

Extraction Oil & Gas

Well Name: **Kennedy 2**

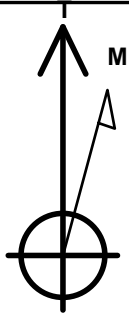
Surface Location: Kennedy Pad Sec.18-T4N-R68W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4967.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1359122.12	3128800.39	40.318270	-105.038093	
Original Well Elev WELL @ 4989.0ft (Original Well Elev)						

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
SHL 709'FNL & 342'FEL, Sec.18	1.0	0.0	0.0	Point
BHL 300'FNL & 460'FEL, Sec.17	5742.0	523.0	5205.3	Point
Landing Pt. 169'FNL & 75'FWL, Sec.17	5742.0	547.9	415.2	Point



Azimuths to True North
Magnetic North: 8.59°

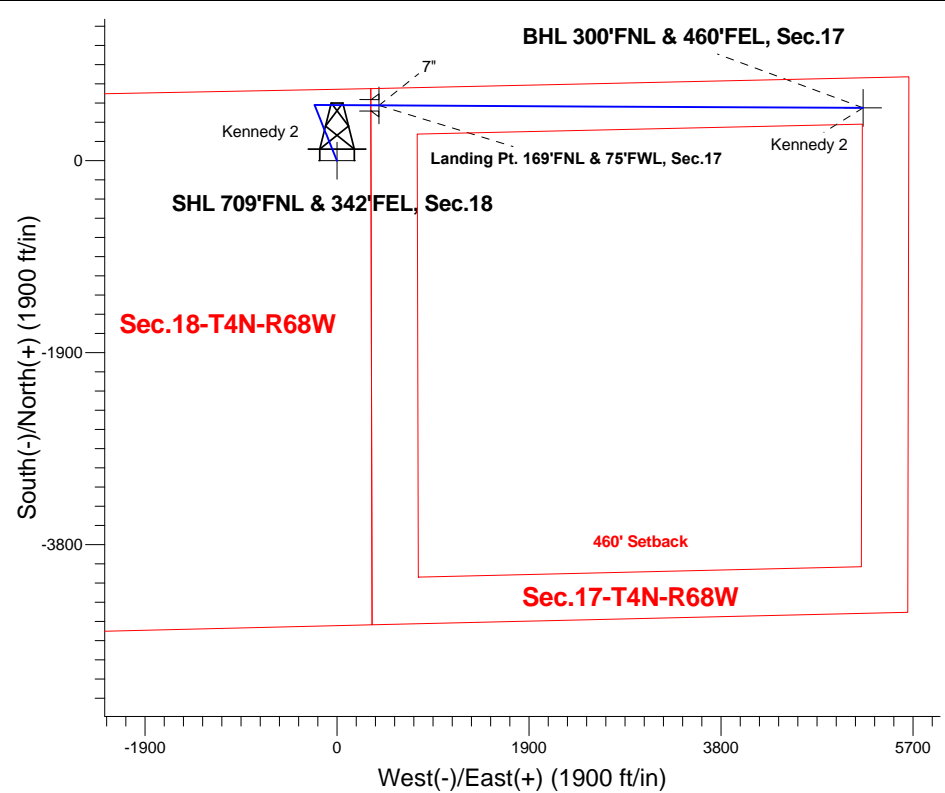
Magnetic Field
Strength: 52733.4srT
Dip Angle: 66.83°
Date: 7/16/2014
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
400.0	400.0	KOP - Start Build 2.00
5105.4	5145.9	KOP #2 - Start Build 9.00
5742.0	6146.5	Start DLS 1.00 TFO 90.00
5742.0	6148.7	Start 4788.0 hold at 6148.7 MD
5742.0	10936.7	TD at 10936.7

Kennedy Pad Sec.18-T4N-R68W
Kennedy 2
Plan #1 (7-16-14)
12:46, July 21 2014

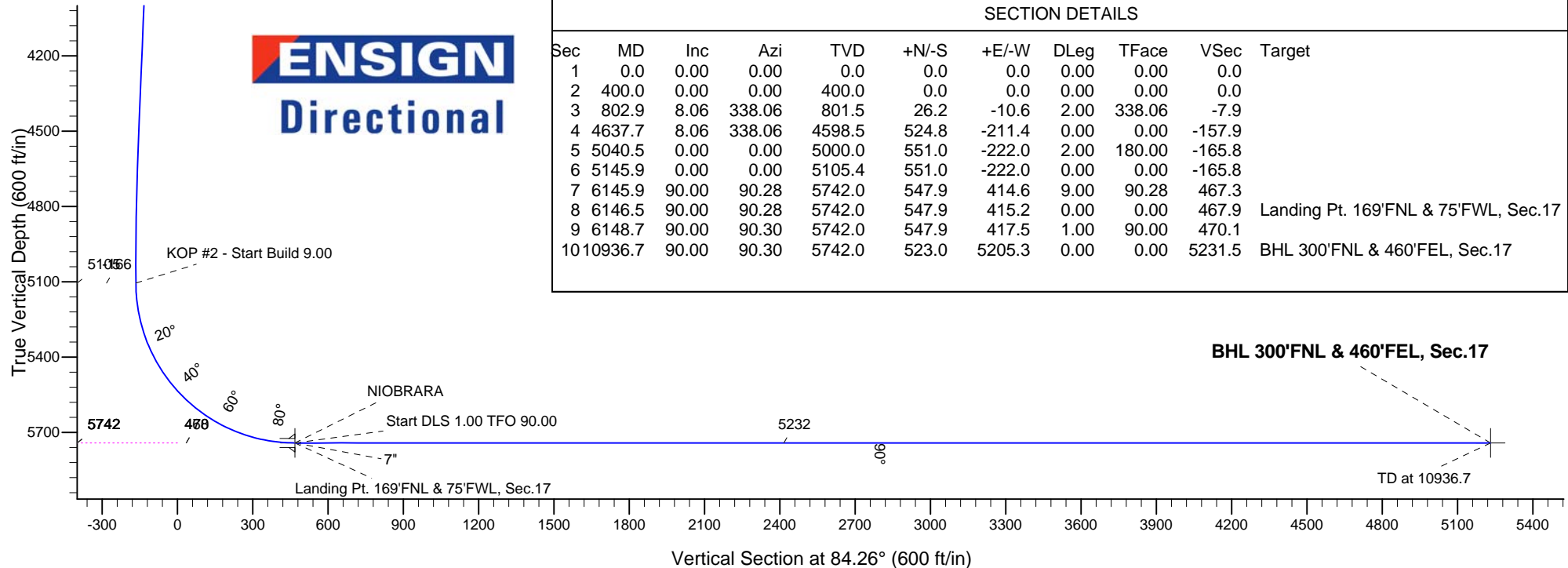
South(-)/North(+) (1900 ft/in)



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	802.9	8.06	338.06	801.5	26.2	-10.6	2.00	338.06	-7.9	
4	4637.7	8.06	338.06	4598.5	524.8	-211.4	0.00	0.00	-157.9	
5	5040.5	0.00	0.00	5000.0	551.0	-222.0	2.00	180.00	-165.8	
6	5145.9	0.00	0.00	5105.4	551.0	-222.0	0.00	0.00	-165.8	
7	6145.9	90.00	90.28	5742.0	547.9	414.6	9.00	90.28	467.3	
8	6146.5	90.00	90.28	5742.0	547.9	415.2	0.00	0.00	467.9	Landing Pt. 169'FNL & 75'FWL, Sec.17
9	6148.7	90.00	90.30	5742.0	547.9	417.5	1.00	90.00	470.1	
10	10936.7	90.00	90.30	5742.0	523.0	5205.3	0.00	0.00	5231.5	BHL 300'FNL & 460'FEL, Sec.17

ENSIGN
Directional





Extraction Oil & Gas

SEC.18-T4N-R68W

Kennedy Pad Sec.18-T4N-R68W

Kennedy 2

Wellbore #1

Plan: Plan #1 (7-16-14)

Standard Planning Report

21 July, 2014



Database:	Landmark	Local Co-ordinate Reference:	Well Kennedy 2
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Project:	SEC.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site:	Kennedy Pad Sec.18-T4N-R68W	North Reference:	True
Well:	Kennedy 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-16-14)		

Project	SEC.18-T4N-R68W, Weld County, CO		
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 Kennedy Pad Sec.18-T4N-R68W					
Site Position:		Northing:	1,359,150.18 ft	Latitude:	40.318347
From:	Lat/Long	Easting:	3,128,800.53 ft	Longitude:	-105.038092
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.30 °

Well	Kennedy 2					
Well Position	+N/-S	-28.1 ft	Northing:	1,359,122.12 ft	Latitude:	40.318270
	+E/-W	-0.3 ft	Easting:	3,128,800.39 ft	Longitude:	-105.038093
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,967.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/16/2014	8.59	66.83	52,733

Design	Plan #1 (7-16-14)			
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	84.26

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
802.9	8.06	338.06	801.5	26.2	-10.6	2.00	2.00	0.00	338.06	
4,637.7	8.06	338.06	4,598.5	524.8	-211.4	0.00	0.00	0.00	0.00	
5,040.5	0.00	0.00	5,000.0	551.0	-222.0	2.00	-2.00	0.00	180.00	
5,145.9	0.00	0.00	5,105.4	551.0	-222.0	0.00	0.00	0.00	0.00	
6,145.9	90.00	90.28	5,742.0	547.9	414.6	9.00	9.00	0.00	90.28	
6,146.5	90.00	90.28	5,742.0	547.9	415.2	0.00	0.00	0.00	0.00	Landing Pt. 169'FN
6,148.7	90.00	90.30	5,742.0	547.9	417.5	1.00	0.00	1.00	90.00	
10,936.7	90.00	90.30	5,742.0	523.0	5,205.3	0.00	0.00	0.00	0.00	BHL 300'FNL & 46C

Database:	Landmark	Local Co-ordinate Reference:	Well Kennedy 2
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Project:	SEC.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site:	Kennedy Pad Sec.18-T4N-R68W	North Reference:	True
Well:	Kennedy 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-16-14)		

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
KOP - Start Build 2.00									
500.0	2.00	338.06	500.0	1.6	-0.7	-0.5	2.00	2.00	0.00
600.0	4.00	338.06	599.8	6.5	-2.6	-1.9	2.00	2.00	0.00
700.0	6.00	338.06	699.5	14.6	-5.9	-4.4	2.00	2.00	0.00
800.0	8.00	338.06	798.7	25.9	-10.4	-7.8	2.00	2.00	0.00
802.9	8.06	338.06	801.5	26.2	-10.6	-7.9	2.00	2.00	0.00
900.0	8.06	338.06	897.7	38.9	-15.7	-11.7	0.00	0.00	0.00
1,000.0	8.06	338.06	996.7	51.9	-20.9	-15.6	0.00	0.00	0.00
1,100.0	8.06	338.06	1,095.7	64.9	-26.1	-19.5	0.00	0.00	0.00
1,200.0	8.06	338.06	1,194.8	77.9	-31.4	-23.4	0.00	0.00	0.00
1,300.0	8.06	338.06	1,293.8	90.9	-36.6	-27.3	0.00	0.00	0.00
1,400.0	8.06	338.06	1,392.8	103.9	-41.8	-31.3	0.00	0.00	0.00
1,500.0	8.06	338.06	1,491.8	116.9	-47.1	-35.2	0.00	0.00	0.00
1,600.0	8.06	338.06	1,590.8	129.9	-52.3	-39.1	0.00	0.00	0.00
1,700.0	8.06	338.06	1,689.8	142.9	-57.6	-43.0	0.00	0.00	0.00
1,800.0	8.06	338.06	1,788.8	155.9	-62.8	-46.9	0.00	0.00	0.00
1,900.0	8.06	338.06	1,887.8	168.9	-68.0	-50.8	0.00	0.00	0.00
2,000.0	8.06	338.06	1,986.9	181.9	-73.3	-54.7	0.00	0.00	0.00
2,100.0	8.06	338.06	2,085.9	194.9	-78.5	-58.6	0.00	0.00	0.00
2,200.0	8.06	338.06	2,184.9	207.9	-83.7	-62.6	0.00	0.00	0.00
2,247.6	8.06	338.06	2,232.0	214.1	-86.2	-64.4	0.00	0.00	0.00
PARKMAN									
2,300.0	8.06	338.06	2,283.9	220.9	-89.0	-66.5	0.00	0.00	0.00
2,400.0	8.06	338.06	2,382.9	233.9	-94.2	-70.4	0.00	0.00	0.00
2,500.0	8.06	338.06	2,481.9	246.9	-99.5	-74.3	0.00	0.00	0.00
2,600.0	8.06	338.06	2,580.9	259.9	-104.7	-78.2	0.00	0.00	0.00
2,700.0	8.06	338.06	2,679.9	272.9	-109.9	-82.1	0.00	0.00	0.00
2,800.0	8.06	338.06	2,779.0	285.9	-115.2	-86.0	0.00	0.00	0.00
2,853.6	8.06	338.06	2,832.0	292.8	-118.0	-88.1	0.00	0.00	0.00
SUSSEX									
2,900.0	8.06	338.06	2,878.0	298.9	-120.4	-89.9	0.00	0.00	0.00
3,000.0	8.06	338.06	2,977.0	311.9	-125.7	-93.8	0.00	0.00	0.00
3,100.0	8.06	338.06	3,076.0	324.9	-130.9	-97.8	0.00	0.00	0.00
3,200.0	8.06	338.06	3,175.0	337.9	-136.1	-101.7	0.00	0.00	0.00
3,298.0	8.06	338.06	3,272.0	350.6	-141.3	-105.5	0.00	0.00	0.00
SHANNON									
3,300.0	8.06	338.06	3,274.0	350.9	-141.4	-105.6	0.00	0.00	0.00
3,400.0	8.06	338.06	3,373.0	363.9	-146.6	-109.5	0.00	0.00	0.00
3,500.0	8.06	338.06	3,472.0	376.9	-151.8	-113.4	0.00	0.00	0.00
3,600.0	8.06	338.06	3,571.1	389.9	-157.1	-117.3	0.00	0.00	0.00
3,700.0	8.06	338.06	3,670.1	402.9	-162.3	-121.2	0.00	0.00	0.00
3,800.0	8.06	338.06	3,769.1	415.9	-167.6	-125.1	0.00	0.00	0.00
3,900.0	8.06	338.06	3,868.1	428.9	-172.8	-129.1	0.00	0.00	0.00
4,000.0	8.06	338.06	3,967.1	441.9	-178.0	-133.0	0.00	0.00	0.00
4,100.0	8.06	338.06	4,066.1	454.9	-183.3	-136.9	0.00	0.00	0.00
4,200.0	8.06	338.06	4,165.1	467.9	-188.5	-140.8	0.00	0.00	0.00
4,300.0	8.06	338.06	4,264.2	480.9	-193.7	-144.7	0.00	0.00	0.00
4,400.0	8.06	338.06	4,363.2	493.9	-199.0	-148.6	0.00	0.00	0.00
4,500.0	8.06	338.06	4,462.2	506.9	-204.2	-152.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Kennedy 2
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Project:	SEC.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site:	Kennedy Pad Sec.18-T4N-R68W	North Reference:	True
Well:	Kennedy 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-16-14)		

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	8.06	338.06	4,561.2	519.9	-209.5	-156.4	0.00	0.00	0.00
4,637.7	8.06	338.06	4,598.5	524.8	-211.4	-157.9	0.00	0.00	0.00
4,700.0	6.81	338.06	4,660.3	532.3	-214.4	-160.2	2.00	-2.00	0.00
4,800.0	4.81	338.06	4,759.8	541.6	-218.2	-163.0	2.00	-2.00	0.00
4,900.0	2.81	338.06	4,859.5	547.8	-220.7	-164.8	2.00	-2.00	0.00
5,000.0	0.81	338.06	4,959.5	550.7	-221.9	-165.7	2.00	-2.00	0.00
5,040.5	0.00	0.00	5,000.0	551.0	-222.0	-165.8	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,059.5	551.0	-222.0	-165.8	0.00	0.00	0.00
5,145.9	0.00	0.00	5,105.4	551.0	-222.0	-165.8	0.00	0.00	0.00
KOP #2 - Start Build 9.00									
5,200.0	4.87	90.28	5,159.4	551.0	-219.7	-163.5	9.00	9.00	0.00
5,300.0	13.87	90.28	5,258.0	550.9	-203.4	-147.3	9.00	9.00	0.00
5,400.0	22.87	90.28	5,352.8	550.8	-172.0	-116.0	9.00	9.00	0.00
5,500.0	31.87	90.28	5,441.5	550.5	-126.0	-70.4	9.00	9.00	0.00
5,600.0	40.87	90.28	5,522.0	550.3	-66.8	-11.4	9.00	9.00	0.00
5,700.0	49.87	90.28	5,592.1	549.9	4.3	59.3	9.00	9.00	0.00
5,800.0	58.87	90.28	5,650.3	549.5	85.5	140.0	9.00	9.00	0.00
5,900.0	67.87	90.28	5,695.1	549.1	174.8	228.8	9.00	9.00	0.00
6,000.0	76.87	90.28	5,725.4	548.6	270.0	323.5	9.00	9.00	0.00
6,100.0	85.87	90.28	5,740.3	548.2	368.8	421.7	9.00	9.00	0.00
6,145.9	90.00	90.28	5,742.0	547.9	414.6	467.3	9.00	9.00	0.00
NIOBRARA									
6,146.5	90.00	90.28	5,742.0	547.9	415.2	467.9	0.00	0.00	0.00
Start DLS 1.00 TFO 90.00 - 7"									
6,148.7	90.00	90.30	5,742.0	547.9	417.4	470.1	1.01	0.00	1.01
Start 4788.0 hold at 6148.7 MD									
6,200.0	90.00	90.30	5,742.0	547.7	468.7	521.1	0.00	0.00	0.00
6,300.0	90.00	90.30	5,742.0	547.1	568.7	620.6	0.00	0.00	0.00
6,400.0	90.00	90.30	5,742.0	546.6	668.7	720.0	0.00	0.00	0.00
6,500.0	90.00	90.30	5,742.0	546.1	768.7	819.5	0.00	0.00	0.00
6,600.0	90.00	90.30	5,742.0	545.6	868.7	918.9	0.00	0.00	0.00
6,700.0	90.00	90.30	5,742.0	545.0	968.7	1,018.4	0.00	0.00	0.00
6,800.0	90.00	90.30	5,742.0	544.5	1,068.7	1,117.8	0.00	0.00	0.00
6,900.0	90.00	90.30	5,742.0	544.0	1,168.7	1,217.2	0.00	0.00	0.00
7,000.0	90.00	90.30	5,742.0	543.5	1,268.7	1,316.7	0.00	0.00	0.00
7,100.0	90.00	90.30	5,742.0	543.0	1,368.7	1,416.1	0.00	0.00	0.00
7,200.0	90.00	90.30	5,742.0	542.4	1,468.7	1,515.6	0.00	0.00	0.00
7,300.0	90.00	90.30	5,742.0	541.9	1,568.7	1,615.0	0.00	0.00	0.00
7,400.0	90.00	90.30	5,742.0	541.4	1,668.7	1,714.5	0.00	0.00	0.00
7,500.0	90.00	90.30	5,742.0	540.9	1,768.7	1,813.9	0.00	0.00	0.00
7,600.0	90.00	90.30	5,742.0	540.4	1,868.7	1,913.4	0.00	0.00	0.00
7,700.0	90.00	90.30	5,742.0	539.8	1,968.7	2,012.8	0.00	0.00	0.00
7,800.0	90.00	90.30	5,742.0	539.3	2,068.7	2,112.3	0.00	0.00	0.00
7,900.0	90.00	90.30	5,742.0	538.8	2,168.7	2,211.7	0.00	0.00	0.00
8,000.0	90.00	90.30	5,742.0	538.3	2,268.7	2,311.1	0.00	0.00	0.00
8,100.0	90.00	90.30	5,742.0	537.8	2,368.7	2,410.6	0.00	0.00	0.00
8,200.0	90.00	90.30	5,742.0	537.2	2,468.7	2,510.0	0.00	0.00	0.00
8,300.0	90.00	90.30	5,742.0	536.7	2,568.7	2,609.5	0.00	0.00	0.00
8,400.0	90.00	90.30	5,742.0	536.2	2,668.7	2,708.9	0.00	0.00	0.00
8,500.0	90.00	90.30	5,742.0	535.7	2,768.7	2,808.4	0.00	0.00	0.00
8,600.0	90.00	90.30	5,742.0	535.1	2,868.7	2,907.8	0.00	0.00	0.00
8,700.0	90.00	90.30	5,742.0	534.6	2,968.7	3,007.3	0.00	0.00	0.00
8,800.0	90.00	90.30	5,742.0	534.1	3,068.7	3,106.7	0.00	0.00	0.00

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Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Project:	SEC.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site:	Kennedy Pad Sec.18-T4N-R68W	North Reference:	True
Well:	Kennedy 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-16-14)		

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)	
8,900.0	90.00	90.30	5,742.0	533.6	3,168.7	3,206.2	0.00	0.00	0.00	
9,000.0	90.00	90.30	5,742.0	533.1	3,268.7	3,305.6	0.00	0.00	0.00	
9,100.0	90.00	90.30	5,742.0	532.5	3,368.7	3,405.0	0.00	0.00	0.00	
9,200.0	90.00	90.30	5,742.0	532.0	3,468.7	3,504.5	0.00	0.00	0.00	
9,300.0	90.00	90.30	5,742.0	531.5	3,568.7	3,603.9	0.00	0.00	0.00	
9,400.0	90.00	90.30	5,742.0	531.0	3,668.7	3,703.4	0.00	0.00	0.00	
9,500.0	90.00	90.30	5,742.0	530.5	3,768.7	3,802.8	0.00	0.00	0.00	
9,600.0	90.00	90.30	5,742.0	529.9	3,868.7	3,902.3	0.00	0.00	0.00	
9,700.0	90.00	90.30	5,742.0	529.4	3,968.7	4,001.7	0.00	0.00	0.00	
9,800.0	90.00	90.30	5,742.0	528.9	4,068.7	4,101.2	0.00	0.00	0.00	
9,900.0	90.00	90.30	5,742.0	528.4	4,168.7	4,200.6	0.00	0.00	0.00	
10,000.0	90.00	90.30	5,742.0	527.9	4,268.7	4,300.1	0.00	0.00	0.00	
10,100.0	90.00	90.30	5,742.0	527.3	4,368.7	4,399.5	0.00	0.00	0.00	
10,200.0	90.00	90.30	5,742.0	526.8	4,468.7	4,499.0	0.00	0.00	0.00	
10,300.0	90.00	90.30	5,742.0	526.3	4,568.7	4,598.4	0.00	0.00	0.00	
10,400.0	90.00	90.30	5,742.0	525.8	4,668.7	4,697.8	0.00	0.00	0.00	
10,500.0	90.00	90.30	5,742.0	525.2	4,768.7	4,797.3	0.00	0.00	0.00	
10,600.0	90.00	90.30	5,742.0	524.7	4,868.7	4,896.7	0.00	0.00	0.00	
10,700.0	90.00	90.30	5,742.0	524.2	4,968.7	4,996.2	0.00	0.00	0.00	
10,800.0	90.00	90.30	5,742.0	523.7	5,068.7	5,095.6	0.00	0.00	0.00	
10,900.0	90.00	90.30	5,742.0	523.2	5,168.7	5,195.1	0.00	0.00	0.00	
10,936.7	90.00	90.30	5,742.0	523.0	5,205.3	5,231.5	0.00	0.00	0.00	

Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude	
- hit/miss target										
- Shape										
BHL 300'FNL & 460'F	0.00	0.00	5,742.0	523.0	5,205.3	1,359,672.17	3,134,002.71	40.319704	-105.019426	
- plan hits target center										
- Point										
SHL 709'FNL & 342'F	0.00	0.00	1.0	0.0	0.0	1,359,122.12	3,128,800.39	40.318270	-105.038093	
- plan hits target center										
- Point										
Landing Pt. 169'FNL & 169'F	0.00	0.00	5,742.0	547.9	415.2	1,359,672.18	3,129,212.73	40.319774	-105.036604	
- plan hits target center										
- Point										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")		
6,146.5	5,742.0	7"	7	7-1/2		

Database:	Landmark	Local Co-ordinate Reference:	Well Kennedy 2
Company:	Extraction Oil & Gas	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Project:	SEC.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site:	Kennedy Pad Sec.18-T4N-R68W	North Reference:	True
Well:	Kennedy 2	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (7-16-14)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,247.6	2,232.0	PARKMAN		0.00		
2,853.6	2,832.0	SUSSEX		0.00		
3,298.0	3,272.0	SHANNNON		0.00		
6,145.9	5,742.0	NIOBRARA		0.00		
	6,032.0	FORT HAYS		0.00		
	6,067.0	CODELL		0.00		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
400.0	400.0	0.0	0.0	KOP - Start Build 2.00	
5,145.9	5,105.4	551.0	-222.0	KOP #2 - Start Build 9.00	
6,146.5	5,742.0	547.9	415.2	Start DLS 1.00 TFO 90.00	
6,148.7	5,742.0	547.9	417.4	Start 4788.0 hold at 6148.7 MD	
10,936.7	5,742.0	523.0	5,205.4	TD at 10936.7	

Extraction Oil & Gas

SEC.18-T4N-R68W

Kennedy Pad Sec.18-T4N-R68W

Kennedy 2

Wellbore #1

Plan #1 (7-16-14)

Anticollision Report

21 July, 2014

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (7-16-14)		
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 7/21/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	10,936.7	Plan #1 (7-16-14) (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						
Kennedy Pad Sec.18-T4N-R68W						
Kennedy 1 - Wellbore #1 - Plan #1 (7-15-14)	200.0	200.0	28.0	27.4	41.597	CC, ES
Kennedy 1 - Wellbore #1 - Plan #1 (7-15-14)	6,551.2	5,892.3	165.6	116.4	3.368	SF
Kennedy 3 - Wellbore #1 - Plan #1 (7-18-14)	400.0	399.0	28.1	26.5	17.855	CC, ES
Kennedy 3 - Wellbore #1 - Plan #1 (7-18-14)	6,100.0	6,126.8	164.8	125.9	4.233	SF
Kennedy 4 - Wellbore #1 - Plan #1 (7-18-14)	400.0	399.0	56.1	54.5	35.710	CC, ES
Kennedy 4 - Wellbore #1 - Plan #1 (7-18-14)	10,936.7	11,238.4	463.3	242.8	2.101	SF

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 1 - Wellbore #1 - Plan #1 (7-15-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis Reference		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
				Reference	Offset		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.0	0.0	0.0	0.0	0.0	0.0	0.57	28.0	0.3	28.0					
100.0	100.0	100.0	100.0	0.1	0.1	0.57	28.0	0.3	28.0	27.8	0.22	124.792		
200.0	200.0	200.0	200.0	0.3	0.3	0.57	28.0	0.3	28.0	27.4	0.67	41.597	CC, ES	
300.0	300.0	299.4	299.3	0.6	0.6	3.25	29.1	1.7	29.1	28.0	1.12	26.005		
400.0	400.0	398.5	398.3	0.8	0.8	10.14	32.2	5.8	32.8	31.2	1.58	20.785		
500.0	500.0	497.2	496.6	1.0	1.0	42.13	37.3	12.6	38.2	36.2	2.03	18.808		
600.0	599.8	595.2	593.9	1.2	1.3	54.48	44.5	22.0	45.6	43.1	2.50	18.287		
700.0	699.5	692.3	689.9	1.5	1.6	66.70	53.5	33.9	56.5	53.5	2.97	19.019		
800.0	798.7	788.2	784.1	1.7	2.0	77.15	64.4	48.3	71.7	68.2	3.48	20.590		
900.0	897.7	883.0	876.5	2.0	2.4	84.76	77.0	64.9	91.6	87.5	4.04	22.669		
1,000.0	996.7	978.4	969.0	2.3	2.8	89.32	91.2	83.7	115.1	110.5	4.63	24.872		
1,100.0	1,095.7	1,075.2	1,062.7	2.7	3.3	92.34	105.9	103.0	139.5	134.3	5.23	26.672		
1,200.0	1,194.8	1,172.0	1,156.4	3.0	3.8	94.45	120.5	122.4	164.1	158.2	5.85	28.066		
1,300.0	1,293.8	1,268.7	1,250.0	3.3	4.3	96.02	135.1	141.7	188.9	182.4	6.48	29.160		
1,400.0	1,392.8	1,365.5	1,343.7	3.6	4.8	97.22	149.8	161.0	213.7	206.6	7.12	30.035		
1,500.0	1,491.8	1,462.3	1,437.4	4.0	5.3	98.18	164.4	180.4	238.7	230.9	7.76	30.746		
1,600.0	1,590.8	1,559.0	1,531.1	4.3	5.8	98.95	179.1	199.7	263.6	255.2	8.41	31.333		
1,700.0	1,689.8	1,655.8	1,624.8	4.6	6.3	99.59	193.7	219.0	288.7	279.6	9.07	31.825		
1,800.0	1,788.8	1,752.6	1,718.5	5.0	6.8	100.12	208.3	238.4	313.7	304.0	9.73	32.242		
1,900.0	1,887.8	1,849.4	1,812.2	5.3	7.3	100.58	223.0	257.7	338.8	328.4	10.39	32.599		
2,000.0	1,986.9	1,946.1	1,905.8	5.6	7.8	100.98	237.6	277.1	363.9	352.8	11.06	32.909		

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 Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 1 - Wellbore #1 - Plan #1 (7-15-14)													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		
2,100.0	2,085.9	2,042.9	1,999.5	6.0	8.3	101.32	252.3	296.4	389.0	377.3	11.72	33.179		
2,200.0	2,184.9	2,139.7	2,093.2	6.3	8.8	101.62	266.9	315.7	414.1	401.7	12.39	33.417		
2,300.0	2,283.9	2,236.5	2,186.9	6.7	9.3	101.89	281.5	335.1	439.2	426.2	13.06	33.628		
2,400.0	2,382.9	2,333.2	2,280.6	7.0	9.8	102.13	296.2	354.4	464.3	450.6	13.73	33.816		
2,500.0	2,481.9	2,430.0	2,374.3	7.3	10.4	102.34	310.8	373.7	489.5	475.1	14.40	33.984		
2,600.0	2,580.9	2,526.8	2,467.9	7.7	10.9	102.53	325.5	393.1	514.6	499.6	15.08	34.137		
2,700.0	2,679.9	2,623.6	2,561.6	8.0	11.4	102.71	340.1	412.4	539.8	524.0	15.75	34.274		
2,800.0	2,779.0	2,720.3	2,655.3	8.4	11.9	102.87	354.8	431.7	564.9	548.5	16.42	34.400		
2,900.0	2,878.0	2,817.1	2,749.0	8.7	12.4	103.02	369.4	451.1	590.1	573.0	17.10	34.514		
3,000.0	2,977.0	2,913.9	2,842.7	9.0	12.9	103.15	384.0	470.4	615.3	597.5	17.77	34.619		
3,100.0	3,076.0	3,010.6	2,936.4	9.4	13.4	103.27	398.7	489.7	640.4	622.0	18.45	34.716		
3,200.0	3,175.0	3,107.4	3,030.1	9.7	13.9	103.39	413.3	509.1	665.6	646.5	19.12	34.805		
3,300.0	3,274.0	3,204.2	3,123.7	10.1	14.4	103.49	428.0	528.4	690.7	671.0	19.80	34.888		
3,400.0	3,373.0	3,301.0	3,217.4	10.4	14.9	103.59	442.6	547.8	715.9	695.4	20.48	34.964		
3,500.0	3,472.0	3,397.7	3,311.1	10.7	15.4	103.68	457.2	567.1	741.1	719.9	21.15	35.035		
3,600.0	3,571.1	3,494.5	3,404.8	11.1	15.9	103.77	471.9	586.4	766.3	744.4	21.83	35.102		
3,700.0	3,670.1	3,591.3	3,498.5	11.4	16.5	103.85	486.5	605.8	791.4	768.9	22.51	35.164		
3,800.0	3,769.1	3,688.1	3,592.2	11.8	17.0	103.92	501.2	625.1	816.6	793.4	23.18	35.222		
3,900.0	3,868.1	3,784.8	3,685.9	12.1	17.5	103.99	515.8	644.4	841.8	817.9	23.86	35.277		
4,000.0	3,967.1	3,881.6	3,779.5	12.5	18.0	104.06	530.4	663.8	867.0	842.4	24.54	35.328		
4,100.0	4,066.1	3,978.4	3,873.2	12.8	18.5	104.12	545.1	683.1	892.2	866.9	25.22	35.376		
4,200.0	4,165.1	4,075.2	3,966.9	13.1	19.0	104.18	559.7	702.4	917.3	891.4	25.90	35.422		
4,300.0	4,264.2	4,171.9	4,060.6	13.5	19.5	104.24	574.4	721.8	942.5	915.9	26.58	35.465		
4,400.0	4,363.2	4,268.7	4,154.3	13.8	20.0	104.29	589.0	741.1	967.7	940.5	27.25	35.506		
4,500.0	4,462.2	4,365.5	4,248.0	14.2	20.5	104.34	603.6	760.4	992.9	965.0	27.93	35.544		
5,200.0	5,159.4	7,051.2	6,067.0	15.7	29.9	-114.94	716.6	-218.8	922.5	882.1	40.45	22.806		
5,300.0	5,258.0	7,034.9	6,067.0	15.8	29.6	-139.51	716.5	-202.6	825.8	789.0	36.77	22.459		
5,400.0	5,352.8	7,003.4	6,067.0	15.8	29.0	-149.18	716.3	-171.1	733.1	698.5	34.61	21.180		
5,500.0	5,441.5	6,957.5	6,067.0	15.8	28.1	-153.38	716.1	-125.2	647.0	614.3	32.71	19.783		
5,600.0	5,522.0	6,898.2	6,067.0	15.8	27.0	-155.10	715.8	-65.9	569.6	539.0	30.60	18.618		
5,700.0	5,592.1	6,827.2	6,067.0	15.8	25.9	-155.49	715.4	5.2	502.9	474.6	28.24	17.810		
5,800.0	5,650.3	6,746.0	6,067.0	15.8	24.8	-155.11	715.0	86.4	448.3	422.6	25.76	17.403		
5,900.0	5,695.1	6,656.7	6,067.0	16.1	23.8	-154.35	714.5	175.7	407.0	383.6	23.40	17.393		
6,000.0	5,725.4	6,555.6	6,066.9	17.2	23.1	-153.47	714.0	276.7	379.5	358.1	21.40	17.739		
6,100.0	5,740.3	6,360.8	6,034.0	18.8	22.7	-149.94	713.1	468.0	351.1	330.2	20.88	16.817		
6,200.0	5,742.0	6,197.9	5,963.1	20.8	23.0	-143.19	712.4	614.2	311.8	287.6	24.12	12.926		
6,300.0	5,742.0	6,074.7	5,886.2	22.9	23.4	-131.05	712.0	710.1	260.7	229.2	31.51	8.274		
6,400.0	5,742.0	5,985.0	5,819.3	25.1	23.7	-115.02	711.7	769.7	208.4	168.2	40.19	5.184		
6,500.0	5,742.0	5,919.3	5,765.2	27.5	23.9	-97.99	711.5	807.1	171.4	124.4	47.01	3.646		
6,551.2	5,742.0	5,892.3	5,742.0	28.7	23.9	-90.02	711.4	820.8	165.6	116.4	49.17	3.368 SF		
6,600.0	5,742.0	5,869.9	5,722.3	29.9	24.0	-83.23	711.4	831.4	171.1	120.7	50.45	3.392		
6,700.0	5,742.0	5,832.0	5,688.1	32.4	24.1	-71.98	711.3	847.8	212.5	161.0	51.55	4.123		
6,800.0	5,742.0	5,800.0	5,658.5	34.9	24.2	-63.26	711.2	860.0	279.9	228.4	51.52	5.432		
6,900.0	5,742.0	5,778.0	5,637.9	37.5	24.2	-57.85	711.2	867.5	359.9	308.2	51.66	6.967		
7,000.0	5,742.0	5,750.0	5,611.2	40.1	24.3	-51.71	711.2	876.1	446.5	395.8	50.78	8.793		
7,100.0	5,742.0	5,750.0	5,611.2	42.7	24.3	-51.71	711.2	876.1	536.8	483.9	52.89	10.149		
7,200.0	5,742.0	5,727.9	5,589.9	45.4	24.3	-47.44	711.1	882.0	629.2	576.9	52.32	12.026		
7,300.0	5,742.0	5,716.0	5,578.4	48.1	24.3	-45.35	711.1	884.8	723.2	670.4	52.87	13.680		
7,400.0	5,742.0	5,700.0	5,562.8	50.7	24.3	-42.74	711.1	888.4	818.5	765.6	52.85	15.486		
7,500.0	5,742.0	5,700.0	5,562.8	53.4	24.3	-42.74	711.1	888.4	914.4	859.6	54.75	16.701		

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 3 - Wellbore #1 - Plan #1 (7-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	180.00	-28.1	0.0	28.1					
100.0	100.0	99.0	99.0	0.1	0.1	180.00	-28.1	0.0	28.1	27.8	0.22	125.430		
200.0	200.0	199.0	199.0	0.3	0.3	180.00	-28.1	0.0	28.1	27.4	0.67	41.740		
300.0	300.0	299.0	299.0	0.6	0.6	180.00	-28.1	0.0	28.1	26.9	1.12	25.011		
400.0	400.0	399.0	399.0	0.8	0.8	180.00	-28.1	0.0	28.1	26.5	1.57	17.855 CC, ES		
500.0	500.0	499.0	499.0	1.0	1.0	-159.30	-28.1	0.0	29.7	27.7	2.02	14.669		
600.0	599.8	598.8	598.8	1.2	1.2	-162.33	-28.1	0.0	34.6	32.1	2.48	13.973		
700.0	699.5	698.8	698.8	1.5	1.5	-168.04	-27.3	1.6	42.6	39.6	2.93	14.548		
800.0	798.7	798.3	798.1	1.7	1.7	-176.09	-25.2	6.2	53.7	50.4	3.37	15.942		
900.0	897.7	897.0	896.5	2.0	1.9	175.80	-21.7	14.0	67.4	63.6	3.83	17.612		
1,000.0	996.7	995.1	993.9	2.3	2.2	168.17	-16.8	24.8	82.5	78.2	4.32	19.107		
1,100.0	1,095.7	1,092.4	1,089.9	2.7	2.4	161.10	-10.6	38.4	99.5	94.6	4.85	20.524		
1,200.0	1,194.8	1,188.5	1,184.4	3.0	2.8	154.68	-3.2	54.9	118.7	113.3	5.42	21.924		
1,300.0	1,293.8	1,283.3	1,276.9	3.3	3.1	148.93	5.4	73.9	140.6	134.5	6.02	23.347		
1,400.0	1,392.8	1,377.1	1,367.7	3.6	3.5	143.84	15.2	95.4	165.2	158.5	6.66	24.816		
1,500.0	1,491.8	1,472.8	1,460.0	4.0	4.0	139.71	25.6	118.3	191.4	184.1	7.31	26.195		
1,600.0	1,590.8	1,568.5	1,552.3	4.3	4.5	136.57	36.0	141.3	218.4	210.5	7.96	27.448		
1,700.0	1,689.8	1,664.2	1,644.6	4.6	5.0	134.12	46.4	164.2	245.9	237.3	8.61	28.551		
1,800.0	1,788.8	1,759.9	1,736.9	5.0	5.4	132.16	56.7	187.2	273.7	264.4	9.26	29.542		
1,900.0	1,887.8	1,855.5	1,829.2	5.3	5.9	130.56	67.1	210.1	301.7	291.8	9.92	30.425		
2,000.0	1,986.9	1,951.2	1,921.5	5.6	6.5	129.23	77.5	233.0	329.9	319.4	10.57	31.215		
2,100.0	2,085.9	2,046.9	2,013.8	6.0	7.0	128.11	87.9	256.0	358.3	347.1	11.22	31.923		
2,200.0	2,184.9	2,142.6	2,106.1	6.3	7.5	127.16	98.3	278.9	386.7	374.9	11.88	32.561		
2,300.0	2,283.9	2,238.2	2,198.4	6.7	8.0	126.33	108.7	301.8	415.3	402.8	12.53	33.138		
2,400.0	2,382.9	2,333.9	2,290.7	7.0	8.5	125.61	119.1	324.8	443.9	430.7	13.19	33.662		
2,500.0	2,481.9	2,429.6	2,383.0	7.3	9.0	124.98	129.5	347.7	472.6	458.7	13.84	34.139		
2,600.0	2,580.9	2,525.3	2,475.3	7.7	9.5	124.42	139.9	370.7	501.3	486.8	14.50	34.576		
2,700.0	2,679.9	2,621.0	2,567.6	8.0	10.1	123.92	150.3	393.6	530.1	514.9	15.16	34.976		
2,800.0	2,779.0	2,716.6	2,659.9	8.4	10.6	123.47	160.7	416.5	558.9	543.1	15.81	35.344		
2,900.0	2,878.0	2,812.3	2,752.2	8.7	11.1	123.07	171.1	439.5	587.7	571.2	16.47	35.684		
3,000.0	2,977.0	2,908.0	2,844.5	9.0	11.6	122.70	181.5	462.4	616.5	599.4	17.13	35.999		
3,100.0	3,076.0	3,003.7	2,936.8	9.4	12.2	122.37	191.9	485.4	645.4	627.6	17.78	36.291		
3,200.0	3,175.0	3,099.3	3,029.1	9.7	12.7	122.07	202.2	508.3	674.3	655.8	18.44	36.563		
3,300.0	3,274.0	3,195.0	3,121.4	10.1	13.2	121.79	212.6	531.2	703.2	684.1	19.10	36.816		
3,400.0	3,373.0	3,290.7	3,213.7	10.4	13.7	121.53	223.0	554.2	732.1	712.3	19.76	37.052		
3,500.0	3,472.0	3,386.4	3,306.0	10.7	14.3	121.29	233.4	577.1	761.0	740.6	20.42	37.274		
3,600.0	3,571.1	3,482.1	3,398.4	11.1	14.8	121.07	243.8	600.0	790.0	768.9	21.08	37.482		
3,700.0	3,670.1	3,577.7	3,490.7	11.4	15.3	120.86	254.2	623.0	818.9	797.2	21.74	37.677		
3,800.0	3,769.1	3,673.4	3,583.0	11.8	15.9	120.67	264.6	645.9	847.9	825.5	22.39	37.862		
3,900.0	3,868.1	3,769.1	3,675.3	12.1	16.4	120.49	275.0	668.9	876.8	853.8	23.05	38.035		
4,000.0	3,967.1	3,864.8	3,767.6	12.5	16.9	120.33	285.4	691.8	905.8	882.1	23.71	38.199		
4,100.0	4,066.1	3,960.5	3,859.9	12.8	17.4	120.17	295.8	714.7	934.8	910.4	24.37	38.354		
4,200.0	4,165.1	4,056.1	3,952.2	13.1	18.0	120.02	306.2	737.7	963.8	938.8	25.03	38.501		
4,300.0	4,264.2	4,151.8	4,044.5	13.5	18.5	119.88	316.6	760.6	992.8	967.1	25.69	38.641		
4,400.0	4,363.2	4,249.8	4,136.6	13.9	19.0	119.73	326.9	783.5	1021.7	995.8	26.35	38.777		
4,500.0	4,462.2	4,348.8	4,229.7	14.3	19.5	119.58	337.2	806.4	1050.6	1024.6	27.01	38.909		
4,600.0	4,561.2	4,446.8	4,326.6	14.7	20.0	119.43	347.5	829.3	1079.5	1053.4	27.67	39.037		
4,700.0	4,660.2	4,544.8	4,423.4	15.1	20.5	119.28	357.8	852.2	1108.4	1082.2	28.33	39.161		
4,800.0	4,759.2	4,642.8	4,519.2	15.5	21.0	119.13	368.1	875.1	1137.3	1105.0	28.99	39.281		
4,900.0	4,858.2	4,740.8	4,615.6	15.9	21.5	118.98	378.4	898.0	1166.2	1131.8	29.65	39.398		
5,000.0	4,957.2	4,838.8	4,712.4	16.3	22.0	118.83	388.7	920.9	1195.1	1156.6	30.31	39.512		
5,100.0	5,056.2	4,936.8	4,809.0	16.7	22.5	118.68	399.0	943.8	1224.0	1181.4	30.97	39.624		
5,200.0	5,155.2	5,034.8	4,905.0	17.1	23.0	118.53	409.3	966.7	1252.9	1206.2	31.63	39.733		
5,300.0	5,254.2	5,132.8	5,001.0	17.5	23.5	118.38	419.6	989.6	1281.8	1231.0	32.29	39.839		
5,400.0	5,353.2	5,230.8	5,098.0	17.9	24.0	118.23	429.9	1012.5	1310.7	1255.8	32.95	39.943		
5,500.0	5,452.2	5,328.8	5,195.0	18.3	24.5	118.08	440.2	1035.4	1339.6	1280.6	33.61	40.045		

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 Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 3 - Wellbore #1 - Plan #1 (7-18-14)												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
5,600.0	5,522.0	6,561.8	5,741.0	15.8	27.0	131.20	385.7	-67.6	274.8	238.8	35.95	7.643	
5,700.0	5,592.1	6,490.7	5,741.0	15.8	25.7	124.86	385.3	3.5	222.6	186.8	35.76	6.224	
5,800.0	5,650.3	6,409.5	5,741.0	15.8	24.4	115.50	384.9	84.6	188.4	152.0	36.42	5.173	
5,900.0	5,695.1	6,320.2	5,741.0	16.1	23.2	104.79	384.5	173.9	171.2	133.7	37.50	4.565	
6,000.0	5,725.4	6,224.8	5,741.0	17.2	22.1	95.61	384.0	269.3	165.5	127.2	38.31	4.320	
6,072.0	5,737.7	6,153.9	5,736.7	18.3	21.4	89.99	383.6	340.1	164.7	125.9	38.80	4.244	
6,100.0	5,740.3	6,126.8	5,733.0	18.8	21.3	87.81	383.5	367.0	164.8	125.9	38.93	4.233 SF	
6,200.0	5,742.0	6,032.6	5,711.2	20.8	20.8	79.75	383.1	458.5	167.6	128.3	39.26	4.269	
6,300.0	5,742.0	5,946.2	5,679.6	22.9	20.6	69.55	382.7	538.8	178.1	139.3	38.78	4.591	
6,400.0	5,742.0	5,869.6	5,642.7	25.1	20.6	59.15	382.4	605.9	201.4	164.1	37.34	5.395	
6,500.0	5,742.0	5,800.0	5,602.4	27.5	20.7	49.90	382.1	662.6	239.5	204.2	35.29	6.785	
6,600.0	5,742.0	5,750.0	5,569.8	29.9	20.8	43.86	381.9	700.5	290.5	256.5	34.06	8.530	
6,700.0	5,742.0	5,700.0	5,534.3	32.4	20.9	38.51	381.7	735.6	351.8	319.0	32.73	10.746	
6,800.0	5,742.0	5,650.0	5,496.1	34.9	21.1	33.89	381.6	767.9	420.7	389.3	31.46	13.375	
6,900.0	5,742.0	5,619.4	5,471.5	37.5	21.2	31.40	381.5	786.2	495.3	464.0	31.31	15.821	
7,000.0	5,742.0	5,600.0	5,455.5	40.1	21.2	29.95	381.5	797.1	574.6	542.9	31.75	18.098	
7,100.0	5,742.0	5,550.0	5,412.8	42.7	21.4	26.62	381.3	823.0	657.0	626.3	30.69	21.408	
7,200.0	5,742.0	5,550.0	5,412.8	45.4	21.4	26.62	381.3	823.0	742.0	710.0	32.03	23.168	
7,300.0	5,742.0	5,517.6	5,384.0	48.1	21.5	24.74	381.3	838.0	829.0	797.1	31.84	26.033	
7,400.0	5,742.0	5,500.0	5,368.1	50.7	21.5	23.80	381.2	845.5	917.8	885.5	32.34	28.379	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 4 - Wellbore #1 - Plan #1 (7-18-14)													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	-179.72	-56.1	-0.3	56.1					
100.0	100.0	99.0	99.0	0.1	0.1	-179.72	-56.1	-0.3	56.1	55.9	0.22	250.863		
200.0	200.0	199.0	199.0	0.3	0.3	-179.72	-56.1	-0.3	56.1	55.4	0.67	83.482		
300.0	300.0	299.0	299.0	0.6	0.6	-179.72	-56.1	-0.3	56.1	55.0	1.12	50.022		
400.0	400.0	399.0	399.0	0.8	0.8	-179.72	-56.1	-0.3	56.1	54.5	1.57	35.710 CC, ES		
500.0	500.0	499.0	499.0	1.0	1.0	-158.41	-56.1	-0.3	57.7	55.7	2.02	28.532		
600.0	599.8	598.8	598.8	1.2	1.2	-160.14	-56.1	-0.3	62.6	60.1	2.48	25.273		
700.0	699.5	698.5	698.5	1.5	1.5	-162.49	-56.1	-0.3	70.9	67.9	2.93	24.161		
800.0	798.7	797.7	797.7	1.7	1.7	-164.97	-56.1	-0.3	82.6	79.2	3.39	24.362		
900.0	897.7	896.6	896.6	2.0	1.9	-166.66	-54.8	-1.4	94.7	90.9	3.84	24.646		
1,000.0	996.7	1,002.3	1,002.1	2.3	2.1	-167.00	-50.5	-4.8	103.9	99.6	4.30	24.136		
1,100.0	1,095.7	1,105.4	1,104.8	2.7	2.4	-166.32	-43.4	-10.5	109.9	105.1	4.78	22.999		
1,200.0	1,194.8	1,206.9	1,205.6	3.0	2.6	-164.92	-34.0	-18.0	113.3	108.0	5.27	21.515		
1,300.0	1,293.8	1,306.8	1,304.7	3.3	2.9	-163.52	-24.5	-25.7	116.5	110.7	5.77	20.204		
1,400.0	1,392.8	1,406.7	1,403.9	3.6	3.2	-162.20	-15.0	-33.4	119.7	113.5	6.27	19.082		
1,500.0	1,491.8	1,506.6	1,503.0	4.0	3.5	-160.94	-5.4	-41.1	123.0	116.2	6.79	18.113		
1,600.0	1,590.8	1,606.5	1,602.2	4.3	3.7	-159.75	4.1	-48.8	126.4	119.1	7.32	17.269		
1,700.0	1,689.8	1,706.4	1,701.3	4.6	4.0	-158.63	13.7	-56.5	129.8	122.0	7.85	16.529		
1,800.0	1,788.8	1,806.3	1,800.5	5.0	4.3	-157.56	23.2	-64.2	133.3	124.9	8.39	15.875		
1,900.0	1,887.8	1,906.2	1,899.6	5.3	4.6	-156.55	32.7	-71.8	136.8	127.8	8.94	15.294		
2,000.0	1,986.9	2,006.1	1,998.8	5.6	4.9	-155.58	42.3	-79.5	140.3	130.8	9.50	14.775		
2,100.0	2,085.9	2,106.0	2,098.0	6.0	5.2	-154.67	51.8	-87.2	143.9	133.8	10.06	14.310		
2,200.0	2,184.9	2,206.0	2,197.1	6.3	5.6	-153.80	61.4	-94.9	147.5	136.9	10.62	13.890		
2,300.0	2,283.9	2,305.9	2,296.3	6.7	5.9	-152.97	70.9	-102.6	151.2	140.0	11.19	13.510		
2,400.0	2,382.9	2,405.8	2,395.4	7.0	6.2	-152.18	80.5	-110.3	154.8	143.1	11.76	13.164		
2,500.0	2,481.9	2,505.7	2,494.6	7.3	6.5	-151.43	90.0	-118.0	158.5	146.2	12.34	12.849		
2,600.0	2,580.9	2,605.6	2,593.7	7.7	6.8	-150.71	99.5	-125.6	162.3	149.4	12.92	12.560		
2,700.0	2,679.9	2,705.5	2,692.9	8.0	7.1	-150.02	109.1	-133.3	166.0	152.5	13.50	12.295		
2,800.0	2,779.0	2,805.4	2,792.1	8.4	7.4	-149.37	118.6	-141.0	169.8	155.7	14.09	12.050		
2,900.0	2,878.0	2,905.3	2,891.2	8.7	7.7	-148.74	128.2	-148.7	173.6	158.9	14.68	11.825		
3,000.0	2,977.0	3,005.2	2,990.4	9.0	8.0	-148.14	137.7	-156.4	177.4	162.2	15.28	11.616		
3,100.0	3,076.0	3,105.1	3,089.5	9.4	8.4	-147.56	147.2	-164.1	181.3	165.4	15.87	11.422		
3,200.0	3,175.0	3,205.1	3,188.7	9.7	8.7	-147.01	156.8	-171.8	185.1	168.7	16.47	11.242		
3,300.0	3,274.0	3,305.0	3,287.8	10.1	9.0	-146.48	166.3	-179.4	189.0	171.9	17.07	11.074		
3,400.0	3,373.0	3,404.9	3,387.0	10.4	9.3	-145.98	175.9	-187.1	192.9	175.2	17.67	10.917		
3,500.0	3,472.0	3,504.8	3,486.1	10.7	9.6	-145.49	185.4	-194.8	196.8	178.5	18.27	10.770		
3,600.0	3,571.1	3,604.7	3,585.3	11.1	9.9	-145.02	195.0	-202.5	200.7	181.8	18.88	10.632		
3,700.0	3,670.1	3,703.1	3,683.0	11.4	10.2	-144.63	204.2	-209.9	204.8	185.3	19.46	10.522		
3,800.0	3,769.1	3,800.0	3,779.5	11.8	10.4	-144.81	211.3	-215.6	210.5	190.6	19.93	10.562		
3,900.0	3,868.1	3,893.9	3,873.2	12.1	10.6	-145.63	215.7	-219.2	218.2	197.9	20.32	10.741		
4,000.0	3,967.1	3,988.5	3,967.8	12.5	10.8	-147.01	217.8	-220.9	228.2	207.5	20.65	11.052		
4,100.0	4,066.1	4,085.9	4,065.1	12.8	10.9	-148.76	217.9	-221.0	240.0	219.0	20.94	11.457		
4,200.0	4,165.1	4,184.9	4,164.1	13.1	11.1	-150.41	217.9	-221.0	252.1	230.8	21.27	11.850		
4,300.0	4,264.2	4,283.9	4,263.2	13.5	11.3	-151.91	217.9	-221.0	264.4	242.8	21.61	12.232		
4,400.0	4,363.2	4,382.9	4,362.2	13.8	11.5	-153.27	217.9	-221.0	276.9	254.9	21.97	12.603		
4,500.0	4,462.2	4,481.9	4,461.2	14.2	11.7	-154.52	217.9	-221.0	289.5	267.1	22.33	12.963		
4,600.0	4,561.2	4,581.0	4,560.2	14.5	11.8	-155.66	217.9	-221.0	302.2	279.5	22.70	13.313		
4,700.0	4,660.3	4,680.1	4,659.3	14.8	12.0	-156.72	217.9	-221.0	314.4	291.4	23.07	13.631		
4,800.0	4,759.8	4,779.5	4,758.8	15.0	12.2	-157.50	217.9	-221.0	323.8	300.4	23.40	13.838		
4,900.0	4,859.5	4,879.3	4,858.5	15.2	12.4	-157.99	217.9	-221.0	329.9	306.2	23.72	13.909		
5,000.0	4,959.5	4,979.3	4,958.5	15.4	12.6	-158.21	217.9	-221.0	332.8	308.8	24.03	13.849		
5,100.0	5,059.5	5,079.3	5,058.5	15.5	12.8	179.82	217.9	-221.0	333.1	305.9	27.18	12.256		

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 Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 4 - Wellbore #1 - Plan #1 (7-18-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,159.4	5,179.2	5,158.4	15.7	13.0	89.94	217.9	-221.0	333.1	308.3	24.79	13.435		
5,203.7	5,163.1	5,182.9	5,162.1	15.7	13.0	90.00	217.9	-221.0	333.1	308.3	24.81	13.426		
5,300.0	5,258.0	5,277.8	5,257.0	15.8	13.2	92.66	217.9	-221.0	333.5	308.2	25.31	13.173		
5,400.0	5,352.8	5,372.6	5,351.8	15.8	13.3	97.47	217.9	-221.0	336.5	310.5	25.91	12.985		
5,500.0	5,441.5	5,463.2	5,442.4	15.8	13.5	103.53	217.9	-220.8	345.9	319.5	26.41	13.097		
5,600.0	5,522.0	5,569.2	5,547.7	15.8	13.6	110.50	217.8	-209.9	362.9	336.3	26.60	13.642		
5,700.0	5,592.1	5,687.9	5,661.6	15.8	13.7	117.01	217.7	-177.1	385.0	358.7	26.35	14.610		
5,800.0	5,650.3	5,822.9	5,781.2	15.8	13.8	122.92	217.4	-114.9	409.7	383.9	25.86	15.844		
5,900.0	5,695.1	5,978.2	5,898.9	16.1	13.8	128.01	216.9	-14.3	433.6	408.0	25.58	16.950		
6,000.0	5,725.4	6,155.5	5,999.0	17.2	14.9	131.88	216.3	131.4	452.9	426.6	26.33	17.198		
6,100.0	5,740.3	6,351.5	6,058.4	18.8	17.7	134.02	215.4	317.4	463.8	434.9	28.96	16.015		
6,200.0	5,742.0	6,501.7	6,066.0	20.8	20.6	134.31	214.7	467.2	465.3	432.8	32.48	14.324		
6,300.0	5,742.0	6,601.7	6,066.0	22.9	22.7	134.31	214.3	567.2	465.2	429.6	35.58	13.077		
6,400.0	5,742.0	6,701.7	6,066.0	25.1	25.0	134.32	213.8	667.2	465.2	426.3	38.87	11.968		
6,500.0	5,742.0	6,801.7	6,066.0	27.5	27.3	134.32	213.3	767.2	465.1	422.8	42.31	10.992		
6,600.0	5,742.0	6,901.7	6,066.0	29.9	29.8	134.33	212.9	867.2	465.1	419.2	45.88	10.138		
6,700.0	5,742.0	7,001.7	6,066.0	32.4	32.3	134.33	212.4	967.2	465.1	415.5	49.53	9.390		
6,800.0	5,742.0	7,101.7	6,066.0	34.9	34.8	134.34	211.9	1,067.2	465.0	411.8	53.25	8.732		
6,900.0	5,742.0	7,201.7	6,066.0	37.5	37.4	134.34	211.5	1,167.2	465.0	407.9	57.03	8.152		
7,000.0	5,742.0	7,301.7	6,066.0	40.1	40.0	134.35	211.0	1,267.2	464.9	404.1	60.86	7.639		
7,100.0	5,742.0	7,401.7	6,066.0	42.7	42.6	134.35	210.6	1,367.2	464.9	400.2	64.73	7.182		
7,200.0	5,742.0	7,501.7	6,066.0	45.4	45.3	134.36	210.1	1,467.2	464.8	396.2	68.63	6.773		
7,300.0	5,742.0	7,601.7	6,066.0	48.1	48.0	134.36	209.6	1,567.2	464.8	392.2	72.56	6.406		
7,400.0	5,742.0	7,701.7	6,066.0	50.7	50.6	134.37	209.2	1,667.2	464.8	388.3	76.51	6.074		
7,500.0	5,742.0	7,801.7	6,066.0	53.4	53.3	134.37	208.7	1,767.2	464.7	384.2	80.48	5.774		
7,600.0	5,742.0	7,901.7	6,066.0	56.2	56.1	134.38	208.2	1,867.2	464.7	380.2	84.46	5.501		
7,700.0	5,742.0	8,001.7	6,066.0	58.9	58.8	134.38	207.8	1,967.2	464.6	376.2	88.46	5.252		
7,800.0	5,742.0	8,101.7	6,066.0	61.6	61.5	134.39	207.3	2,067.2	464.6	372.1	92.48	5.024		
7,900.0	5,742.0	8,201.7	6,066.0	64.3	64.2	134.40	206.9	2,167.2	464.6	368.1	96.50	4.814		
8,000.0	5,742.0	8,301.7	6,066.0	67.1	67.0	134.40	206.4	2,267.2	464.5	364.0	100.53	4.621		
8,100.0	5,742.0	8,401.7	6,066.0	69.8	69.7	134.41	205.9	2,367.2	464.5	359.9	104.57	4.442		
8,200.0	5,742.0	8,501.7	6,066.0	72.5	72.5	134.41	205.5	2,467.2	464.4	355.8	108.61	4.276		
8,300.0	5,742.0	8,601.7	6,066.0	75.3	75.2	134.42	205.0	2,567.2	464.4	351.7	112.67	4.122		
8,400.0	5,742.0	8,701.7	6,066.0	78.1	78.0	134.42	204.5	2,667.2	464.3	347.6	116.72	3.978		
8,500.0	5,742.0	8,801.7	6,066.0	80.8	80.8	134.43	204.1	2,767.2	464.3	343.5	120.79	3.844		
8,600.0	5,742.0	8,901.7	6,066.0	83.6	83.5	134.43	203.6	2,867.2	464.3	339.4	124.85	3.718		
8,700.0	5,742.0	9,001.7	6,066.0	86.3	86.3	134.44	203.2	2,967.2	464.2	335.3	128.92	3.601		
8,800.0	5,742.0	9,101.7	6,066.0	89.1	89.1	134.44	202.7	3,067.2	464.2	331.2	133.00	3.490		
8,900.0	5,742.0	9,201.7	6,066.0	91.9	91.8	134.45	202.2	3,167.2	464.1	327.1	137.08	3.386		
9,000.0	5,742.0	9,301.7	6,066.0	94.7	94.6	134.45	201.8	3,267.2	464.1	322.9	141.16	3.288		
9,100.0	5,742.0	9,401.7	6,066.0	97.4	97.4	134.46	201.3	3,367.2	464.0	318.8	145.24	3.195		
9,200.0	5,742.0	9,501.7	6,066.0	100.2	100.2	134.46	200.9	3,467.2	464.0	314.7	149.33	3.107		
9,300.0	5,742.0	9,601.7	6,066.0	103.0	102.9	134.47	200.4	3,567.2	464.0	310.5	153.41	3.024		
9,400.0	5,742.0	9,701.7	6,066.0	105.8	105.7	134.47	199.9	3,667.2	463.9	306.4	157.50	2.945		
9,500.0	5,742.0	9,801.7	6,066.0	108.5	108.5	134.48	199.5	3,767.2	463.9	302.3	161.59	2.871		
9,600.0	5,742.0	9,901.7	6,066.0	111.3	111.3	134.48	199.0	3,867.2	463.8	298.2	165.68	2.800		
9,700.0	5,742.0	10,001.7	6,066.0	114.1	114.1	134.49	198.5	3,967.1	463.8	294.0	169.78	2.732		
9,800.0	5,742.0	10,101.7	6,066.0	116.9	116.9	134.49	198.1	4,067.1	463.8	289.9	173.87	2.667		
9,900.0	5,742.0	10,201.7	6,066.0	119.7	119.6	134.50	197.6	4,167.1	463.7	285.7	177.97	2.606		
10,000.0	5,742.0	10,301.7	6,066.0	122.5	122.4	134.50	197.2	4,267.1	463.7	281.6	182.06	2.547		
10,100.0	5,742.0	10,401.7	6,066.0	125.3	125.2	134.51	196.7	4,367.1	463.6	277.5	186.16	2.490		
10,200.0	5,742.0	10,501.7	6,066.0	128.0	128.0	134.51	196.2	4,467.1	463.6	273.3	190.26	2.437		

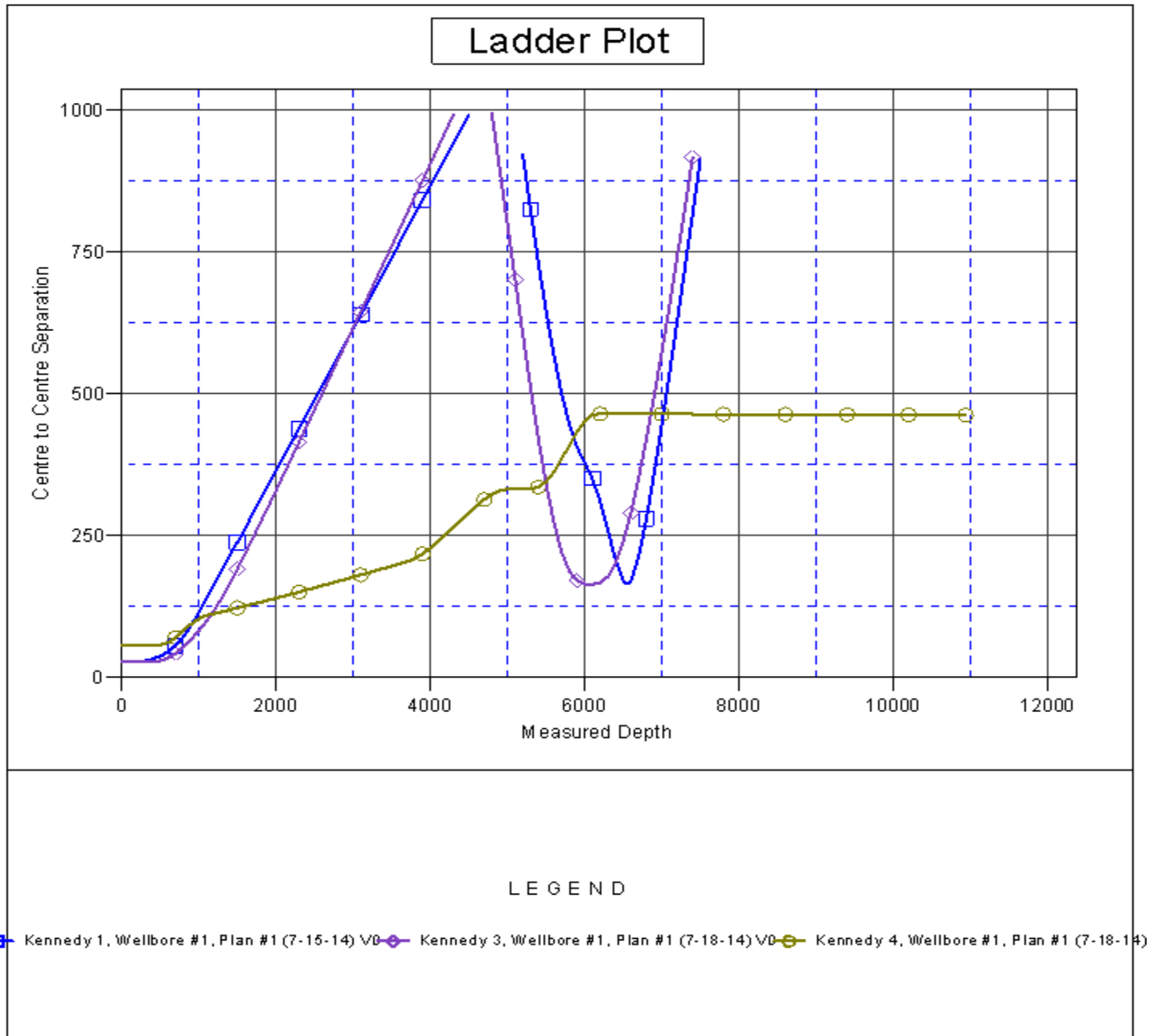
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Offset Design Kennedy Pad Sec.18-T4N-R68W - Kennedy 4 - Wellbore #1 - Plan #1 (7-18-14)												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	
10,300.0	5,742.0	10,601.7	6,066.0	130.8	130.8	134.52	195.8	4,567.1	463.5	269.2	194.36	2.385	
10,400.0	5,742.0	10,701.7	6,066.0	133.6	133.6	134.52	195.3	4,667.1	463.5	265.0	198.46	2.336	
10,500.0	5,742.0	10,801.7	6,066.0	136.4	136.4	134.53	194.8	4,767.1	463.5	260.9	202.56	2.288	
10,600.0	5,742.0	10,901.7	6,066.0	139.2	139.2	134.53	194.4	4,867.1	463.4	256.8	206.66	2.242	
10,700.0	5,742.0	11,001.7	6,066.0	142.0	142.0	134.54	193.9	4,967.1	463.4	252.6	210.76	2.199	
10,800.0	5,742.0	11,101.7	6,066.0	144.8	144.8	134.54	193.5	5,067.1	463.3	248.5	214.86	2.156	
10,900.0	5,742.0	11,201.7	6,066.0	147.6	147.6	134.55	193.0	5,167.1	463.3	244.3	218.96	2.116	
10,936.7	5,742.0	11,238.4	6,066.0	148.6	148.6	134.55	192.8	5,203.8	463.3	242.8	220.46	2.101 SF	

Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4989.0ft (Original Well Elev) Coordinates are relative to: Kennedy 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: 0.30°



Company:	Extraction Oil & Gas	Local Co-ordinate Reference:	Well Kennedy 2
Project:	SEC.18-T4N-R68W	TVD Reference:	WELL @ 4989.0ft (Original Well Elev)
Reference Site:	Kennedy Pad Sec.18-T4N-R68W	MD Reference:	WELL @ 4989.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Kennedy 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 (7-16-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4989.0ft (Original Well Elev) Coordinates are relative to: Kennedy 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: 0.30°

