

EXTRACTION OIL & GAS

Weld County

Sec 30-T6N-R67W

RAINDANCE 29E-20-4C

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

22 February, 2018



Project: Weld County
Site: Sec 30-T6N-R67W
Well: RAINDANCE 29E-20-4C
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1



Azimuths to True North
Magnetic North: 8.23°
Magnetic Field
Strength: 52322.9nT
Dip Angle: 66.85°
Date: 2/20/2018
Model: IGRF2015

WELL DETAILS: RAINDANCE 29E-20-4C

4978.00						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	1407756.65	3159152.07	40° 27' 4.626 N	104° 55'	41.243 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	
3	563.77	11.59	160.91	560.62	-44.19	15.30	2.50	160.91	20.28	
4	6369.00	11.59	160.91	6247.38	-1146.76	396.93	0.00	0.00	526.24	
5	6832.77	0.00	0.00	6708.00	-1190.95	412.23	2.50	180.00	546.52	
6	6862.77	0.00	0.00	6738.00	-1190.95	412.23	0.00	0.00	546.52	
7	7762.84	90.00	90.06	7311.00	-1191.60	985.23	10.00	90.06	1115.79	RAINDANCE 29E-20-4C - LP
8	17156.47	90.00	90.06	7311.00	-1202.18	10378.86	0.00	0.00	10448.25	RAINDANCE 29E-20-4C - PBHL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	BUILD 2.50°/100'
563.77	11.59	160.91	560.62	-44.19	15.30	20.28	46.76	HOLD 11.59° INC
6369.00	11.59	160.91	6247.38	-1146.76	396.93	526.24	1213.51	DROP 2.50°/100'
6832.77	0.00	0.00	6708.00	-1190.95	412.23	546.52	1260.28	HOLD VERTICAL
6862.77	0.00	0.00	6738.00	-1190.95	412.23	546.52	1260.28	KOP, BUILD 10°/100'
7762.84	90.00	90.06	7311.00	-1191.60	985.23	1115.79	1833.27	LP @ 90° INC, 90.07° AZM HOLD
17156.47	90.00	90.06	7311.00	-1202.18	10378.86	10448.25	11226.91	TD at 17156.47' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
RAINDANCE 29E-20-4C - LP	7311.00	-1191.60	985.23	1406571.43	3160144.97	40° 26' 52.850 N	104° 55' 28.499 W	Point
- plan hits target center								
RAINDANCE 29E-20-4C - PBHL	7311.00	-1202.18	10378.86	1406621.43	3169538.47	40° 26' 52.724 N	104° 53' 26.992 W	Point
- plan hits target center								

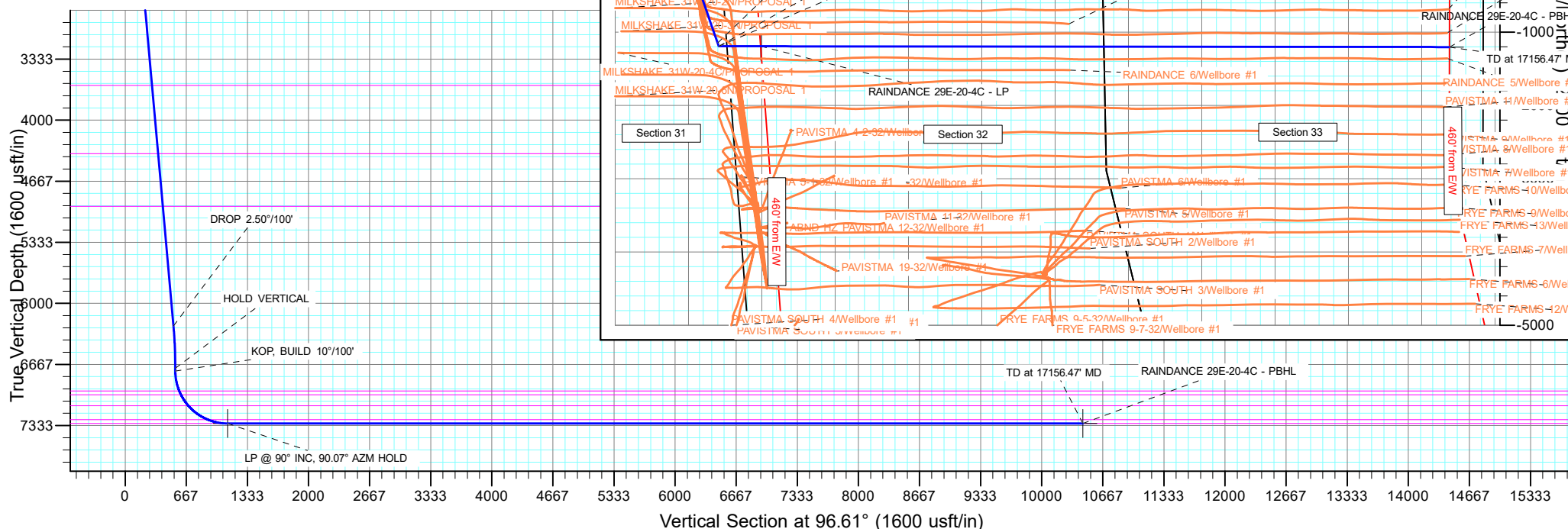
FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3620.00	3686.89	PARKMAN
4365.00	4447.40	SUSSEX
4940.00	5034.38	SHANNON
6956.00	7086.41	SHARON SPRINGS
6998.00	7132.64	NIOBRARA
7118.00	7278.23	NIO B
7269.00	7542.09	FORT HAYS
7311.00	7762.84	CODELL

PROJECT DETAILS: Weld County

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SHL:
214' FSL, 451' FEL
Sec 30-T6N-R67W
LP:
990' FNL, 460' FWL
Sec 32-T6N-R67W
BHL:
994' FNL, 460' FEL
Sec 33-T6N-R67W



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RAINDANCE 29E-20-4C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5003.00usft
Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Project	Weld County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 30-T6N-R67W			
Site Position:		Northing:	1,407,747.87 usft	Latitude:	40° 27' 4.536 N
From:	Lat/Long	Easting:	3,159,200.28 usft	Longitude:	104° 55' 40.620 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.37 °

Well	RAINDANCE 29E-20-4C					
Well Position	+N/-S	9.10 usft	Northing:	1,407,756.65 usft	Latitude:	40° 27' 4.626 N
	+E/-W	-48.15 usft	Easting:	3,159,152.08 usft	Longitude:	104° 55' 41.243 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	4,978.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/20/2018	8.23	66.85	52,322.85345274

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	96.61

Plan Survey Tool Program	Date	2/22/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,156.47	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
563.77	11.59	160.91	560.62	-44.19	15.30	2.50	2.50	0.00	160.91	
6,369.00	11.59	160.91	6,247.38	-1,146.76	396.93	0.00	0.00	0.00	0.00	
6,832.77	0.00	0.00	6,708.00	-1,190.95	412.23	2.50	-2.50	0.00	180.00	
6,862.77	0.00	0.00	6,738.00	-1,190.95	412.23	0.00	0.00	0.00	0.00	
7,762.84	90.00	90.06	7,311.00	-1,191.60	985.23	10.00	10.00	10.01	90.06	RAINDANCE 29E-20-
17,156.47	90.00	90.06	7,311.00	-1,202.18	10,378.86	0.00	0.00	0.00	0.00	RAINDANCE 29E-20-

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Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
BUILD 2.50°/100'									
200.00	2.50	160.91	199.97	-2.06	0.71	0.95	2.50	2.50	0.00
300.00	5.00	160.91	299.75	-8.24	2.85	3.78	2.50	2.50	0.00
400.00	7.50	160.91	399.14	-18.53	6.41	8.50	2.50	2.50	0.00
500.00	10.00	160.91	497.97	-32.90	11.39	15.10	2.50	2.50	0.00
563.77	11.59	160.91	560.62	-44.19	15.30	20.28	2.50	2.50	0.00
HOLD 11.59° INC									
600.00	11.59	160.91	596.10	-51.07	17.68	23.44	0.00	0.00	0.00
700.00	11.59	160.91	694.06	-70.07	24.25	32.15	0.00	0.00	0.00
800.00	11.59	160.91	792.02	-89.06	30.83	40.87	0.00	0.00	0.00
900.00	11.59	160.91	889.98	-108.05	37.40	49.58	0.00	0.00	0.00
1,000.00	11.59	160.91	987.94	-127.04	43.97	58.30	0.00	0.00	0.00
1,100.00	11.59	160.91	1,085.90	-146.04	50.55	67.02	0.00	0.00	0.00
1,200.00	11.59	160.91	1,183.86	-165.03	57.12	75.73	0.00	0.00	0.00
1,300.00	11.59	160.91	1,281.82	-184.02	63.70	84.45	0.00	0.00	0.00
1,400.00	11.59	160.91	1,379.78	-203.01	70.27	93.16	0.00	0.00	0.00
1,500.00	11.59	160.91	1,477.74	-222.01	76.84	101.88	0.00	0.00	0.00
1,600.00	11.59	160.91	1,575.70	-241.00	83.42	110.59	0.00	0.00	0.00
1,700.00	11.59	160.91	1,673.66	-259.99	89.99	119.31	0.00	0.00	0.00
1,800.00	11.59	160.91	1,771.62	-278.98	96.57	128.03	0.00	0.00	0.00
1,900.00	11.59	160.91	1,869.58	-297.98	103.14	136.74	0.00	0.00	0.00
2,000.00	11.59	160.91	1,967.53	-316.97	109.71	145.46	0.00	0.00	0.00
2,100.00	11.59	160.91	2,065.49	-335.96	116.29	154.17	0.00	0.00	0.00
2,200.00	11.59	160.91	2,163.45	-354.95	122.86	162.89	0.00	0.00	0.00
2,300.00	11.59	160.91	2,261.41	-373.95	129.44	171.60	0.00	0.00	0.00
2,400.00	11.59	160.91	2,359.37	-392.94	136.01	180.32	0.00	0.00	0.00
2,500.00	11.59	160.91	2,457.33	-411.93	142.58	189.03	0.00	0.00	0.00
2,600.00	11.59	160.91	2,555.29	-430.93	149.16	197.75	0.00	0.00	0.00
2,700.00	11.59	160.91	2,653.25	-449.92	155.73	206.47	0.00	0.00	0.00
2,800.00	11.59	160.91	2,751.21	-468.91	162.31	215.18	0.00	0.00	0.00
2,900.00	11.59	160.91	2,849.17	-487.90	168.88	223.90	0.00	0.00	0.00
3,000.00	11.59	160.91	2,947.13	-506.90	175.45	232.61	0.00	0.00	0.00
3,100.00	11.59	160.91	3,045.09	-525.89	182.03	241.33	0.00	0.00	0.00
3,200.00	11.59	160.91	3,143.05	-544.88	188.60	250.04	0.00	0.00	0.00
3,300.00	11.59	160.91	3,241.01	-563.87	195.18	258.76	0.00	0.00	0.00
3,400.00	11.59	160.91	3,338.97	-582.87	201.75	267.48	0.00	0.00	0.00
3,500.00	11.59	160.91	3,436.93	-601.86	208.32	276.19	0.00	0.00	0.00
3,600.00	11.59	160.91	3,534.89	-620.85	214.90	284.91	0.00	0.00	0.00
3,686.89	11.59	160.91	3,620.00	-637.35	220.61	292.48	0.00	0.00	0.00
PARKMAN									
3,700.00	11.59	160.91	3,632.85	-639.84	221.47	293.62	0.00	0.00	0.00
3,800.00	11.59	160.91	3,730.81	-658.84	228.05	302.34	0.00	0.00	0.00
3,900.00	11.59	160.91	3,828.77	-677.83	234.62	311.05	0.00	0.00	0.00
4,000.00	11.59	160.91	3,926.72	-696.82	241.19	319.77	0.00	0.00	0.00
4,100.00	11.59	160.91	4,024.68	-715.81	247.77	328.49	0.00	0.00	0.00
4,200.00	11.59	160.91	4,122.64	-734.81	254.34	337.20	0.00	0.00	0.00
4,300.00	11.59	160.91	4,220.60	-753.80	260.92	345.92	0.00	0.00	0.00
4,400.00	11.59	160.91	4,318.56	-772.79	267.49	354.63	0.00	0.00	0.00
4,447.40	11.59	160.91	4,365.00	-781.80	270.61	358.76	0.00	0.00	0.00
SUSSEX									
4,500.00	11.59	160.91	4,416.52	-791.79	274.06	363.35	0.00	0.00	0.00

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Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,600.00	11.59	160.91	4,514.48	-810.78	280.64	372.06	0.00	0.00	0.00
4,700.00	11.59	160.91	4,612.44	-829.77	287.21	380.78	0.00	0.00	0.00
4,800.00	11.59	160.91	4,710.40	-848.76	293.79	389.50	0.00	0.00	0.00
4,900.00	11.59	160.91	4,808.36	-867.76	300.36	398.21	0.00	0.00	0.00
5,000.00	11.59	160.91	4,906.32	-886.75	306.94	406.93	0.00	0.00	0.00
5,034.38	11.59	160.91	4,940.00	-893.28	309.20	409.92	0.00	0.00	0.00
SHANNON									
5,100.00	11.59	160.91	5,004.28	-905.74	313.51	415.64	0.00	0.00	0.00
5,200.00	11.59	160.91	5,102.24	-924.73	320.08	424.36	0.00	0.00	0.00
5,300.00	11.59	160.91	5,200.20	-943.73	326.66	433.07	0.00	0.00	0.00
5,400.00	11.59	160.91	5,298.16	-962.72	333.23	441.79	0.00	0.00	0.00
5,500.00	11.59	160.91	5,396.12	-981.71	339.81	450.50	0.00	0.00	0.00
5,600.00	11.59	160.91	5,494.08	-1,000.70	346.38	459.22	0.00	0.00	0.00
5,700.00	11.59	160.91	5,592.04	-1,019.70	352.95	467.94	0.00	0.00	0.00
5,800.00	11.59	160.91	5,690.00	-1,038.69	359.53	476.65	0.00	0.00	0.00
5,900.00	11.59	160.91	5,787.96	-1,057.68	366.10	485.37	0.00	0.00	0.00
6,000.00	11.59	160.91	5,885.91	-1,076.67	372.68	494.08	0.00	0.00	0.00
6,100.00	11.59	160.91	5,983.87	-1,095.67	379.25	502.80	0.00	0.00	0.00
6,200.00	11.59	160.91	6,081.83	-1,114.66	385.82	511.51	0.00	0.00	0.00
6,300.00	11.59	160.91	6,179.79	-1,133.65	392.40	520.23	0.00	0.00	0.00
6,369.00	11.59	160.91	6,247.38	-1,146.76	396.93	526.24	0.00	0.00	0.00
DROP 2.50°/100'									
6,400.00	10.82	160.91	6,277.79	-1,152.45	398.90	528.86	2.50	-2.50	0.00
6,500.00	8.32	160.91	6,376.39	-1,168.16	404.34	536.07	2.50	-2.50	0.00
6,600.00	5.82	160.91	6,475.63	-1,179.79	408.37	541.40	2.50	-2.50	0.00
6,700.00	3.32	160.91	6,575.30	-1,187.32	410.97	544.86	2.50	-2.50	0.00
6,800.00	0.82	160.91	6,675.23	-1,190.73	412.15	546.42	2.50	-2.50	0.00
6,832.77	0.00	0.00	6,708.00	-1,190.95	412.23	546.52	2.50	-2.50	0.00
HOLD VERTICAL									
6,862.77	0.00	0.00	6,738.00	-1,190.95	412.23	546.52	0.00	0.00	0.00
KOP, BUILD 10°/100'									
6,900.00	3.72	90.06	6,775.20	-1,190.95	413.44	547.72	10.00	10.00	0.00
6,950.00	8.72	90.06	6,824.89	-1,190.96	418.86	553.11	10.00	10.00	0.00
7,000.00	13.72	90.06	6,873.92	-1,190.97	428.58	562.77	10.00	10.00	0.00
7,050.00	18.72	90.06	6,921.91	-1,190.98	442.55	576.64	10.00	10.00	0.00
7,086.41	22.36	90.06	6,956.00	-1,191.00	455.32	589.33	10.00	10.00	0.00
SHARON SPRINGS									
7,100.00	23.72	90.06	6,968.51	-1,191.00	460.64	594.62	10.00	10.00	0.00
7,132.64	26.98	90.06	6,998.00	-1,191.02	474.61	608.50	10.00	10.00	0.00
NIOBRARA									
7,150.00	28.72	90.06	7,013.35	-1,191.03	482.72	616.56	10.00	10.00	0.00
7,200.00	33.72	90.06	7,056.09	-1,191.06	508.63	642.30	10.00	10.00	0.00
7,250.00	38.72	90.06	7,096.42	-1,191.09	538.17	671.64	10.00	10.00	0.00
7,278.23	41.54	90.06	7,118.00	-1,191.11	556.36	689.72	10.00	10.00	0.00
NIO B									
7,300.00	43.72	90.06	7,134.02	-1,191.13	571.10	704.36	10.00	10.00	0.00
7,350.00	48.72	90.06	7,168.60	-1,191.17	607.19	740.22	10.00	10.00	0.00
7,400.00	53.72	90.06	7,199.91	-1,191.21	646.16	778.93	10.00	10.00	0.00
7,450.00	58.72	90.06	7,227.70	-1,191.26	687.70	820.20	10.00	10.00	0.00
7,500.00	63.72	90.06	7,251.77	-1,191.31	731.51	863.73	10.00	10.00	0.00
7,542.09	67.93	90.06	7,269.00	-1,191.35	769.90	901.86	10.00	10.00	0.00
FORT HAYS									
7,550.00	68.72	90.06	7,271.92	-1,191.36	777.25	909.17	10.00	10.00	0.00

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5003.00usft
Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,600.00	73.72	90.06	7,288.02	-1,191.42	824.57	956.18	10.00	10.00	0.00
7,650.00	78.72	90.06	7,299.93	-1,191.47	873.12	1,004.41	10.00	10.00	0.00
7,700.00	83.72	90.06	7,307.56	-1,191.53	922.52	1,053.49	10.00	10.00	0.00
7,750.00	88.72	90.06	7,310.86	-1,191.58	972.39	1,103.04	10.00	10.00	0.00
7,762.84	90.00	90.06	7,311.00	-1,191.60	985.23	1,115.79	10.00	10.00	0.00
LP @ 90° INC, 90.07° AZM HOLD - CODELL									
7,800.00	90.00	90.06	7,311.00	-1,191.64	1,022.39	1,152.71	0.00	0.00	0.00
7,900.00	90.00	90.06	7,311.00	-1,191.75	1,122.39	1,252.06	0.00	0.00	0.00
8,000.00	90.00	90.06	7,311.00	-1,191.86	1,222.39	1,351.41	0.00	0.00	0.00
8,100.00	90.00	90.06	7,311.00	-1,191.98	1,322.39	1,450.76	0.00	0.00	0.00
8,200.00	90.00	90.06	7,311.00	-1,192.09	1,422.39	1,550.11	0.00	0.00	0.00
8,300.00	90.00	90.06	7,311.00	-1,192.20	1,522.39	1,649.45	0.00	0.00	0.00
8,400.00	90.00	90.06	7,311.00	-1,192.32	1,622.39	1,748.80	0.00	0.00	0.00
8,500.00	90.00	90.06	7,311.00	-1,192.43	1,722.39	1,848.15	0.00	0.00	0.00
8,600.00	90.00	90.06	7,311.00	-1,192.54	1,822.39	1,947.50	0.00	0.00	0.00
8,700.00	90.00	90.06	7,311.00	-1,192.65	1,922.39	2,046.85	0.00	0.00	0.00
8,800.00	90.00	90.06	7,311.00	-1,192.77	2,022.39	2,146.20	0.00	0.00	0.00
8,900.00	90.00	90.06	7,311.00	-1,192.88	2,122.39	2,245.55	0.00	0.00	0.00
9,000.00	90.00	90.06	7,311.00	-1,192.99	2,222.39	2,344.90	0.00	0.00	0.00
9,100.00	90.00	90.06	7,311.00	-1,193.11	2,322.39	2,444.24	0.00	0.00	0.00
9,200.00	90.00	90.06	7,311.00	-1,193.22	2,422.39	2,543.59	0.00	0.00	0.00
9,300.00	90.00	90.06	7,311.00	-1,193.33	2,522.39	2,642.94	0.00	0.00	0.00
9,400.00	90.00	90.06	7,311.00	-1,193.44	2,622.39	2,742.29	0.00	0.00	0.00
9,500.00	90.00	90.06	7,311.00	-1,193.56	2,722.39	2,841.64	0.00	0.00	0.00
9,600.00	90.00	90.06	7,311.00	-1,193.67	2,822.39	2,940.99	0.00	0.00	0.00
9,700.00	90.00	90.06	7,311.00	-1,193.78	2,922.39	3,040.34	0.00	0.00	0.00
9,800.00	90.00	90.06	7,311.00	-1,193.90	3,022.39	3,139.69	0.00	0.00	0.00
9,900.00	90.00	90.06	7,311.00	-1,194.01	3,122.39	3,239.03	0.00	0.00	0.00
10,000.00	90.00	90.06	7,311.01	-1,194.12	3,222.39	3,338.38	0.00	0.00	0.00
10,100.00	90.00	90.06	7,311.01	-1,194.23	3,322.39	3,437.73	0.00	0.00	0.00
10,200.00	90.00	90.06	7,311.01	-1,194.35	3,422.39	3,537.08	0.00	0.00	0.00
10,300.00	90.00	90.06	7,311.01	-1,194.46	3,522.39	3,636.43	0.00	0.00	0.00
10,400.00	90.00	90.06	7,311.01	-1,194.57	3,622.39	3,735.78	0.00	0.00	0.00
10,500.00	90.00	90.06	7,311.01	-1,194.69	3,722.39	3,835.13	0.00	0.00	0.00
10,600.00	90.00	90.06	7,311.01	-1,194.80	3,822.39	3,934.48	0.00	0.00	0.00
10,700.00	90.00	90.06	7,311.01	-1,194.91	3,922.39	4,033.82	0.00	0.00	0.00
10,800.00	90.00	90.06	7,311.01	-1,195.02	4,022.39	4,133.17	0.00	0.00	0.00
10,900.00	90.00	90.06	7,311.01	-1,195.14	4,122.39	4,232.52	0.00	0.00	0.00
11,000.00	90.00	90.06	7,311.01	-1,195.25	4,222.39	4,331.87	0.00	0.00	0.00
11,100.00	90.00	90.06	7,311.01	-1,195.36	4,322.39	4,431.22	0.00	0.00	0.00
11,200.00	90.00	90.06	7,311.01	-1,195.48	4,422.39	4,530.57	0.00	0.00	0.00
11,300.00	90.00	90.06	7,311.01	-1,195.59	4,522.39	4,629.92	0.00	0.00	0.00
11,400.00	90.00	90.06	7,311.01	-1,195.70	4,622.39	4,729.27	0.00	0.00	0.00
11,500.00	90.00	90.06	7,311.01	-1,195.81	4,722.39	4,828.61	0.00	0.00	0.00
11,600.00	90.00	90.06	7,311.01	-1,195.93	4,822.39	4,927.96	0.00	0.00	0.00
11,700.00	90.00	90.06	7,311.01	-1,196.04	4,922.39	5,027.31	0.00	0.00	0.00
11,800.00	90.00	90.06	7,311.01	-1,196.15	5,022.39	5,126.66	0.00	0.00	0.00
11,900.00	90.00	90.06	7,311.01	-1,196.27	5,122.39	5,226.01	0.00	0.00	0.00
12,000.00	90.00	90.06	7,311.01	-1,196.38	5,222.39	5,325.36	0.00	0.00	0.00
12,100.00	90.00	90.06	7,311.01	-1,196.49	5,322.39	5,424.71	0.00	0.00	0.00
12,200.00	90.00	90.06	7,311.01	-1,196.60	5,422.39	5,524.06	0.00	0.00	0.00
12,300.00	90.00	90.06	7,311.01	-1,196.72	5,522.39	5,623.40	0.00	0.00	0.00
12,400.00	90.00	90.06	7,311.01	-1,196.83	5,622.39	5,722.75	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RAINDANCE 29E-20-4C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5003.00usft
Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
12,500.00	90.00	90.06	7,311.01	-1,196.94	5,722.39	5,822.10	0.00	0.00	0.00	
12,600.00	90.00	90.06	7,311.01	-1,197.06	5,822.39	5,921.45	0.00	0.00	0.00	
12,700.00	90.00	90.06	7,311.01	-1,197.17	5,922.39	6,020.80	0.00	0.00	0.00	
12,800.00	90.00	90.06	7,311.01	-1,197.28	6,022.39	6,120.15	0.00	0.00	0.00	
12,900.00	90.00	90.06	7,311.01	-1,197.39	6,122.39	6,219.50	0.00	0.00	0.00	
13,000.00	90.00	90.06	7,311.01	-1,197.51	6,222.39	6,318.85	0.00	0.00	0.00	
13,100.00	90.00	90.06	7,311.01	-1,197.62	6,322.39	6,418.20	0.00	0.00	0.00	
13,200.00	90.00	90.06	7,311.01	-1,197.73	6,422.39	6,517.54	0.00	0.00	0.00	
13,300.00	90.00	90.06	7,311.01	-1,197.85	6,522.39	6,616.89	0.00	0.00	0.00	
13,400.00	90.00	90.06	7,311.01	-1,197.96	6,622.39	6,716.24	0.00	0.00	0.00	
13,500.00	90.00	90.06	7,311.01	-1,198.07	6,722.39	6,815.59	0.00	0.00	0.00	
13,600.00	90.00	90.06	7,311.01	-1,198.18	6,822.39	6,914.94	0.00	0.00	0.00	
13,700.00	90.00	90.06	7,311.01	-1,198.30	6,922.39	7,014.29	0.00	0.00	0.00	
13,800.00	90.00	90.06	7,311.01	-1,198.41	7,022.39	7,113.64	0.00	0.00	0.00	
13,900.00	90.00	90.06	7,311.01	-1,198.52	7,122.39	7,212.99	0.00	0.00	0.00	
14,000.00	90.00	90.06	7,311.01	-1,198.64	7,222.39	7,312.33	0.00	0.00	0.00	
14,100.00	90.00	90.06	7,311.01	-1,198.75	7,322.39	7,411.68	0.00	0.00	0.00	
14,200.00	90.00	90.06	7,311.01	-1,198.86	7,422.39	7,511.03	0.00	0.00	0.00	
14,300.00	90.00	90.06	7,311.01	-1,198.97	7,522.39	7,610.38	0.00	0.00	0.00	
14,400.00	90.00	90.06	7,311.01	-1,199.09	7,622.39	7,709.73	0.00	0.00	0.00	
14,500.00	90.00	90.06	7,311.01	-1,199.20	7,722.39	7,809.08	0.00	0.00	0.00	
14,600.00	90.00	90.06	7,311.02	-1,199.31	7,822.39	7,908.43	0.00	0.00	0.00	
14,700.00	90.00	90.06	7,311.02	-1,199.43	7,922.39	8,007.78	0.00	0.00	0.00	
14,800.00	90.00	90.06	7,311.02	-1,199.54	8,022.39	8,107.12	0.00	0.00	0.00	
14,900.00	90.00	90.06	7,311.02	-1,199.65	8,122.39	8,206.47	0.00	0.00	0.00	
15,000.00	90.00	90.06	7,311.02	-1,199.76	8,222.39	8,305.82	0.00	0.00	0.00	
15,100.00	90.00	90.06	7,311.02	-1,199.88	8,322.39	8,405.17	0.00	0.00	0.00	
15,200.00	90.00	90.06	7,311.02	-1,199.99	8,422.39	8,504.52	0.00	0.00	0.00	
15,300.00	90.00	90.06	7,311.02	-1,200.10	8,522.39	8,603.87	0.00	0.00	0.00	
15,400.00	90.00	90.06	7,311.02	-1,200.22	8,622.39	8,703.22	0.00	0.00	0.00	
15,500.00	90.00	90.06	7,311.02	-1,200.33	8,722.38	8,802.57	0.00	0.00	0.00	
15,600.00	90.00	90.06	7,311.02	-1,200.44	8,822.38	8,901.91	0.00	0.00	0.00	
15,700.00	90.00	90.06	7,311.02	-1,200.55	8,922.38	9,001.26	0.00	0.00	0.00	
15,800.00	90.00	90.06	7,311.02	-1,200.67	9,022.38	9,100.61	0.00	0.00	0.00	
15,900.00	90.00	90.06	7,311.02	-1,200.78	9,122.38	9,199.96	0.00	0.00	0.00	
16,000.00	90.00	90.06	7,311.02	-1,200.89	9,222.38	9,299.31	0.00	0.00	0.00	
16,100.00	90.00	90.06	7,311.02	-1,201.01	9,322.38	9,398.66	0.00	0.00	0.00	
16,200.00	90.00	90.06	7,311.02	-1,201.12	9,422.38	9,498.01	0.00	0.00	0.00	
16,300.00	90.00	90.06	7,311.02	-1,201.23	9,522.38	9,597.36	0.00	0.00	0.00	
16,400.00	90.00	90.06	7,311.02	-1,201.34	9,622.38	9,696.70	0.00	0.00	0.00	
16,500.00	90.00	90.06	7,311.02	-1,201.46	9,722.38	9,796.05	0.00	0.00	0.00	
16,600.00	90.00	90.06	7,311.02	-1,201.57	9,822.38	9,895.40	0.00	0.00	0.00	
16,700.00	90.00	90.06	7,311.02	-1,201.68	9,922.38	9,994.75	0.00	0.00	0.00	
16,800.00	90.00	90.06	7,311.02	-1,201.80	10,022.38	10,094.10	0.00	0.00	0.00	
16,900.00	90.00	90.06	7,311.02	-1,201.91	10,122.38	10,193.45	0.00	0.00	0.00	
17,000.00	90.00	90.06	7,311.02	-1,202.02	10,222.38	10,292.80	0.00	0.00	0.00	
17,100.00	90.00	90.06	7,311.02	-1,202.13	10,322.38	10,392.15	0.00	0.00	0.00	
17,156.47	90.00	90.06	7,311.02	-1,202.20	10,378.86	10,448.25	0.00	0.00	0.00	
TD at 17156.47' MD										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RAINDANCE 29E-20-4C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 5003.00usft
Project:	Weld County	MD Reference:	KB 25' @ 5003.00usft
Site:	Sec 30-T6N-R67W	North Reference:	True
Well:	RAINDANCE 29E-20-4C	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
RAINDANCE 29E-20-4C	0.00	0.00	7,311.00	-1,202.18	10,378.86	1,406,621.43	3,169,538.47	40° 26' 52.724 N	104° 53' 26.992 W
- plan misses target center by 0.02usft at 17156.47usft MD (7311.02 TVD, -1202.20 N, 10378.86 E)									
- Point									
RAINDANCE 29E-20-4C	0.00	0.00	7,311.00	-1,191.60	985.23	1,406,571.44	3,160,144.97	40° 26' 52.850 N	104° 55' 28.499 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,686.89	3,620.00	PARKMAN				
4,447.40	4,365.00	SUSSEX				
5,034.38	4,940.00	SHANNON				
7,086.41	6,956.00	SHARON SPRINGS				
7,132.64	6,998.00	NIOBRARA				
7,278.23	7,118.00	NIO B				
7,542.09	7,269.00	FORT HAYS				
7,762.84	7,311.00	CODELL				

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(usft)	(usft)	+N/-S (usft)	+E/-W (usft)	
100.00	100.00	0.00	0.00	BUILD 2.50°/100'
563.77	560.62	-44.19	15.30	HOLD 11.59° INC
6,369.00	6,247.38	-1,146.76	396.93	DROP 2.50°/100'
6,832.77	6,708.00	-1,190.95	412.23	HOLD VERTICAL
6,862.77	6,738.00	-1,190.95	412.23	KOP, BUILD 10°/100'
7,762.84	7,311.00	-1,191.60	985.23	LP @ 90° INC, 90.07° AZM HOLD
17,156.47	7,311.00	-1,202.18	10,378.86	TD at 17156.47' MD