.7	87.5	-202.87	11.0	-3,096.7	650.3	475.4	174.84	3.719	
10,000.0	6,974.0	9,965.7	6,972.5	90.4	90.3	-203.87	11.0	-3,196.7	649.7	469.4	180.37	3.602	
10,100.0	6,974.0	10,065.7	6,972.5	93.2	93.0	-204.87	11.0	-3,296.7	649.2	463.3	185.91	3.492	
10,200.0	6,974.0	10,165.7	6,972.5	96.0	95.8	-205.87	11.0	-3,396.7	648.7	457.2	191.45	3.388	
10,300.0	6,974.0	10,265.7	6,972.5	98.7	98.6	-206.87	11.0	-3,496.7	648.2	451.2	196.99	3.290	

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 #2
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 #2	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 #1 (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
10,400.0	6,974.0	10,365.7	6,972.5	101.5	101.4	89.87	11.0	-3,596.7	647.6	445.1	202.54	3.198	
10,500.0	6,974.0	10,465.7	6,972.5	104.3	104.1	89.87	11.0	-3,696.7	647.1	439.0	208.09	3.110	
10,600.0	6,974.0	10,565.7	6,972.5	107.0	106.9	89.87	11.0	-3,796.7	646.6	432.9	213.65	3.026	
10,700.0	6,974.0	10,665.7	6,972.5	109.8	109.7	89.87	11.0	-3,896.7	646.1	426.9	219.21	2.947	
10,800.0	6,974.0	10,765.7	6,972.5	112.6	112.5	89.87	11.0	-3,996.7	645.5	420.8	224.77	2.872	
10,900.0	6,974.0	10,865.7	6,972.5	115.3	115.3	89.87	11.0	-4,096.7	645.0	414.7	230.33	2.800	
11,000.0	6,974.0	10,965.7	6,972.5	118.1	118.0	89.87	11.0	-4,196.7	644.5	408.6	235.90	2.732	
11,100.0	6,974.0	11,065.7	6,972.5	120.9	120.8	89.87	11.0	-4,296.7	644.0	402.5	241.47	2.667	
11,200.0	6,974.0	11,165.7	6,972.5	123.7	123.6	89.87	11.0	-4,396.7	643.4	396.4	247.04	2.605	
11,300.0	6,974.0	11,265.7	6,972.5	126.5	126.4	89.87	11.0	-4,496.7	642.9	390.3	252.62	2.545	
11,400.0	6,974.0	11,365.7	6,972.5	129.2	129.2	89.87	11.0	-4,596.7	642.4	384.2	258.19	2.488	
11,500.0	6,974.0	11,465.7	6,972.5	132.0	132.0	89.87	11.0	-4,696.7	641.9	378.1	263.77	2.433	
11,600.0	6,974.0	11,565.7	6,972.5	134.8	134.8	89.87	11.0	-4,796.7	641.3	372.0	269.35	2.381	
11,700.0	6,974.0	11,665.7	6,972.5	137.6	137.6	89.87	11.0	-4,896.7	640.8	365.9	274.93	2.331	
11,800.0	6,974.0	11,765.7	6,972.5	140.4	140.3	89.87	11.0	-4,996.7	640.3	359.8	280.51	2.283	
11,900.0	6,974.0	11,865.7	6,972.5	143.2	143.1	89.87	11.0	-5,096.7	639.8	353.7	286.10	2.236	
12,000.0	6,974.0	11,965.7	6,972.5	146.0	145.9	89.87	11.0	-5,196.7	639.2	347.6	291.68	2.192	
12,100.0	6,974.0	12,065.7	6,972.5	148.8	148.7	89.87	11.0	-5,296.7	638.7	341.5	297.27	2.149	
12,200.0	6,974.0	12,165.7	6,972.5	151.5	151.5	89.87	11.0	-5,396.7	638.2	335.3	302.86	2.107	
12,300.0	6,974.0	12,265.7	6,972.5	154.3	154.3	89.87	11.0	-5,496.7	637.7	329.2	308.45	2.067	
12,400.0	6,974.0	12,365.7	6,972.5	157.1	157.1	89.87	11.0	-5,596.7	637.1	323.1	314.04	2.029	
12,500.0	6,974.0	12,465.7	6,972.5	159.9	159.9	89.86	11.0	-5,696.7	636.6	317.0	319.63	1.992	
12,600.0	6,974.0	12,565.7	6,972.5	162.7	162.7	89.86	11.0	-5,796.7	636.1	310.9	325.22	1.956	
12,700.0	6,974.0	12,665.7	6,972.5	165.5	165.5	89.86	11.0	-5,896.7	635.6	304.8	330.81	1.921	
12,800.0	6,974.0	12,765.7	6,972.5	168.3	168.3	89.86	11.0	-5,996.7	635.0	298.6	336.40	1.888	
12,900.0	6,974.0	12,865.7	6,972.5	171.1	171.1	89.86	11.0	-6,096.7	634.5	292.5	342.00	1.855	
13,000.0	6,974.0	12,965.7	6,972.5	173.9	173.9	89.86	11.0	-6,196.7	634.0	286.4	347.59	1.824	
13,100.0	6,974.0	13,065.7	6,972.5	176.7	176.7	89.86	11.0	-6,296.7	633.5	280.3	353.19	1.794	
13,200.0	6,974.0	13,165.7	6,972.5	179.5	179.5	89.86	11.0	-6,396.7	633.0	274.2	358.79	1.764	
13,300.0	6,974.0	13,265.7	6,972.5	182.3	182.3	89.86	11.0	-6,496.7	632.4	268.0	364.38	1.736	
13,400.0	6,974.0	13,365.7	6,972.5	185.1	185.1	89.86	11.0	-6,596.7	631.9	261.9	369.98	1.708	
13,500.0	6,974.0	13,465.7	6,972.5	187.9	187.9	89.86	11.0	-6,696.7	631.4	255.8	375.58	1.681	
13,600.0	6,974.0	13,565.7	6,972.5	190.7	190.7	89.86	11.0	-6,796.7	630.9	249.7	381.18	1.655	
13,700.0	6,974.0	13,665.7	6,972.5	193.5	193.5	89.86	11.0	-6,896.7	630.3	243.5	386.78	1.630	
13,800.0	6,974.0	13,765.7	6,972.5	196.3	196.3	89.86	11.0	-6,996.7	629.8	237.4	392.38	1.605	
13,900.0	6,974.0	13,865.7	6,972.5	199.1	199.1	89.86	11.0	-7,096.7	629.3	231.3	397.98	1.581	
14,000.0	6,974.0	13,965.7	6,972.5	201.9	201.9	89.86	11.0	-7,196.7	628.8	225.2	403.58	1.558	
14,100.0	6,974.0	14,065.7	6,972.5	204.7	204.7	89.86	11.0	-7,296.7	628.2	219.0	409.18	1.535	
14,200.0	6,974.0	14,165.7	6,972.5	207.5	207.5	89.86	11.0	-7,396.7	627.7	212.9	414.79	1.513	
14,300.0	6,974.0	14,265.7	6,972.5	210.3	210.3	89.86	11.0	-7,496.7	627.2	206.8	420.39	1.492 Level 3	
14,400.0	6,974.0	14,365.7	6,972.5	213.1	213.1	89.86	11.0	-7,596.7	626.7	200.7	425.99	1.471 Level 3	
14,500.0	6,974.0	14,465.7	6,972.5	215.9	215.9	89.86	11.0	-7,696.7	626.1	194.5	431.59	1.451 Level 3	
14,600.0	6,974.0	14,565.7	6,972.5	218.7	218.7	89.86	11.0	-7,796.7	625.6	188.4	437.20	1.431 Level 3	
14,700.0	6,974.0	14,665.7	6,972.5	221.5	221.5	89.86	11.0	-7,896.7	625.1	182.3	442.80	1.412 Level 3	
14,800.0	6,974.0	14,765.7	6,972.5	224.3	224.3	89.86	11.0	-7,996.7	624.6	176.2	448.41	1.393 Level 3	
14,900.0	6,974.0	14,865.7	6,972.5	227.1	227.1	89.86	11.0	-8,096.7	624.0	170.0	454.01	1.374 Level 3	
15,000.0	6,974.0	14,965.7	6,972.5	229.9	229.9	89.86	11.0	-8,196.7	623.5	163.9	459.62	1.357 Level 3	
15,100.0	6,974.0	15,065.7	6,972.5	232.7	232.7	89.86	11.0	-8,296.7	623.0	157.8	465.22	1.339 Level 3	
15,200.0	6,974.0	15,165.7	6,972.5	235.5	235.5	89.86	11.0	-8,396.7	622.5	151.6	470.83	1.322 Level 3	
15,300.0	6,974.0	15,265.7	6,972.5	238.3	238.3	89.86	11.0	-8,496.7	621.9	145.5	476.44	1.305 Level 3	
15,400.0	6,974.0	15,365.7	6,972.5	241.1	241.1	89.86	11.0	-8,596.7	621.4	139.4	482.04	1.289 Level 3	
15,500.0	6,974.0	15,465.7	6,972.5	243.9	243.9	89.86	11.0	-8,696.7	620.9	133.2	487.65	1.273 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 #2
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 #2	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 #1 (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	6,974.0	15,565.7	6,972.5	246.7	246.7	89.86	11.0	-8,796.7	620.4	127.1	493.26	1.258	Level 3
15,700.0	6,974.0	15,665.7	6,972.5	249.5	249.5	89.86	11.0	-8,896.7	619.8	121.0	498.86	1.243	Level 2
15,800.0	6,974.0	15,765.7	6,972.5	252.3	252.3	89.86	11.0	-8,996.7	619.3	114.8	504.47	1.228	Level 2
15,900.0	6,974.0	15,865.7	6,972.5	255.1	255.1	89.86	11.0	-9,096.7	618.8	108.7	510.08	1.213	Level 2
16,000.0	6,974.0	15,965.7	6,972.5	257.9	257.9	89.86	11.0	-9,196.7	618.3	102.6	515.69	1.199	Level 2
16,100.0	6,974.0	16,065.7	6,972.5	260.7	260.7	89.86	11.0	-9,296.7	617.7	96.4	521.29	1.185	Level 2
16,200.0	6,974.0	16,165.6	6,972.5	263.5	263.5	89.86	11.0	-9,396.7	617.2	90.3	526.90	1.171	Level 2
16,300.0	6,974.0	16,265.6	6,972.5	266.3	266.3	89.86	11.0	-9,496.7	616.7	84.2	532.51	1.158	Level 2
16,400.0	6,974.0	16,365.6	6,972.5	269.1	269.1	89.86	11.0	-9,596.7	616.2	78.0	538.12	1.145	Level 2
16,500.0	6,974.0	16,465.6	6,972.5	271.9	271.9	89.86	11.0	-9,696.7	615.6	71.9	543.73	1.132	Level 2
16,600.0	6,974.0	16,565.6	6,972.5	274.7	274.7	89.86	11.0	-9,796.7	615.1	65.8	549.34	1.120	Level 2
16,700.0	6,974.0	16,665.6	6,972.5	277.5	277.5	89.86	11.0	-9,896.7	614.6	59.6	554.95	1.107	Level 2
16,800.0	6,974.0	16,765.6	6,972.5	280.3	280.3	89.86	11.0	-9,996.7	614.1	53.5	560.56	1.095	Level 2
16,881.6	6,974.0	16,844.0	6,972.5	282.6	282.5	89.86	11.0	-10,075.0	613.7	48.6	565.03	1.086	Level 2
16,882.6	6,974.0	16,844.0	6,972.5	282.6	282.5	89.86	11.0	-10,075.0	613.7	48.6	565.06	1.086	Level 2, SF

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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						
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	0.5	0.5	0.0	0.0	0.00	65.6	0.0	65.6				
100.0	100.0	100.5	100.5	0.1	0.1	0.00	65.6	0.0	65.6	65.4	0.23	291.065	
200.0	200.0	200.5	200.5	0.3	0.3	0.00	65.6	0.0	65.6	64.9	0.67	97.183	
300.0	300.0	300.5	300.5	0.6	0.6	0.00	65.6	0.0	65.6	64.5	1.12	58.329	
400.0	400.0	400.5	400.5	0.8	0.8	0.00	65.6	0.0	65.6	64.0	1.57	41.670	
500.0	500.0	500.5	500.5	1.0	1.0	0.00	65.6	0.0	65.6	63.6	2.02	32.412	
600.0	600.0	600.5	600.5	1.2	1.2	0.00	65.6	0.0	65.6	63.1	2.47	26.521	
700.0	700.0	700.5	700.5	1.5	1.5	0.00	65.6	0.0	65.6	62.7	2.92	22.441	
800.0	800.0	800.5	800.5	1.7	1.7	0.00	65.6	0.0	65.6	62.2	3.37	19.450	
900.0	900.0	900.5	900.5	1.9	1.9	0.00	65.6	0.0	65.6	61.8	3.82	17.162	
1,000.0	1,000.0	1,000.5	1,000.5	2.1	2.1	0.00	65.6	0.0	65.6	61.3	4.27	15.355	
1,100.0	1,100.0	1,100.5	1,100.5	2.4	2.4	0.00	65.6	0.0	65.6	60.9	4.72	13.893	
1,200.0	1,200.0	1,200.5	1,200.5	2.6	2.6	0.00	65.6	0.0	65.6	60.4	5.17	12.685 CC, ES	
1,300.0	1,300.0	1,300.5	1,300.5	2.8	2.8	-170.41	65.6	0.0	67.3	61.7	5.59	12.040	
1,400.0	1,399.8	1,400.3	1,400.3	3.0	3.0	-171.09	65.6	0.0	72.5	66.5	5.98	12.113	
1,500.0	1,499.5	1,500.0	1,500.0	3.1	3.3	-172.02	65.6	0.0	81.1	74.7	6.38	12.718	
1,600.0	1,598.8	1,599.3	1,599.3	3.3	3.5	-172.99	65.6	0.0	92.5	85.7	6.78	13.637	
1,700.0	1,698.1	1,698.6	1,698.6	3.6	3.7	-173.78	65.6	0.0	104.1	96.9	7.20	14.461	
1,800.0	1,797.4	1,797.9	1,797.9	3.8	3.9	-174.40	65.6	0.0	115.7	108.1	7.62	15.187	
1,900.0	1,896.7	1,897.2	1,897.2	4.1	4.2	-174.92	65.6	0.0	127.3	119.3	8.04	15.829	
2,000.0	1,996.1	1,996.6	1,996.6	4.3	4.4	-175.34	65.6	0.0	139.0	130.5	8.47	16.401	
2,100.0	2,095.4	2,091.6	2,091.6	4.6	4.6	-175.42	66.9	0.6	152.0	143.1	8.90	17.078	
2,200.0	2,194.7	2,186.3	2,186.1	4.9	4.8	-174.95	71.1	2.4	167.8	158.4	9.33	17.989	
2,300.0	2,294.0	2,284.8	2,284.5	5.1	5.0	-174.35	76.6	4.9	184.8	175.0	9.76	18.926	
2,400.0	2,393.3	2,383.3	2,382.8	5.4	5.2	-173.85	82.2	7.4	201.8	191.6	10.20	19.781	
2,500.0	2,492.6	2,481.8	2,481.2	5.7	5.5	-173.43	87.7	9.8	218.8	208.2	10.64	20.561	
2,600.0	2,591.9	2,580.4	2,579.5	6.0	5.7	-173.07	93.3	12.3	235.8	224.8	11.09	21.275	
2,700.0	2,691.3	2,678.9	2,677.8	6.3	5.9	-172.76	98.8	14.8	252.9	241.3	11.53	21.932	
2,800.0	2,790.6	2,777.4	2,776.2	6.6	6.1	-172.48	104.4	17.2	269.9	257.9	11.98	22.536	
2,900.0	2,889.9	2,876.0	2,874.5	6.9	6.4	-172.24	109.9	19.7	287.0	274.5	12.43	23.094	
3,000.0	2,989.2	2,974.5	2,972.9	7.2	6.6	-172.03	115.5	22.1	304.0	291.2	12.88	23.611	
3,100.0	3,088.5	3,073.0	3,071.2	7.5	6.8	-171.84	121.0	24.6	321.1	307.8	13.33	24.091	
3,200.0	3,187.8	3,171.5	3,169.5	7.8	7.1	-171.67	126.6	27.1	338.2	324.4	13.78	24.537	
3,300.0	3,287.1	3,270.1	3,267.9	8.1	7.3	-171.51	132.1	29.5	355.2	341.0	14.24	24.954	
3,400.0	3,386.5	3,368.6	3,366.2	8.4	7.5	-171.37	137.6	32.0	372.3	357.6	14.69	25.343	
3,500.0	3,485.8	3,467.1	3,464.6	8.7	7.8	-171.24	143.2	34.4	389.4	374.2	15.15	25.707	
3,600.0	3,585.1	3,565.7	3,562.9	9.0	8.0	-171.13	148.7	36.9	406.4	390.8	15.60	26.049	
3,700.0	3,684.4	3,664.2	3,661.3	9.3	8.2	-171.02	154.3	39.4	423.5	407.4	16.06	26.370	
3,800.0	3,783.7	3,762.7	3,759.6	9.6	8.5	-170.92	159.8	41.8	440.6	424.1	16.52	26.672	
3,900.0	3,883.0	3,861.2	3,857.9	9.9	8.7	-170.83	165.4	44.3	457.7	440.7	16.98	26.957	
4,000.0	3,982.4	3,959.8	3,956.3	10.3	9.0	-170.74	170.9	46.8	474.7	457.3	17.44	27.226	
4,100.0	4,081.7	4,058.3	4,054.6	10.6	9.2	-170.66	176.5	49.2	491.8	473.9	17.90	27.481	
4,200.0	4,181.0	4,156.8	4,153.0	10.9	9.4	-170.59	182.0	51.7	508.9	490.5	18.36	27.722	
4,300.0	4,280.3	4,255.4	4,251.3	11.2	9.7	-170.52	187.5	54.1	526.0	507.1	18.82	27.950	
4,400.0	4,379.6	4,353.9	4,349.6	11.5	9.9	-170.45	193.1	56.6	543.0	523.8	19.28	28.167	
4,500.0	4,478.9	4,452.4	4,448.0	11.8	10.2	-170.39	198.6	59.1	560.1	540.4	19.74	28.374	
4,600.0	4,578.2	4,550.9	4,546.3	12.1	10.4	-170.33	204.2	61.5	577.2	557.0	20.20	28.570	
4,700.0	4,677.6	4,649.5	4,644.7	12.4	10.6	-170.28	209.7	64.0	594.3	573.6	20.67	28.757	
4,800.0	4,776.9	4,748.0	4,743.0	12.8	10.9	-170.23	215.3	66.4	611.4	590.2	21.13	28.936	
4,900.0	4,876.2	4,846.5	4,841.4	13.1	11.1	-170.18	220.8	68.9	628.5	606.9	21.59	29.106	
5,000.0	4,975.5	4,945.1	4,939.7	13.4	11.4	-170.13	226.4	71.4	645.5	623.5	22.06	29.269	
5,100.0	5,074.8	5,043.6	5,038.0	13.7	11.6	-170.09	231.9	73.8	662.6	640.1	22.52	29.425	

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 #2
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 #2	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 #1 (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	5,174.1	5,142.1	5,136.4	14.0	11.8	-170.05	237.5	76.3	679.7	656.7	22.98	29.574	
5,300.0	5,273.5	5,240.6	5,234.7	14.3	12.1	-170.01	243.0	78.7	696.8	673.3	23.45	29.717	
5,400.0	5,372.8	5,339.2	5,333.1	14.7	12.3	-169.97	248.5	81.2	713.9	690.0	23.91	29.854	
5,500.0	5,472.1	5,437.7	5,431.4	15.0	12.6	-169.94	254.1	83.7	731.0	706.6	24.38	29.986	
5,600.0	5,571.4	5,536.2	5,529.7	15.3	12.8	-169.90	259.6	86.1	748.0	723.2	24.84	30.112	
5,700.0	5,670.7	5,634.8	5,628.1	15.6	13.0	-169.87	265.2	88.6	765.1	739.8	25.31	30.234	
5,800.0	5,770.0	5,733.3	5,726.4	15.9	13.3	-169.84	270.7	91.1	782.2	756.4	25.77	30.351	
5,900.0	5,869.3	5,831.8	5,824.8	16.2	13.5	-169.81	276.3	93.5	799.3	773.1	26.24	30.463	
6,000.0	5,968.7	5,930.3	5,923.1	16.6	13.8	-169.78	281.8	96.0	816.4	789.7	26.70	30.572	
6,100.0	6,068.0	6,028.9	6,021.5	16.9	14.0	-169.75	287.4	98.4	833.5	806.3	27.17	30.676	
6,200.0	6,167.3	6,127.4	6,119.8	17.2	14.3	-169.73	292.9	100.9	850.6	822.9	27.64	30.777	
6,300.0	6,266.6	6,225.9	6,218.1	17.5	14.5	-177.67	298.4	103.4	867.7	839.6	28.10	30.882	
6,400.0	6,365.6	6,325.5	6,317.5	17.8	14.7	-128.17	304.0	101.9	884.8	856.3	28.48	31.061	
6,500.0	6,462.5	6,426.3	6,416.9	18.0	14.9	-110.96	309.6	86.8	901.6	872.7	28.83	31.273	
6,600.0	6,555.6	6,528.2	6,514.3	18.2	15.1	-103.37	315.0	57.5	917.7	888.6	29.18	31.449	
6,700.0	6,643.0	6,631.3	6,607.5	18.4	15.2	-99.04	320.1	14.1	933.0	903.4	29.62	31.502	
6,800.0	6,723.0	6,735.5	6,694.5	18.7	15.4	-96.20	324.8	-43.0	947.0	916.7	30.25	31.305	
6,900.0	6,794.0	6,840.9	6,773.2	18.9	15.8	-94.18	329.0	-112.9	959.4	928.2	31.23	30.720	
7,000.0	6,854.6	6,947.4	6,841.3	19.3	16.6	-92.70	332.6	-194.5	970.1	937.3	32.72	29.643	
7,100.0	6,903.8	7,054.8	6,897.1	19.9	17.7	-91.60	335.5	-286.0	978.7	943.8	34.86	28.073	
7,200.0	6,940.4	7,162.8	6,938.8	20.8	19.1	-90.83	337.5	-385.6	985.1	947.4	37.68	26.141	
7,300.0	6,963.9	7,271.4	6,965.2	22.1	20.9	-90.33	338.6	-490.8	989.2	948.1	41.13	24.052	
7,400.0	6,973.7	7,380.0	6,975.4	23.8	23.0	-90.08	338.9	-598.8	990.9	945.8	45.05	21.997	
7,500.0	6,974.0	7,472.8	6,975.5	25.7	24.9	-90.06	339.1	-691.6	991.0	942.0	48.99	20.228	
7,600.0	6,974.0	7,572.8	6,975.5	27.7	27.1	-90.06	339.6	-791.6	991.0	937.6	53.38	18.564	
7,700.0	6,974.0	7,672.8	6,975.5	29.9	29.3	-90.06	340.1	-891.6	991.0	933.0	57.98	17.092	
7,800.0	6,974.0	7,772.8	6,975.5	32.2	31.7	-90.06	340.6	-991.6	991.0	928.2	62.74	15.794	
7,900.0	6,974.0	7,872.8	6,975.5	34.6	34.1	-90.06	341.2	-1,091.6	991.0	923.3	67.64	14.651	
8,000.0	6,974.0	7,972.8	6,975.5	37.0	36.6	-90.06	341.7	-1,191.6	991.0	918.3	72.64	13.642	
8,100.0	6,974.0	8,072.8	6,975.5	39.5	39.2	-90.06	342.2	-1,291.6	991.0	913.2	77.72	12.750	
8,200.0	6,974.0	8,172.8	6,975.5	42.0	41.7	-90.06	342.7	-1,391.6	991.0	908.1	82.88	11.957	
8,300.0	6,974.0	8,272.8	6,975.5	44.6	44.3	-90.06	343.3	-1,491.6	991.0	902.9	88.09	11.249	
8,400.0	6,974.0	8,372.8	6,975.5	47.2	46.9	-90.06	343.8	-1,591.6	991.0	897.6	93.35	10.616	
8,500.0	6,974.0	8,472.8	6,975.5	49.8	49.6	-90.06	344.3	-1,691.6	991.0	892.3	98.65	10.045	
8,600.0	6,974.0	8,572.8	6,975.5	52.4	52.2	-90.06	344.8	-1,791.6	991.0	887.0	103.98	9.530	
8,700.0	6,974.0	8,672.8	6,975.5	55.1	54.9	-90.06	345.3	-1,891.6	991.0	881.6	109.34	9.063	
8,800.0	6,974.0	8,772.8	6,975.5	57.7	57.6	-90.06	345.9	-1,991.6	991.0	876.2	114.73	8.638	
8,900.0	6,974.0	8,872.8	6,975.5	60.4	60.3	-90.06	346.4	-2,091.6	991.0	870.8	120.13	8.249	
9,000.0	6,974.0	8,972.8	6,975.5	63.1	63.0	-90.06	346.9	-2,191.6	991.0	865.4	125.56	7.892	
9,100.0	6,974.0	9,072.8	6,975.5	65.8	65.7	-90.06	347.4	-2,291.6	991.0	860.0	131.00	7.564	
9,200.0	6,974.0	9,172.8	6,975.5	68.5	68.4	-90.06	348.0	-2,391.6	991.0	854.5	136.46	7.262	
9,300.0	6,974.0	9,272.8	6,975.5	71.2	71.2	-90.06	348.5	-2,491.6	991.0	849.0	141.93	6.982	
9,400.0	6,974.0	9,372.8	6,975.5	74.0	73.9	-90.06	349.0	-2,591.6	991.0	843.5	147.41	6.722	
9,500.0	6,974.0	9,472.8	6,975.5	76.7	76.7	-90.06	349.5	-2,691.6	991.0	838.1	152.90	6.481	
9,600.0	6,974.0	9,572.8	6,975.5	79.4	79.4	-90.06	350.1	-2,791.6	991.0	832.6	158.40	6.256	
9,700.0	6,974.0	9,672.8	6,975.5	82.2	82.2	-90.06	350.6	-2,891.6	991.0	827.0	163.91	6.046	
9,800.0	6,974.0	9,772.8	6,975.5	84.9	84.9	-90.06	351.1	-2,991.6	991.0	821.5	169.42	5.849	
9,900.0	6,974.0	9,872.8	6,975.5	87.7	87.7	-90.06	351.6	-3,091.5	991.0	816.0	174.95	5.664	
10,000.0	6,974.0	9,972.8	6,975.5	90.4	90.4	-90.06	352.2	-3,191.5	991.0	810.5	180.47	5.491	
10,100.0	6,974.0	10,072.8	6,975.5	93.2	93.2	-90.06	352.7	-3,291.5	991.0	804.9	186.01	5.327	
10,200.0	6,974.0	10,172.8	6,975.5	96.0	96.0	-90.06	353.2	-3,391.5	991.0	799.4	191.55	5.173	
10,300.0	6,974.0	10,272.8	6,975.5	98.7	98.7	-90.06	353.7	-3,491.5	991.0	793.9	197.09	5.028	

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 #2
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 #2	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 #1 (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		
10,400.0	6,974.0	10,372.8	6,975.5	101.5	101.5	90.06	354.3	-3,591.5	991.0	788.3	202.64	4.890		
10,500.0	6,974.0	10,472.8	6,975.5	104.3	104.3	90.06	354.8	-3,691.5	991.0	782.8	208.19	4.760		
10,600.0	6,974.0	10,572.8	6,975.5	107.0	107.0	90.06	355.3	-3,791.5	991.0	777.2	213.74	4.636		
10,700.0	6,974.0	10,672.8	6,975.5	109.8	109.8	90.06	355.8	-3,891.5	991.0	771.7	219.30	4.519		
10,800.0	6,974.0	10,772.8	6,975.5	112.6	112.6	90.06	356.4	-3,991.5	991.0	766.1	224.86	4.407		
10,900.0	6,974.0	10,872.8	6,975.5	115.3	115.4	90.06	356.9	-4,091.5	991.0	760.5	230.43	4.301		
11,000.0	6,974.0	10,972.8	6,975.5	118.1	118.2	90.06	357.4	-4,191.5	991.0	755.0	235.99	4.199		
11,100.0	6,974.0	11,072.8	6,975.5	120.9	121.0	90.06	357.9	-4,291.5	991.0	749.4	241.56	4.102		
11,200.0	6,974.0	11,172.8	6,975.5	123.7	123.7	90.06	358.5	-4,391.5	991.0	743.8	247.13	4.010		
11,300.0	6,974.0	11,272.8	6,975.5	126.5	126.5	90.06	359.0	-4,491.5	991.0	738.2	252.71	3.921		
11,400.0	6,974.0	11,372.8	6,975.5	129.2	129.3	90.06	359.5	-4,591.5	991.0	732.7	258.28	3.837		
11,500.0	6,974.0	11,472.8	6,975.5	132.0	132.1	90.06	360.0	-4,691.5	991.0	727.1	263.86	3.756		
11,600.0	6,974.0	11,572.8	6,975.5	134.8	134.9	90.06	360.6	-4,791.5	991.0	721.5	269.44	3.678		
11,700.0	6,974.0	11,672.8	6,975.5	137.6	137.7	90.06	361.1	-4,891.5	991.0	715.9	275.02	3.603		
11,800.0	6,974.0	11,772.8	6,975.5	140.4	140.5	90.06	361.6	-4,991.5	991.0	710.3	280.60	3.532		
11,900.0	6,974.0	11,872.8	6,975.5	143.2	143.3	90.06	362.1	-5,091.5	991.0	704.8	286.19	3.463		
12,000.0	6,974.0	11,972.8	6,975.5	146.0	146.0	90.06	362.7	-5,191.5	990.9	699.2	291.77	3.396		
12,100.0	6,974.0	12,072.8	6,975.5	148.8	148.8	90.06	363.2	-5,291.5	990.9	693.6	297.36	3.333		
12,200.0	6,974.0	12,172.8	6,975.5	151.5	151.6	90.06	363.7	-5,391.5	990.9	688.0	302.95	3.271		
12,300.0	6,974.0	12,272.8	6,975.5	154.3	154.4	90.06	364.2	-5,491.5	990.9	682.4	308.54	3.212		
12,400.0	6,974.0	12,372.8	6,975.5	157.1	157.2	90.06	364.7	-5,591.5	990.9	676.8	314.13	3.155		
12,500.0	6,974.0	12,472.8	6,975.5	159.9	160.0	90.06	365.3	-5,691.5	990.9	671.2	319.72	3.099		
12,600.0	6,974.0	12,572.8	6,975.5	162.7	162.8	90.06	365.8	-5,791.5	990.9	665.6	325.31	3.046		
12,700.0	6,974.0	12,672.8	6,975.5	165.5	165.6	90.06	366.3	-5,891.5	990.9	660.0	330.90	2.995		
12,800.0	6,974.0	12,772.8	6,975.5	168.3	168.4	90.06	366.8	-5,991.5	990.9	654.5	336.50	2.945		
12,900.0	6,974.0	12,872.8	6,975.5	171.1	171.2	90.06	367.4	-6,091.5	990.9	648.9	342.09	2.897		
13,000.0	6,974.0	12,972.8	6,975.5	173.9	174.0	90.06	367.9	-6,191.5	990.9	643.3	347.69	2.850		
13,100.0	6,974.0	13,072.8	6,975.5	176.7	176.8	90.06	368.4	-6,291.5	990.9	637.7	353.28	2.805		
13,200.0	6,974.0	13,172.8	6,975.5	179.5	179.6	90.06	368.9	-6,391.5	990.9	632.1	358.88	2.761		
13,300.0	6,974.0	13,272.8	6,975.5	182.3	182.4	90.06	369.5	-6,491.5	990.9	626.5	364.48	2.719		
13,400.0	6,974.0	13,372.8	6,975.5	185.1	185.2	90.06	370.0	-6,591.5	990.9	620.9	370.08	2.678		
13,500.0	6,974.0	13,472.8	6,975.5	187.9	188.0	90.06	370.5	-6,691.5	990.9	615.3	375.67	2.638		
13,600.0	6,974.0	13,572.8	6,975.5	190.7	190.8	90.06	371.0	-6,791.5	990.9	609.7	381.27	2.599		
13,700.0	6,974.0	13,672.8	6,975.5	193.5	193.6	90.06	371.6	-6,891.5	990.9	604.1	386.87	2.561		
13,800.0	6,974.0	13,772.8	6,975.5	196.3	196.4	90.06	372.1	-6,991.5	990.9	598.5	392.48	2.525		
13,900.0	6,974.0	13,872.8	6,975.5	199.1	199.2	90.06	372.6	-7,091.5	990.9	592.9	398.08	2.489		
14,000.0	6,974.0	13,972.8	6,975.5	201.9	202.0	90.06	373.1	-7,191.5	990.9	587.3	403.68	2.455		
14,100.0	6,974.0	14,072.8	6,975.5	204.7	204.8	90.06	373.7	-7,291.5	990.9	581.7	409.28	2.421		
14,200.0	6,974.0	14,172.8	6,975.5	207.5	207.6	90.06	374.2	-7,391.5	990.9	576.1	414.88	2.388		
14,300.0	6,974.0	14,272.8	6,975.5	210.3	210.4	90.06	374.7	-7,491.5	990.9	570.5	420.49	2.357		
14,400.0	6,974.0	14,372.8	6,975.5	213.1	213.2	90.06	375.2	-7,591.5	990.9	564.9	426.09	2.326		
14,500.0	6,974.0	14,472.8	6,975.5	215.9	216.0	90.06	375.8	-7,691.5	990.9	559.3	431.69	2.295		
14,600.0	6,974.0	14,572.8	6,975.5	218.7	218.8	90.06	376.3	-7,791.5	990.9	553.6	437.30	2.266		
14,700.0	6,974.0	14,672.8	6,975.5	221.5	221.6	90.06	376.8	-7,891.5	990.9	548.0	442.90	2.237		
14,800.0	6,974.0	14,772.8	6,975.5	224.3	224.4	90.06	377.3	-7,991.5	990.9	542.4	448.51	2.209		
14,900.0	6,974.0	14,872.8	6,975.5	227.1	227.2	90.06	377.9	-8,091.5	990.9	536.8	454.11	2.182		
15,000.0	6,974.0	14,972.8	6,975.5	229.9	230.0	90.06	378.4	-8,191.5	990.9	531.2	459.72	2.156		
15,100.0	6,974.0	15,072.8	6,975.5	232.7	232.8	90.06	378.9	-8,291.5	990.9	525.6	465.33	2.130		
15,200.0	6,974.0	15,172.8	6,975.5	235.5	235.6	90.06	379.4	-8,391.5	990.9	520.0	470.93	2.104		
15,300.0	6,974.0	15,272.8	6,975.5	238.3	238.4	90.06	380.0	-8,491.5	990.9	514.4	476.54	2.079		
15,400.0	6,974.0	15,372.8	6,975.5	241.1	241.2	90.06	380.5	-8,591.5	990.9	508.8	482.15	2.055		
15,500.0	6,974.0	15,472.8	6,975.5	243.9	244.0	90.06	381.0	-8,691.5	990.9	503.2	487.76	2.032		

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 #2
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 #2	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 #1 (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	
15,600.0	6,974.0	15,572.8	6,975.5	246.7	246.8	90.06	381.5	-8,791.5	990.9	497.6	493.36	2.009	
15,700.0	6,974.0	15,672.8	6,975.5	249.5	249.6	90.06	382.1	-8,891.5	990.9	492.0	498.97	1.986	
15,800.0	6,974.0	15,772.8	6,975.5	252.3	252.4	90.06	382.6	-8,991.5	990.9	486.4	504.58	1.964	
15,900.0	6,974.0	15,872.8	6,975.5	255.1	255.2	90.06	383.1	-9,091.5	990.9	480.8	510.19	1.942	
16,000.0	6,974.0	15,972.8	6,975.5	257.9	258.0	90.06	383.6	-9,191.5	990.9	475.1	515.80	1.921	
16,100.0	6,974.0	16,072.8	6,975.5	260.7	260.8	90.06	384.1	-9,291.5	990.9	469.5	521.41	1.901	
16,200.0	6,974.0	16,172.8	6,975.5	263.5	263.6	90.06	384.7	-9,391.5	990.9	463.9	527.02	1.880	
16,300.0	6,974.0	16,272.8	6,975.5	266.3	266.4	90.06	385.2	-9,491.5	990.9	458.3	532.62	1.860	
16,400.0	6,974.0	16,372.8	6,975.5	269.1	269.3	90.06	385.7	-9,591.5	990.9	452.7	538.23	1.841	
16,500.0	6,974.0	16,472.8	6,975.5	271.9	272.1	90.06	386.2	-9,691.5	990.9	447.1	543.84	1.822	
16,600.0	6,974.0	16,572.8	6,975.5	274.7	274.9	90.06	386.8	-9,791.5	990.9	441.5	549.45	1.804	
16,700.0	6,974.0	16,672.8	6,975.5	277.5	277.7	90.06	387.3	-9,891.5	990.9	435.9	555.06	1.785	
16,800.0	6,974.0	16,772.8	6,975.5	280.3	280.5	90.06	387.8	-9,991.5	990.9	430.3	560.68	1.767	
16,882.6	6,974.0	16,855.3	6,975.5	282.6	282.2	90.06	388.3	-10,074.0	990.9	426.2	564.75	1.755 SF	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	80.2	0.0	80.2	80.2	0.00	N/A	CC	
100.0	100.0	100.8	100.8	0.1	0.1	0.07	80.3	0.1	80.3	80.1	0.23	355.398	ES	
200.0	200.0	200.6	200.6	0.3	0.2	0.28	80.6	0.4	80.6	80.1	0.56	143.287		
300.0	300.0	300.5	300.5	0.6	0.4	0.74	81.2	1.0	81.2	80.2	0.98	82.469		
400.0	400.0	400.3	400.3	0.8	0.6	1.26	81.8	1.8	81.9	80.5	1.41	57.864		
500.0	500.0	500.8	500.8	1.0	0.8	1.41	82.4	2.0	82.4	80.6	1.84	44.912		
600.0	600.0	600.9	600.8	1.2	1.0	1.85	82.5	2.7	82.5	80.2	2.27	36.316		
700.0	700.0	700.7	700.6	1.5	1.2	2.08	82.9	3.0	83.0	80.3	2.70	30.689		
800.0	800.0	800.0	799.9	1.7	1.4	1.91	83.6	2.8	83.6	80.5	3.13	26.697		
900.0	900.0	900.3	900.3	1.9	1.7	1.18	85.0	1.7	85.0	81.4	3.57	23.829		
1,000.0	1,000.0	1,000.3	1,000.2	2.1	1.9	1.06	85.7	1.6	85.7	81.7	4.00	21.423		
1,100.0	1,100.0	1,100.4	1,100.3	2.4	2.1	2.02	86.5	3.0	86.6	82.1	4.43	19.526		
1,200.0	1,200.0	1,200.3	1,200.3	2.6	2.3	2.72	87.3	4.1	87.4	82.5	4.87	17.950		
1,300.0	1,300.0	1,300.3	1,300.3	2.8	2.5	-167.25	88.1	4.8	89.9	84.6	5.27	17.044		
1,400.0	1,399.8	1,399.7	1,399.7	3.0	2.7	-167.80	89.1	5.1	96.0	90.4	5.66	16.978	SF	
1,500.0	1,499.5	1,498.7	1,498.6	3.1	2.9	-168.67	90.4	5.3	105.9	99.8	6.04	17.540		
1,600.0	1,598.8	1,595.2	1,595.1	3.3	3.1	-169.80	93.1	5.2	120.0	113.6	6.43	18.674		
1,700.0	1,698.1	1,692.5	1,692.3	3.6	3.3	-170.73	97.6	5.0	136.0	129.2	6.83	19.910		
1,800.0	1,797.4	1,790.6	1,790.3	3.8	3.6	-171.31	102.7	5.3	152.7	145.5	7.24	21.099		
1,900.0	1,896.7	1,888.3	1,887.8	4.1	3.8	-172.15	108.0	4.4	169.7	162.0	7.65	22.182		
2,000.0	1,996.1	1,983.9	1,983.1	4.3	4.0	-172.70	114.2	4.0	187.8	179.7	8.06	23.291		
2,100.0	2,095.4	2,082.3	2,081.2	4.6	4.2	-172.90	122.0	4.4	207.1	198.6	8.48	24.419		
2,200.0	2,194.7	2,179.1	2,177.8	4.9	4.4	-172.81	128.9	5.8	225.7	216.8	8.90	25.360		
2,300.0	2,294.0	2,274.2	2,272.5	5.1	4.7	-172.48	137.4	8.2	246.0	236.7	9.32	26.395		
2,400.0	2,393.3	2,373.0	2,370.8	5.4	4.9	-172.12	146.4	10.9	266.5	256.8	9.75	27.333		
2,500.0	2,492.6	2,471.8	2,469.2	5.7	5.1	-171.50	155.1	15.2	286.6	276.4	10.18	28.147		
2,600.0	2,591.9	2,570.4	2,567.3	6.0	5.4	-170.90	163.5	19.9	306.5	295.9	10.62	28.873		
2,700.0	2,691.3	2,668.1	2,664.6	6.3	5.6	-170.60	171.7	23.2	326.3	315.3	11.05	29.535		
2,800.0	2,790.6	2,768.8	2,764.9	6.6	5.9	-170.53	180.0	25.5	346.0	334.5	11.49	30.118		
2,900.0	2,889.9	2,867.7	2,863.6	6.9	6.1	-170.33	187.5	28.6	364.9	353.0	11.93	30.602		
3,000.0	2,989.2	2,968.2	2,963.7	7.2	6.3	-170.26	194.8	31.0	383.6	371.3	12.37	31.021		
3,100.0	3,088.5	3,075.9	3,071.2	7.5	6.6	-170.22	201.1	33.4	400.9	388.1	12.82	31.272		
3,200.0	3,187.8	3,172.6	3,167.7	7.8	6.8	-170.14	205.7	35.8	417.2	404.0	13.25	31.476		
3,300.0	3,287.1	3,272.8	3,267.8	8.1	7.0	-170.28	210.5	36.8	433.5	419.8	13.70	31.643		
3,400.0	3,386.5	3,361.0	3,355.9	8.4	7.2	-170.47	215.6	37.1	450.7	436.6	14.12	31.923		
3,500.0	3,485.8	3,456.0	3,450.6	8.7	7.5	-170.58	222.8	38.0	469.7	455.1	14.56	32.267		
3,600.0	3,585.1	3,542.5	3,536.7	9.0	7.7	-170.52	230.8	40.0	490.3	475.3	14.98	32.730		
3,700.0	3,684.4	3,636.5	3,630.1	9.3	7.9	-170.34	240.7	43.3	512.2	496.8	15.43	33.205		
3,800.0	3,783.7	3,741.4	3,734.4	9.6	8.2	-170.09	251.4	47.6	533.8	517.9	15.89	33.594		
3,900.0	3,883.0	3,834.1	3,826.5	9.9	8.5	-169.83	260.6	52.0	555.1	538.8	16.33	33.992		
4,000.0	3,982.4	3,947.2	3,939.1	10.3	8.8	-169.51	270.6	57.4	575.4	558.6	16.81	34.220		
4,100.0	4,081.7	4,047.4	4,038.9	10.6	9.0	-169.35	278.2	61.3	594.4	577.1	17.27	34.426		
4,200.0	4,181.0	4,149.7	4,140.9	10.9	9.3	-169.31	285.3	64.0	612.8	595.0	17.72	34.580		
4,300.0	4,280.3	4,249.2	4,240.1	11.2	9.5	-169.29	291.8	66.4	630.8	612.6	18.17	34.722		
4,400.0	4,379.6	4,348.7	4,339.4	11.5	9.7	-169.29	298.2	68.7	648.7	630.0	18.62	34.846		
4,500.0	4,478.9	4,447.9	4,438.4	11.8	10.0	-169.33	304.4	70.5	666.3	647.3	19.06	34.953		
4,600.0	4,578.2	4,541.2	4,531.5	12.1	10.2	-169.44	310.3	71.2	684.2	664.7	19.50	35.085		
4,700.0	4,677.6	4,629.7	4,619.7	12.4	10.4	-169.51	317.2	72.4	703.3	683.4	19.93	35.293		
4,800.0	4,776.9	4,725.0	4,714.7	12.8	10.7	-169.45	325.5	75.3	723.4	703.0	20.37	35.506		
4,900.0	4,876.2	4,831.4	4,820.6	13.1	10.9	-169.34	334.3	79.0	743.2	722.3	20.84	35.654		
5,000.0	4,975.5	4,939.3	4,928.2	13.4	11.2	-169.34	341.6	81.5	761.4	740.1	21.31	35.723		
5,100.0	5,074.8	5,045.3	5,034.0	13.7	11.4	-169.41	347.9	82.9	778.7	757.0	21.78	35.762		

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 #2
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 #2	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 #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Diamond Valley East Pad Sec.23-T6N-R67W - Diamond Valley East #7 - Wellbore #1 - Wellbore #1												Offset Well Error:	0.0 ft
Survey Program: 223-MWD													
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	5,174.1	5,138.2	5,126.8	14.0	11.7	-169.51	352.9	83.6	795.6	773.4	22.21	35.823	
5,300.0	5,273.5	5,230.6	5,219.0	14.3	11.9	-169.62	359.0	84.1	813.6	791.0	22.64	35.931	
5,400.0	5,372.8	5,324.8	5,312.9	14.7	12.1	-169.69	365.6	85.1	832.1	809.0	23.08	36.046	
5,500.0	5,472.1	5,433.4	5,421.3	15.0	12.4	-169.71	373.3	87.1	850.6	827.0	23.55	36.112	
5,600.0	5,571.4	5,538.2	5,525.9	15.3	12.6	-169.78	379.1	88.3	867.6	843.6	24.01	36.129	
5,700.0	5,670.7	5,633.0	5,620.5	15.6	12.8	-169.83	384.3	89.5	884.5	860.1	24.45	36.174	
5,800.0	5,770.0	5,712.9	5,700.3	15.9	13.0	-169.84	389.7	91.0	902.7	877.8	24.86	36.305	
5,900.0	5,869.3	5,794.4	5,781.4	16.2	13.2	-169.85	396.9	92.6	922.9	897.6	25.28	36.504	
6,000.0	5,968.7	5,897.5	5,884.0	16.6	13.5	-169.86	407.0	94.6	944.2	918.4	25.75	36.671	
6,100.0	6,068.0	5,999.4	5,985.6	16.9	13.8	-169.91	415.7	95.8	964.1	937.9	26.21	36.790	
6,200.0	6,167.3	6,088.3	6,074.0	17.2	14.0	-169.95	423.8	97.0	984.6	957.9	26.64	36.961	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	112.9	0.0	112.9					
100.0	100.0	100.5	100.5	0.1	0.1	0.00	112.9	0.0	112.9	112.7	0.23	501.253		
200.0	200.0	200.5	200.5	0.3	0.3	0.00	112.9	0.0	112.9	112.3	0.67	167.362		
300.0	300.0	300.5	300.5	0.6	0.6	0.00	112.9	0.0	112.9	111.8	1.12	100.451		
400.0	400.0	400.5	400.5	0.8	0.8	0.00	112.9	0.0	112.9	111.4	1.57	71.761		
500.0	500.0	500.5	500.5	1.0	1.0	0.00	112.9	0.0	112.9	110.9	2.02	55.818		
600.0	600.0	600.5	600.5	1.2	1.2	0.00	112.9	0.0	112.9	110.5	2.47	45.672		
700.0	700.0	700.5	700.5	1.5	1.5	0.00	112.9	0.0	112.9	110.0	2.92	38.647		
800.0	800.0	800.5	800.5	1.7	1.7	0.00	112.9	0.0	112.9	109.6	3.37	33.495		
900.0	900.0	900.5	900.5	1.9	1.9	0.00	112.9	0.0	112.9	109.1	3.82	29.555		
1,000.0	1,000.0	1,000.5	1,000.5	2.1	2.1	0.00	112.9	0.0	112.9	108.7	4.27	26.444		
1,100.0	1,100.0	1,100.5	1,100.5	2.4	2.4	0.00	112.9	0.0	112.9	108.2	4.72	23.926		
1,166.5	1,166.5	1,167.0	1,167.0	2.5	2.5	0.00	112.9	0.0	112.9	107.9	5.02	22.501 CC		
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	0.00	112.9	0.0	112.9	107.8	5.17	21.851 ES		
1,300.0	1,300.0	1,296.7	1,296.6	2.8	2.8	-170.13	114.5	0.3	116.3	110.7	5.58	20.837 SF		
1,400.0	1,399.8	1,392.2	1,392.0	3.0	3.0	-170.03	119.2	1.3	126.4	120.4	5.97	21.166		
1,500.0	1,499.5	1,486.5	1,486.0	3.1	3.2	-169.88	126.9	3.0	143.1	136.7	6.36	22.487		
1,600.0	1,598.8	1,584.0	1,583.0	3.3	3.5	-169.83	136.6	5.1	164.2	157.4	6.77	24.254		
1,700.0	1,698.1	1,681.7	1,680.3	3.6	3.7	-169.83	146.3	7.1	185.4	178.3	7.18	25.827		
1,800.0	1,797.4	1,779.4	1,777.5	3.8	3.9	-169.83	155.9	9.2	206.7	199.1	7.60	27.204		
1,900.0	1,896.7	1,877.2	1,874.7	4.1	4.2	-169.82	165.6	11.2	228.0	220.0	8.02	28.418		
2,000.0	1,996.1	1,974.9	1,971.9	4.3	4.4	-169.82	175.2	13.3	249.3	240.8	8.45	29.488		
2,100.0	2,095.4	2,072.6	2,069.1	4.6	4.7	-169.82	184.9	15.4	270.6	261.7	8.89	30.445		
2,200.0	2,194.7	2,170.3	2,166.3	4.9	5.0	-169.82	194.6	17.4	291.8	282.5	9.32	31.300		
2,300.0	2,294.0	2,268.0	2,263.5	5.1	5.2	-169.81	204.2	19.5	313.1	303.4	9.76	32.067		
2,400.0	2,393.3	2,365.7	2,360.7	5.4	5.5	-169.81	213.9	21.6	334.4	324.2	10.21	32.760		
2,500.0	2,492.6	2,463.4	2,457.9	5.7	5.7	-169.81	223.6	23.6	355.7	345.0	10.65	33.387		
2,600.0	2,591.9	2,561.1	2,555.1	6.0	6.0	-169.81	233.2	25.7	377.0	365.9	11.10	33.957		
2,700.0	2,691.3	2,658.8	2,652.3	6.3	6.3	-169.81	242.9	27.8	398.2	386.7	11.55	34.478		
2,800.0	2,790.6	2,756.5	2,749.5	6.6	6.5	-169.81	252.6	29.8	419.5	407.5	12.00	34.954		
2,900.0	2,889.9	2,854.2	2,846.8	6.9	6.8	-169.81	262.2	31.9	440.8	428.3	12.45	35.392		
3,000.0	2,989.2	2,952.0	2,944.0	7.2	7.1	-169.81	271.9	34.0	462.1	449.2	12.91	35.796		
3,100.0	3,088.5	3,049.7	3,041.2	7.5	7.4	-169.81	281.5	36.0	483.4	470.0	13.36	36.168		
3,200.0	3,187.8	3,147.4	3,138.4	7.8	7.6	-169.81	291.2	38.1	504.6	490.8	13.82	36.514		
3,300.0	3,287.1	3,245.1	3,235.6	8.1	7.9	-169.80	300.9	40.2	525.9	511.6	14.28	36.835		
3,400.0	3,386.5	3,342.8	3,332.8	8.4	8.2	-169.80	310.5	42.2	547.2	532.5	14.74	37.133		
3,500.0	3,485.8	3,440.5	3,430.0	8.7	8.5	-169.80	320.2	44.3	568.5	553.3	15.20	37.412		
3,600.0	3,585.1	3,538.2	3,527.2	9.0	8.7	-169.80	329.9	46.4	589.8	574.1	15.65	37.673		
3,700.0	3,684.4	3,635.9	3,624.4	9.3	9.0	-169.80	339.5	48.4	611.0	594.9	16.12	37.917		
3,800.0	3,783.7	3,733.6	3,721.6	9.6	9.3	-169.80	349.2	50.5	632.3	615.7	16.58	38.146		
3,900.0	3,883.0	3,831.3	3,818.8	9.9	9.6	-169.80	358.9	52.5	653.6	636.6	17.04	38.361		
4,000.0	3,982.4	3,929.1	3,916.0	10.3	9.8	-169.80	368.5	54.6	674.9	657.4	17.50	38.564		
4,100.0	4,081.7	4,026.8	4,013.3	10.6	10.1	-169.80	378.2	56.7	696.2	678.2	17.96	38.755		
4,200.0	4,181.0	4,124.5	4,110.5	10.9	10.4	-169.80	387.8	58.7	717.4	699.0	18.43	38.936		
4,300.0	4,280.3	4,222.2	4,207.7	11.2	10.7	-169.80	397.5	60.8	738.7	719.8	18.89	39.107		
4,400.0	4,379.6	4,319.9	4,304.9	11.5	11.0	-169.80	407.2	62.9	760.0	740.6	19.35	39.268		
4,500.0	4,478.9	4,417.6	4,402.1	11.8	11.2	-169.80	416.8	64.9	781.3	761.5	19.82	39.422		
4,600.0	4,578.2	4,515.3	4,499.3	12.1	11.5	-169.80	426.5	67.0	802.6	782.3	20.28	39.568		
4,700.0	4,677.6	4,613.0	4,596.5	12.4	11.8	-169.80	436.2	69.1	823.8	803.1	20.75	39.707		
4,800.0	4,776.9	4,710.7	4,693.7	12.8	12.1	-169.80	445.8	71.1	845.1	823.9	21.21	39.838		
4,900.0	4,876.2	4,808.4	4,790.9	13.1	12.3	-169.80	455.5	73.2	866.4	844.7	21.68	39.964		
5,000.0	4,975.5	4,906.1	4,888.1	13.4	12.6	-169.80	465.2	75.3	887.7	865.5	22.15	40.084		

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 #2
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 #2	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 #1 (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	5,074.8	5,003.9	4,985.3	13.7	12.9	-169.80	474.8	77.3	909.0	886.3	22.61	40.199	
5,200.0	5,174.1	5,101.6	5,082.6	14.0	13.2	-169.80	484.5	79.4	930.2	907.2	23.08	40.308	
5,300.0	5,273.5	5,199.3	5,179.8	14.3	13.5	-169.80	494.1	81.5	951.5	928.0	23.55	40.413	
5,400.0	5,372.8	5,297.0	5,277.0	14.7	13.7	-169.80	503.8	83.5	972.8	948.8	24.01	40.513	
5,500.0	5,472.1	5,394.7	5,374.2	15.0	14.0	-169.80	513.5	85.6	994.1	969.6	24.48	40.609	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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	1.25	127.5	2.8	127.6					
100.0	100.0	100.0	100.0	0.1	0.1	1.25	127.5	2.8	127.6	127.3	0.22	567.494		
200.0	200.0	200.0	200.0	0.3	0.3	1.25	127.5	2.8	127.6	126.9	0.67	189.165		
300.0	300.0	300.0	300.0	0.6	0.6	1.25	127.5	2.8	127.6	126.4	1.12	113.499		
400.0	400.0	400.0	400.0	0.8	0.8	1.25	127.5	2.8	127.6	126.0	1.57	81.071		
500.0	500.0	500.0	500.0	1.0	1.0	1.25	127.5	2.8	127.6	125.5	2.02	63.055		
600.0	600.0	600.0	600.0	1.2	1.2	1.25	127.5	2.8	127.6	125.1	2.47	51.590		
700.0	700.0	700.0	700.0	1.5	1.5	1.25	127.5	2.8	127.6	124.6	2.92	43.653		
800.0	800.0	800.0	800.0	1.7	1.7	1.25	127.5	2.8	127.6	124.2	3.37	37.833		
900.0	900.0	900.0	900.0	1.9	1.9	1.25	127.5	2.8	127.6	123.7	3.82	33.382		
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	1.25	127.5	2.8	127.6	123.3	4.27	29.868 CC, ES		
1,100.0	1,100.0	1,095.7	1,095.7	2.4	2.4	1.33	129.1	3.0	129.2	124.5	4.71	27.429		
1,200.0	1,200.0	1,191.2	1,191.1	2.6	2.6	1.56	133.8	3.6	134.2	129.0	5.15	26.040		
1,300.0	1,300.0	1,286.2	1,285.7	2.8	2.8	-168.35	141.7	4.7	144.2	138.6	5.57	25.879 SF		
1,400.0	1,399.8	1,379.8	1,378.7	3.0	3.0	-168.23	152.4	6.2	160.8	154.8	5.96	26.966		
1,500.0	1,499.5	1,473.9	1,471.8	3.1	3.3	-168.22	166.0	8.0	183.7	177.3	6.36	28.877		
1,600.0	1,598.8	1,570.5	1,567.3	3.3	3.5	-168.40	180.5	10.0	209.7	202.9	6.76	31.019		
1,700.0	1,698.1	1,667.0	1,662.6	3.6	3.8	-168.57	195.0	12.0	236.0	228.8	7.17	32.899		
1,800.0	1,797.4	1,763.5	1,758.0	3.8	4.1	-168.71	209.4	14.0	262.2	254.6	7.59	34.542		
1,900.0	1,896.7	1,859.9	1,853.4	4.1	4.4	-168.82	223.9	15.9	288.5	280.5	8.02	35.972		
2,000.0	1,996.1	1,956.4	1,948.8	4.3	4.7	-168.92	238.3	17.9	314.8	306.3	8.45	37.249		
2,100.0	2,095.4	2,052.9	2,044.1	4.6	5.0	-169.00	252.8	19.9	341.0	332.2	8.89	38.376		
2,200.0	2,194.7	2,149.4	2,139.5	4.9	5.3	-169.07	267.3	21.9	367.3	358.0	9.33	39.381		
2,300.0	2,294.0	2,245.9	2,234.9	5.1	5.6	-169.13	281.7	23.8	393.6	383.8	9.77	40.281		
2,400.0	2,393.3	2,342.4	2,330.3	5.4	6.0	-169.18	296.2	25.8	419.8	409.6	10.22	41.090		
2,500.0	2,492.6	2,438.9	2,425.6	5.7	6.3	-169.23	310.7	27.8	446.1	435.4	10.67	41.821		
2,600.0	2,591.9	2,535.4	2,521.0	6.0	6.6	-169.27	325.1	29.8	472.4	461.3	11.12	42.484		
2,700.0	2,691.3	2,631.8	2,616.4	6.3	6.9	-169.31	339.6	31.7	498.7	487.1	11.57	43.087		
2,800.0	2,790.6	2,728.3	2,711.8	6.6	7.3	-169.34	354.1	33.7	524.9	512.9	12.03	43.638		
2,900.0	2,889.9	2,824.8	2,807.1	6.9	7.6	-169.37	368.5	35.7	551.2	538.7	12.49	44.143		
3,000.0	2,989.2	2,921.3	2,902.5	7.2	7.9	-169.40	383.0	37.7	577.5	564.5	12.95	44.608		
3,100.0	3,088.5	3,017.8	2,997.9	7.5	8.2	-169.42	397.4	39.7	603.7	590.3	13.41	45.036		
3,200.0	3,187.8	3,114.3	3,093.3	7.8	8.6	-169.44	411.9	41.6	630.0	616.1	13.87	45.431		
3,300.0	3,287.1	3,210.8	3,188.7	8.1	8.9	-169.46	426.4	43.6	656.3	642.0	14.33	45.798		
3,400.0	3,386.5	3,307.3	3,284.0	8.4	9.2	-169.48	440.8	45.6	682.6	667.8	14.79	46.139		
3,500.0	3,485.8	3,403.7	3,379.4	8.7	9.6	-169.50	455.3	47.6	708.8	693.6	15.26	46.456		
3,600.0	3,585.1	3,500.2	3,474.8	9.0	9.9	-169.52	469.8	49.5	735.1	719.4	15.72	46.752		
3,700.0	3,684.4	3,596.7	3,570.2	9.3	10.3	-169.53	484.2	51.5	761.4	745.2	16.19	47.029		
3,800.0	3,783.7	3,693.2	3,665.5	9.6	10.6	-169.55	498.7	53.5	787.6	771.0	16.66	47.288		
3,900.0	3,883.0	3,789.7	3,760.9	9.9	10.9	-169.56	513.2	55.5	813.9	796.8	17.12	47.531		
4,000.0	3,982.4	3,886.2	3,856.3	10.3	11.3	-169.57	527.6	57.4	840.2	822.6	17.59	47.760		
4,100.0	4,081.7	3,982.7	3,951.7	10.6	11.6	-169.59	542.1	59.4	866.5	848.4	18.06	47.975		
4,200.0	4,181.0	4,079.1	4,047.0	10.9	11.9	-169.60	556.5	61.4	892.7	874.2	18.53	48.179		
4,300.0	4,280.3	4,175.6	4,142.4	11.2	12.3	-169.61	571.0	63.4	919.0	900.0	19.00	48.370		
4,400.0	4,379.6	4,272.1	4,237.8	11.5	12.6	-169.62	585.5	65.3	945.3	925.8	19.47	48.552		
4,500.0	4,478.9	4,368.6	4,333.2	11.8	13.0	-169.63	599.9	67.3	971.5	951.6	19.94	48.724		
4,600.0	4,578.2	4,465.1	4,428.5	12.1	13.3	-169.64	614.4	69.3	997.8	977.4	20.41	48.887		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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						
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	110.98	-188.3	491.1	526.5				
100.0	100.0	76.0	76.0	0.1	1.5	110.98	-188.3	491.1	526.0	524.3	1.63	322.175	
200.0	200.0	176.0	176.0	0.3	3.5	110.98	-188.3	491.1	526.0	522.1	3.86	136.357	
300.0	300.0	276.0	276.0	0.6	5.5	110.98	-188.3	491.1	526.0	519.9	6.08	86.479	
400.0	400.0	376.0	376.0	0.8	7.5	110.98	-188.3	491.1	526.0	517.7	8.31	63.318	
500.0	500.0	476.0	476.0	1.0	9.5	110.98	-188.3	491.1	526.0	515.4	10.53	49.943	
600.0	600.0	576.0	576.0	1.2	11.5	110.98	-188.3	491.1	526.0	513.2	12.76	41.232	
700.0	700.0	676.0	676.0	1.5	13.5	110.98	-188.3	491.1	526.0	511.0	14.98	35.109	
800.0	800.0	776.0	776.0	1.7	15.5	110.98	-188.3	491.1	526.0	508.8	17.21	30.570	
900.0	900.0	876.0	876.0	1.9	17.5	110.98	-188.3	491.1	526.0	506.5	19.43	27.069	
1,000.0	1,000.0	976.0	976.0	2.1	19.5	110.98	-188.3	491.1	526.0	504.3	21.66	24.288	
1,100.0	1,100.0	1,076.0	1,076.0	2.4	21.5	110.98	-188.3	491.1	526.0	502.1	23.88	22.026	
1,200.0	1,200.0	1,176.0	1,176.0	2.6	23.5	110.98	-188.3	491.1	526.0	499.9	26.10	20.149	
1,300.0	1,300.0	1,276.0	1,276.0	2.8	25.5	-59.36	-188.3	491.1	525.1	496.8	28.30	18.557	
1,400.0	1,399.8	1,375.8	1,375.8	3.0	27.5	-59.90	-188.3	491.1	522.4	492.0	30.45	17.156	
1,500.0	1,499.5	1,475.5	1,475.5	3.1	29.5	-60.81	-188.3	491.1	518.1	485.5	32.61	15.890	
1,600.0	1,598.8	1,574.8	1,574.8	3.3	31.5	-61.96	-188.3	491.1	512.6	477.8	34.79	14.735	
1,700.0	1,698.1	1,674.1	1,674.1	3.6	33.5	-63.11	-188.3	491.1	507.2	470.2	36.99	13.710	
1,800.0	1,797.4	1,773.4	1,773.4	3.8	35.5	-64.30	-188.3	491.1	502.0	462.8	39.21	12.802	
1,900.0	1,896.7	1,872.7	1,872.7	4.1	37.5	-65.50	-188.3	491.1	497.0	455.5	41.44	11.992	
2,000.0	1,996.1	1,972.1	1,972.1	4.3	39.4	-66.73	-188.3	491.1	492.2	448.5	43.69	11.268	
2,100.0	2,095.4	2,071.4	2,071.4	4.6	41.4	-67.99	-188.3	491.1	487.7	441.8	45.94	10.617	
2,200.0	2,194.7	2,170.7	2,170.7	4.9	43.4	-69.26	-188.3	491.1	483.4	435.2	48.20	10.030	
2,300.0	2,294.0	2,270.0	2,270.0	5.1	45.4	-70.56	-188.3	491.1	479.4	428.9	50.46	9.500	
2,400.0	2,393.3	2,369.3	2,369.3	5.4	47.4	-71.88	-188.3	491.1	475.6	422.9	52.73	9.019	
2,500.0	2,492.6	2,468.6	2,468.6	5.7	49.4	-73.22	-188.3	491.1	472.1	417.1	55.01	8.581	
2,600.0	2,591.9	2,567.9	2,567.9	6.0	51.4	-74.58	-188.3	491.1	468.8	411.5	57.29	8.183	
2,700.0	2,691.3	2,667.3	2,667.3	6.3	53.3	-75.96	-188.3	491.1	465.8	406.2	59.58	7.818	
2,800.0	2,790.6	2,766.6	2,766.6	6.6	55.3	-77.35	-188.3	491.1	463.1	401.2	61.87	7.485	
2,900.0	2,889.9	2,865.9	2,865.9	6.9	57.3	-78.76	-188.3	491.1	460.7	396.5	64.16	7.180	
3,000.0	2,989.2	2,965.2	2,965.2	7.2	59.3	-80.18	-188.3	491.1	458.5	392.1	66.46	6.900	
3,100.0	3,088.5	3,064.5	3,064.5	7.5	61.3	-81.62	-188.3	491.1	456.7	387.9	68.75	6.642	
3,200.0	3,187.8	3,163.8	3,163.8	7.8	63.3	-83.06	-188.3	491.1	455.1	384.0	71.05	6.405	
3,300.0	3,287.1	3,263.1	3,263.1	8.1	65.3	-84.52	-188.3	491.1	453.8	380.5	73.35	6.187	
3,400.0	3,386.5	3,362.5	3,362.5	8.4	67.2	-85.98	-188.3	491.1	452.8	377.2	75.65	5.986	
3,500.0	3,485.8	3,461.8	3,461.8	8.7	69.2	-87.44	-188.3	491.1	452.2	374.2	77.94	5.801	
3,600.0	3,585.1	3,561.1	3,561.1	9.0	71.2	-88.91	-188.3	491.1	451.8	371.6	80.24	5.631	
3,673.8	3,658.4	3,634.4	3,634.4	9.2	72.7	-90.00	-188.3	491.1	451.7	369.8	81.93	5.513 CC	
3,700.0	3,684.4	3,660.4	3,660.4	9.3	73.2	-90.39	-188.3	491.1	451.7	369.2	82.54	5.473	
3,800.0	3,783.7	3,759.7	3,759.7	9.6	75.2	-91.86	-188.3	491.1	452.0	367.1	84.83	5.328	
3,900.0	3,883.0	3,859.0	3,859.0	9.9	77.2	-93.33	-188.3	491.1	452.5	365.4	87.12	5.194	
4,000.0	3,982.4	3,958.4	3,958.4	10.3	79.2	-94.79	-188.3	491.1	453.3	363.9	89.41	5.070	
4,100.0	4,081.7	4,057.7	4,057.7	10.6	81.2	-96.25	-188.3	491.1	454.5	362.8	91.70	4.956	
4,200.0	4,181.0	4,157.0	4,157.0	10.9	83.1	-97.70	-188.3	491.1	455.9	361.9	93.98	4.851	
4,300.0	4,280.3	4,256.3	4,256.3	11.2	85.1	-99.14	-188.3	491.1	457.6	361.3	96.26	4.754	
4,400.0	4,379.6	4,355.6	4,355.6	11.5	87.1	-100.57	-188.3	491.1	459.6	361.1	98.53	4.664 ES	
4,500.0	4,478.9	4,454.9	4,454.9	11.8	89.1	-101.98	-188.3	491.1	461.9	361.1	100.81	4.582	
4,600.0	4,578.2	4,554.2	4,554.2	12.1	91.1	-103.38	-188.3	491.1	464.5	361.4	103.08	4.506	
4,700.0	4,677.6	4,653.6	4,653.6	12.4	93.1	-104.77	-188.3	491.1	467.4	362.0	105.34	4.437	
4,800.0	4,776.9	4,752.9	4,752.9	12.8	95.1	-106.13	-188.3	491.1	470.5	362.9	107.60	4.373	
4,900.0	4,876.2	4,852.2	4,852.2	13.1	97.0	-107.48	-188.3	491.1	473.9	364.0	109.86	4.314	
5,000.0	4,975.5	4,951.5	4,951.5	13.4	99.0	-108.81	-188.3	491.1	477.6	365.4	112.11	4.260	

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 #2
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 #2	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 #1 (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	
5,100.0	5,074.8	5,050.8	5,050.8	13.7	101.0	-110.12	-188.3	491.1	481.5	367.1	114.36	4.210	
5,200.0	5,174.1	5,150.1	5,150.1	14.0	103.0	-111.41	-188.3	491.1	485.6	369.0	116.60	4.165	
5,300.0	5,273.5	5,249.5	5,249.5	14.3	105.0	-112.67	-188.3	491.1	490.0	371.2	118.84	4.123	
5,400.0	5,372.8	5,348.8	5,348.8	14.7	107.0	-113.91	-188.3	491.1	494.7	373.6	121.08	4.086	
5,500.0	5,472.1	5,448.1	5,448.1	15.0	109.0	-115.13	-188.3	491.1	499.6	376.3	123.31	4.051	
5,600.0	5,571.4	5,547.4	5,547.4	15.3	110.9	-116.33	-188.3	491.1	504.7	379.1	125.54	4.020	
5,700.0	5,670.7	5,646.7	5,646.7	15.6	112.9	-117.50	-188.3	491.1	510.0	382.2	127.77	3.991	
5,800.0	5,770.0	5,746.0	5,746.0	15.9	114.9	-118.64	-188.3	491.1	515.5	385.5	129.99	3.966	
5,900.0	5,869.3	5,845.3	5,845.3	16.2	116.9	-119.76	-188.3	491.1	521.2	389.0	132.21	3.943	
6,000.0	5,968.7	5,944.7	5,944.7	16.6	118.9	-120.86	-188.3	491.1	527.2	392.7	134.43	3.922	
6,100.0	6,068.0	6,044.0	6,044.0	16.9	120.9	-121.93	-188.3	491.1	533.3	396.6	136.64	3.903	
6,200.0	6,167.3	6,143.3	6,143.3	17.2	122.9	-122.98	-188.3	491.1	539.6	400.7	138.85	3.886	
6,300.0	6,266.6	6,242.6	6,242.6	17.5	124.9	-136.45	-188.3	491.1	546.2	405.4	140.88	3.877 SF	
6,400.0	6,365.6	6,341.6	6,341.6	17.8	126.8	173.97	-188.3	491.1	559.6	418.5	141.16	3.965	
6,500.0	6,462.5	6,438.5	6,438.5	18.0	128.8	157.03	-188.3	491.1	582.8	442.8	139.97	4.164	
6,600.0	6,555.6	6,531.6	6,531.6	18.2	130.6	149.91	-188.3	491.1	615.6	478.3	137.37	4.481	
6,700.0	6,643.0	6,619.0	6,619.0	18.4	132.4	145.96	-188.3	491.1	658.1	524.5	133.56	4.927	
6,800.0	6,723.0	6,699.0	6,699.0	18.7	134.0	143.06	-188.3	491.1	710.1	581.1	129.07	5.502	
6,900.0	6,794.0	6,770.0	6,770.0	18.9	135.4	140.15	-188.3	491.1	771.4	646.5	124.98	6.173	
7,000.0	6,854.6	6,830.6	6,830.6	19.3	136.6	136.42	-188.3	491.1	841.4	718.3	123.09	6.835	
7,100.0	6,903.8	6,879.8	6,879.8	19.9	137.6	131.04	-188.3	491.1	918.9	793.1	125.83	7.303	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Diamond Valley East #2
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 #2	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 #1 (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 #2
 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 #2
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 #2	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 #1 (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 #2
Offset Depths are relative to Offset Datum
Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °
Grid Convergence at Surface is: 0.41°

