

# **EXTRACTION OIL & GAS**

**WELD COUNTY**

**Sec 21-T5N-R65W**

**AD FED DOUBLE CLUTCH 20W-25-08**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL #1**

## **Standard Planning Report**

**17 April, 2019**



Project: WELD COUNTY  
Site: Sec 21-T5N-R65W  
Well: AD FED DOUBLE CLUTCH 20W-25-08  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1



Azimuths to True North  
Magnetic North: 8.28°

Magnetic Field  
Strength: 52516.4nT  
Dip Angle: 66.88°  
Date: 5/22/2016  
Model: IGRF2015

#### WELL DETAILS: AD FED DOUBLE CLUTCH 20W-25-08

+N/-S	+E/-W	Northing	Ground Level: Easting	4638.00 Latitude	Longitude	Slot
0.00	0.00	1383450.84	3229412.90	40.383050°N	104.676480°W	

#### ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
3920.00	0.00	0.00	3920.00	0.00	0.00	0.00	0.00	Start Build 2.00
4388.10	9.36	317.54	4386.02	28.15	-25.76	26.81	38.16	Start 2146.99 hold at 4388.10 MD
6535.09	9.36	317.54	6504.41	285.84	-261.51	272.16	387.42	Start DLS 10.00 TFO -47.25
7371.23	90.00	270.68	7010.00	353.39	-830.16	842.95	964.21	Start 12327.77 hold at 7371.23 MD
19699.01	90.00	270.68	7010.00	499.00	-13157.07	13166.53	13291.99	TD at 19699.01

#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Target
2	3920.00	0.00	0.00	3920.00	0.00	0.00	0.00	0.00	0.00	
3	4388.11	9.36	317.54	4386.03	28.15	-25.76	2.00	317.54	26.81	
4	6535.09	9.36	317.54	6504.41	285.84	-261.51	0.00	0.00	272.16	
5	7371.23	90.00	270.68	7010.00	353.39	-830.16	10.00	-47.25	842.95	HZ LANDING PNT - AC
6	19699.01	90.00	270.68	7010.00	498.96	-13157.07	0.00	0.00	13166.53	BHL - AD-DOUBLE CL

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL - AD-DOUBLE CLUTCH C5-20-24	5000.00	498.96	-13157.07	1383827.59	3216251.76	40.384410°N	104.723710°W	Point
HZ LANDING PNT - AD-DOUBLE CLUTCH C5-20-24	7010.00	353.39	-830.16	1383796.51	3228579.49	40.384020°N	104.679460°W	Point

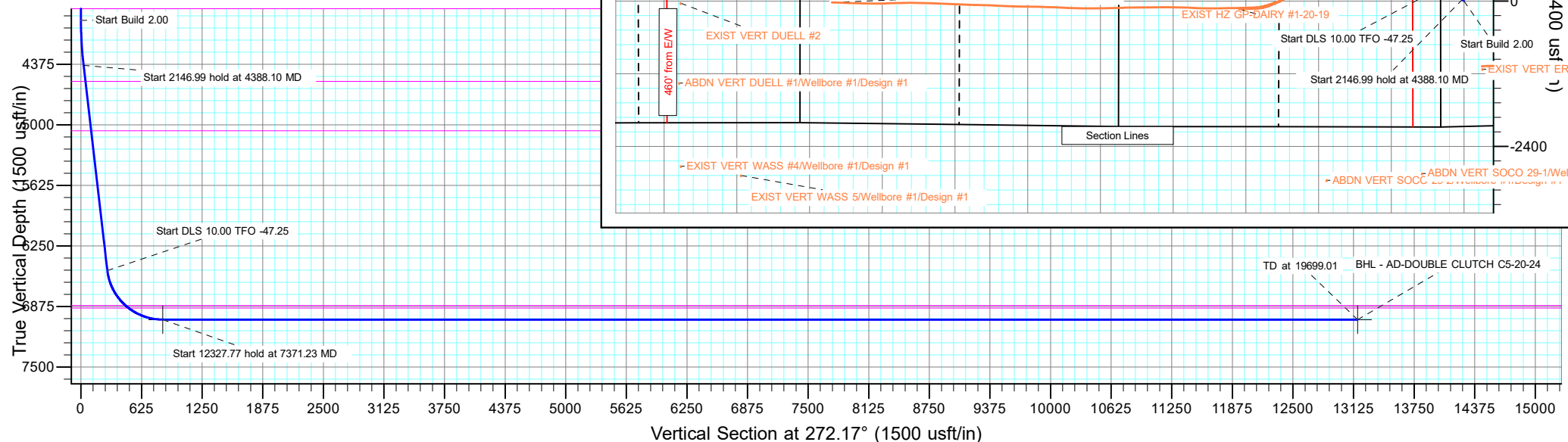
#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3800.00	3800.00	PARKMAN
4550.00	4554.29	SUSSEX
5060.00	5071.18	SHANNON
6865.00	6952.91	SHARON SPRINGS
6890.00	6992.20	NIOBRARA

#### 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:  
369' FWL, 2068' FSL  
Sec 21-T5N-R65W  
LP:  
2428' FSL, 460' FEL  
Sec 20-T5N-R65W  
BHL:  
2508' FSL, 2215' FEL  
Sec 24-T5N-R66W



## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well AD FED DOUBLE CLUTCH 20W-25-08
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL #1		

<b>Project</b>	WELD COUNTY		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Colorado Northern Zone		

<b>Site</b>	Sec 21-T5N-R65W			
<b>Site Position:</b>		<b>Northing:</b>	1,383,619.20 usft	<b>Latitude:</b> 40.383510°N
<b>From:</b>	Lat/Long	<b>Easting:</b>	3,229,494.91 usft	<b>Longitude:</b> 104.676180°W
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b> 0.53 °

<b>Well</b>	AD FED DOUBLE CLUTCH 20W-25-08			
<b>Well Position</b>	<b>+N/-S</b>	-167.59 usft	<b>Northing:</b>	1,383,450.84 usft
	<b>+E/-W</b>	-83.57 usft	<b>Easting:</b>	3,229,412.90 usft
<b>Position Uncertainty</b>	0.00 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b> 4,638.00 usft

<b>Wellbore</b>	ORIGINAL WELLBORE				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	5/22/2016	8.28	66.88	52,516.38415826

<b>Design</b>	PROPOSAL #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	272.17

<b>Plan Survey Tool Program</b>	<b>Date</b>	4/17/2019		
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	19,699.01	PROPOSAL #1 (ORIGINAL WEL	MWD OWSG
			OWSG MWD - Standard	

<b>Plan Sections</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,920.00	0.00	0.00	3,920.00	0.00	0.00	0.00	0.00	0.00	0.00	
4,388.11	9.36	317.54	4,386.03	28.15	-25.76	2.00	2.00	0.00	317.54	
6,535.09	9.36	317.54	6,504.41	285.84	-261.51	0.00	0.00	0.00	0.00	
7,371.24	90.00	270.68	7,010.00	353.39	-830.16	10.00	9.64	-5.61	-47.25	HZ LANDING PNT - /
19,699.01	90.00	270.68	7,010.00	498.96	-13,157.07	0.00	0.00	0.00	0.00	BHL - AD-DOUBLE C

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well AD FED DOUBLE CLUTCH 20W-25-08
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>PARKMAN</b>									
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,920.00	0.00	0.00	3,920.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
4,000.00	1.60	317.54	3,999.99	0.82	-0.75	0.78	2.00	2.00	0.00
4,100.00	3.60	317.54	4,099.88	4.17	-3.82	3.97	2.00	2.00	0.00
4,200.00	5.60	317.54	4,199.55	10.09	-9.23	9.60	2.00	2.00	0.00
4,300.00	7.60	317.54	4,298.89	18.57	-16.99	17.68	2.00	2.00	0.00
4,388.10	9.36	317.54	4,386.02	28.15	-25.76	26.81	2.00	2.00	0.00
<b>Start 2146.99 hold at 4388.10 MD</b>									
4,400.00	9.36	317.54	4,397.76	29.58	-27.06	28.17	0.00	0.00	0.00
4,500.00	9.36	317.54	4,496.43	41.58	-38.04	39.59	0.00	0.00	0.00
4,554.29	9.36	317.54	4,550.00	48.10	-44.01	45.80	0.00	0.00	0.00
<b>SUSSEX</b>									

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well AD FED DOUBLE CLUTCH 20W-25-08
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<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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	9.36	317.54	4,595.10	53.59	-49.03	51.02	0.00	0.00	0.00
4,700.00	9.36	317.54	4,693.77	65.59	-60.01	62.45	0.00	0.00	0.00
4,800.00	9.36	317.54	4,792.43	77.59	-70.99	73.88	0.00	0.00	0.00
4,900.00	9.36	317.54	4,891.10	89.59	-81.97	85.30	0.00	0.00	0.00
5,000.00	9.36	317.54	4,989.77	101.59	-92.95	96.73	0.00	0.00	0.00
5,071.18	9.36	317.54	5,060.00	110.14	-100.76	104.87	0.00	0.00	0.00
SHANNON									
5,100.00	9.36	317.54	5,088.44	113.60	-103.93	108.16	0.00	0.00	0.00
5,200.00	9.36	317.54	5,187.11	125.60	-114.91	119.59	0.00	0.00	0.00
5,300.00	9.36	317.54	5,285.77	137.60	-125.89	131.01	0.00	0.00	0.00
5,400.00	9.36	317.54	5,384.44	149.60	-136.87	142.44	0.00	0.00	0.00
5,500.00	9.36	317.54	5,483.11	161.61	-147.85	153.87	0.00	0.00	0.00
5,600.00	9.36	317.54	5,581.78	173.61	-158.83	165.30	0.00	0.00	0.00
5,700.00	9.36	317.54	5,680.45	185.61	-169.81	176.72	0.00	0.00	0.00
5,800.00	9.36	317.54	5,779.11	197.61	-180.79	188.15	0.00	0.00	0.00
5,900.00	9.36	317.54	5,877.78	209.61	-191.77	199.58	0.00	0.00	0.00
6,000.00	9.36	317.54	5,976.45	221.62	-202.75	211.01	0.00	0.00	0.00
6,100.00	9.36	317.54	6,075.12	233.62	-213.74	222.44	0.00	0.00	0.00
6,200.00	9.36	317.54	6,173.79	245.62	-224.72	233.86	0.00	0.00	0.00
6,300.00	9.36	317.54	6,272.45	257.62	-235.70	245.29	0.00	0.00	0.00
6,400.00	9.36	317.54	6,371.12	269.63	-246.68	256.72	0.00	0.00	0.00
6,500.00	9.36	317.54	6,469.79	281.63	-257.66	268.15	0.00	0.00	0.00
6,535.09	9.36	317.54	6,504.41	285.84	-261.51	272.16	0.00	0.00	0.00
Start DLS 10.00 TFO -47.25									
6,550.00	10.43	311.49	6,519.10	287.63	-263.34	274.05	10.00	7.17	-40.63
6,600.00	14.56	298.27	6,567.91	293.61	-272.27	283.21	10.00	8.26	-26.44
6,650.00	19.11	291.00	6,615.76	299.52	-285.46	296.60	10.00	9.09	-14.53
6,700.00	23.83	286.48	6,662.29	305.32	-302.80	314.15	10.00	9.44	-9.03
6,750.00	28.64	283.40	6,707.12	310.97	-324.15	335.70	10.00	9.62	-6.16
6,800.00	33.51	281.15	6,749.94	316.42	-349.37	361.11	10.00	9.73	-4.51
6,850.00	38.40	279.41	6,790.40	321.63	-378.24	390.16	10.00	9.79	-3.48
6,900.00	43.32	278.01	6,828.21	326.56	-410.57	422.65	10.00	9.83	-2.80
6,950.00	48.25	276.84	6,863.07	331.18	-446.09	458.32	10.00	9.86	-2.33
6,952.91	48.53	276.78	6,865.00	331.43	-448.25	460.49	10.00	9.87	-2.14
SHARON SPRINGS									
6,992.20	52.42	275.99	6,890.00	334.80	-478.37	490.71	10.00	9.88	-2.01
NIOBRARA									
7,000.00	53.19	275.84	6,894.71	335.44	-484.54	496.91	10.00	9.89	-1.88
7,050.00	58.13	274.97	6,922.91	339.32	-525.63	538.11	10.00	9.89	-1.75
7,100.00	63.09	274.18	6,947.44	342.78	-569.05	581.63	10.00	9.91	-1.58
7,150.00	68.04	273.46	6,968.12	345.81	-614.45	627.12	10.00	9.91	-1.44
7,200.00	73.00	272.78	6,984.78	348.37	-661.51	674.23	10.00	9.92	-1.35
7,250.00	77.96	272.15	6,997.31	350.45	-709.85	722.62	10.00	9.92	-1.28
7,300.00	82.93	271.53	7,005.61	352.03	-759.12	771.91	10.00	9.93	-1.23
7,350.00	87.89	270.93	7,009.61	353.10	-808.93	821.73	10.00	9.93	-1.20
7,371.23	90.00	270.68	7,010.00	353.39	-830.16	842.95	10.00	9.93	-1.20
Start 12327.77 hold at 7371.23 MD									
7,400.00	90.00	270.68	7,010.00	353.73	-858.92	871.71	0.00	0.00	0.00
7,500.00	90.00	270.68	7,010.00	354.91	-958.91	971.67	0.00	0.00	0.00
7,600.00	90.00	270.68	7,010.00	356.09	-1,058.91	1,071.64	0.00	0.00	0.00
7,700.00	90.00	270.68	7,010.00	357.28	-1,158.90	1,171.61	0.00	0.00	0.00
7,800.00	90.00	270.68	7,010.00	358.46	-1,258.89	1,271.57	0.00	0.00	0.00
7,900.00	90.00	270.68	7,010.00	359.64	-1,358.88	1,371.54	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well AD FED DOUBLE CLUTCH 20W-25-08
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)	
8,000.00	90.00	270.68	7,010.00	360.82	-1,458.88	1,471.50	0.00	0.00	0.00	
8,100.00	90.00	270.68	7,010.00	362.00	-1,558.87	1,571.47	0.00	0.00	0.00	
8,200.00	90.00	270.68	7,010.00	363.18	-1,658.86	1,671.44	0.00	0.00	0.00	
8,300.00	90.00	270.68	7,010.00	364.36	-1,758.86	1,771.40	0.00	0.00	0.00	
8,400.00	90.00	270.68	7,010.00	365.54	-1,858.85	1,871.37	0.00	0.00	0.00	
8,500.00	90.00	270.68	7,010.00	366.72	-1,958.84	1,971.33	0.00	0.00	0.00	
8,600.00	90.00	270.68	7,010.00	367.91	-2,058.84	2,071.30	0.00	0.00	0.00	
8,700.00	90.00	270.68	7,010.00	369.09	-2,158.83	2,171.27	0.00	0.00	0.00	
8,800.00	90.00	270.68	7,010.00	370.27	-2,258.82	2,271.23	0.00	0.00	0.00	
8,900.00	90.00	270.68	7,010.00	371.45	-2,358.81	2,371.20	0.00	0.00	0.00	
9,000.00	90.00	270.68	7,010.00	372.63	-2,458.81	2,471.16	0.00	0.00	0.00	
9,100.00	90.00	270.68	7,010.00	373.81	-2,558.80	2,571.13	0.00	0.00	0.00	
9,200.00	90.00	270.68	7,010.00	374.99	-2,658.79	2,671.09	0.00	0.00	0.00	
9,300.00	90.00	270.68	7,010.00	376.17	-2,758.79	2,771.06	0.00	0.00	0.00	
9,400.00	90.00	270.68	7,010.00	377.36	-2,858.78	2,871.03	0.00	0.00	0.00	
9,500.00	90.00	270.68	7,010.00	378.54	-2,958.77	2,970.99	0.00	0.00	0.00	
9,600.00	90.00	270.68	7,010.00	379.72	-3,058.77	3,070.96	0.00	0.00	0.00	
9,700.00	90.00	270.68	7,010.00	380.90	-3,158.76	3,170.92	0.00	0.00	0.00	
9,800.00	90.00	270.68	7,010.00	382.08	-3,258.75	3,270.89	0.00	0.00	0.00	
9,900.00	90.00	270.68	7,010.00	383.26	-3,358.75	3,370.86	0.00	0.00	0.00	
10,000.00	90.00	270.68	7,010.00	384.44	-3,458.74	3,470.82	0.00	0.00	0.00	
10,100.00	90.00	270.68	7,010.00	385.62	-3,558.73	3,570.79	0.00	0.00	0.00	
10,200.00	90.00	270.68	7,010.00	386.80	-3,658.72	3,670.75	0.00	0.00	0.00	
10,300.00	90.00	270.68	7,010.00	387.99	-3,758.72	3,770.72	0.00	0.00	0.00	
10,400.00	90.00	270.68	7,010.00	389.17	-3,858.71	3,870.69	0.00	0.00	0.00	
10,500.00	90.00	270.68	7,010.00	390.35	-3,958.70	3,970.65	0.00	0.00	0.00	
10,600.00	90.00	270.68	7,010.00	391.53	-4,058.70	4,070.62	0.00	0.00	0.00	
10,700.00	90.00	270.68	7,010.00	392.71	-4,158.69	4,170.58	0.00	0.00	0.00	
10,800.00	90.00	270.68	7,010.00	393.89	-4,258.68	4,270.55	0.00	0.00	0.00	
10,900.00	90.00	270.68	7,010.00	395.07	-4,358.68	4,370.52	0.00	0.00	0.00	
11,000.00	90.00	270.68	7,010.00	396.25	-4,458.67	4,470.48	0.00	0.00	0.00	
11,100.00	90.00	270.68	7,010.00	397.43	-4,558.66	4,570.45	0.00	0.00	0.00	
11,200.00	90.00	270.68	7,010.00	398.62	-4,658.65	4,670.41	0.00	0.00	0.00	
11,300.00	90.00	270.68	7,010.00	399.80	-4,758.65	4,770.38	0.00	0.00	0.00	
11,400.00	90.00	270.68	7,010.00	400.98	-4,858.64	4,870.35	0.00	0.00	0.00	
11,500.00	90.00	270.68	7,010.00	402.16	-4,958.63	4,970.31	0.00	0.00	0.00	
11,600.00	90.00	270.68	7,010.00	403.34	-5,058.63	5,070.28	0.00	0.00	0.00	
11,700.00	90.00	270.68	7,010.00	404.52	-5,158.62	5,170.24	0.00	0.00	0.00	
11,800.00	90.00	270.68	7,010.00	405.70	-5,258.61	5,270.21	0.00	0.00	0.00	
11,900.00	90.00	270.68	7,010.00	406.88	-5,358.61	5,370.18	0.00	0.00	0.00	
12,000.00	90.00	270.68	7,010.00	408.06	-5,458.60	5,470.14	0.00	0.00	0.00	
12,100.00	90.00	270.68	7,010.00	409.25	-5,558.59	5,570.11	0.00	0.00	0.00	
12,200.00	90.00	270.68	7,010.00	410.43	-5,658.58	5,670.07	0.00	0.00	0.00	
12,300.00	90.00	270.68	7,010.00	411.61	-5,758.58	5,770.04	0.00	0.00	0.00	
12,400.00	90.00	270.68	7,010.00	412.79	-5,858.57	5,870.01	0.00	0.00	0.00	
12,500.00	90.00	270.68	7,010.00	413.97	-5,958.56	5,969.97	0.00	0.00	0.00	
12,600.00	90.00	270.68	7,010.00	415.15	-6,058.56	6,069.94	0.00	0.00	0.00	
12,700.00	90.00	270.68	7,010.00	416.33	-6,158.55	6,169.90	0.00	0.00	0.00	
12,800.00	90.00	270.68	7,010.00	417.51	-6,258.54	6,269.87	0.00	0.00	0.00	
12,900.00	90.00	270.68	7,010.00	418.69	-6,358.54	6,369.84	0.00	0.00	0.00	
13,000.00	90.00	270.68	7,010.00	419.88	-6,458.53	6,469.80	0.00	0.00	0.00	
13,100.00	90.00	270.68	7,010.00	421.06	-6,558.52	6,569.77	0.00	0.00	0.00	
13,200.00	90.00	270.68	7,010.00	422.24	-6,658.52	6,669.73	0.00	0.00	0.00	
13,300.00	90.00	270.68	7,010.00	423.42	-6,758.51	6,769.70	0.00	0.00	0.00	

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<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)	
13,400.00	90.00	270.68	7,010.00	424.60	-6,858.50	6,869.67	0.00	0.00	0.00	
13,500.00	90.00	270.68	7,010.00	425.78	-6,958.49	6,969.63	0.00	0.00	0.00	
13,600.00	90.00	270.68	7,010.00	426.96	-7,058.49	7,069.60	0.00	0.00	0.00	
13,700.00	90.00	270.68	7,010.00	428.14	-7,158.48	7,169.56	0.00	0.00	0.00	
13,800.00	90.00	270.68	7,010.00	429.32	-7,258.47	7,269.53	0.00	0.00	0.00	
13,900.00	90.00	270.68	7,010.00	430.51	-7,358.47	7,369.50	0.00	0.00	0.00	
14,000.00	90.00	270.68	7,010.00	431.69	-7,458.46	7,469.46	0.00	0.00	0.00	
14,100.00	90.00	270.68	7,010.00	432.87	-7,558.45	7,569.43	0.00	0.00	0.00	
14,200.00	90.00	270.68	7,010.00	434.05	-7,658.45	7,669.39	0.00	0.00	0.00	
14,300.00	90.00	270.68	7,010.00	435.23	-7,758.44	7,769.36	0.00	0.00	0.00	
14,400.00	90.00	270.68	7,010.00	436.41	-7,858.43	7,869.32	0.00	0.00	0.00	
14,500.00	90.00	270.68	7,010.00	437.59	-7,958.42	7,969.29	0.00	0.00	0.00	
14,600.00	90.00	270.68	7,010.00	438.77	-8,058.42	8,069.26	0.00	0.00	0.00	
14,700.00	90.00	270.68	7,010.00	439.95	-8,158.41	8,169.22	0.00	0.00	0.00	
14,800.00	90.00	270.68	7,010.00	441.14	-8,258.40	8,269.19	0.00	0.00	0.00	
14,900.00	90.00	270.68	7,010.00	442.32	-8,358.40	8,369.15	0.00	0.00	0.00	
15,000.00	90.00	270.68	7,010.00	443.50	-8,458.39	8,469.12	0.00	0.00	0.00	
15,100.00	90.00	270.68	7,010.00	444.68	-8,558.38	8,569.09	0.00	0.00	0.00	
15,200.00	90.00	270.68	7,010.00	445.86	-8,658.38	8,669.05	0.00	0.00	0.00	
15,300.00	90.00	270.68	7,010.00	447.04	-8,758.37	8,769.02	0.00	0.00	0.00	
15,400.00	90.00	270.68	7,010.00	448.22	-8,858.36	8,868.98	0.00	0.00	0.00	
15,500.00	90.00	270.68	7,010.00	449.40	-8,958.35	8,968.95	0.00	0.00	0.00	
15,600.00	90.00	270.68	7,010.00	450.58	-9,058.35	9,068.92	0.00	0.00	0.00	
15,700.00	90.00	270.68	7,010.00	451.77	-9,158.34	9,168.88	0.00	0.00	0.00	
15,800.00	90.00	270.68	7,010.00	452.95	-9,258.33	9,268.85	0.00	0.00	0.00	
15,900.00	90.00	270.68	7,010.00	454.13	-9,358.33	9,368.81	0.00	0.00	0.00	
16,000.00	90.00	270.68	7,010.00	455.31	-9,458.32	9,468.78	0.00	0.00	0.00	
16,100.00	90.00	270.68	7,010.00	456.49	-9,558.31	9,568.75	0.00	0.00	0.00	
16,200.00	90.00	270.68	7,010.00	457.67	-9,658.31	9,668.71	0.00	0.00	0.00	
16,300.00	90.00	270.68	7,010.00	458.85	-9,758.30	9,768.68	0.00	0.00	0.00	
16,400.00	90.00	270.68	7,010.00	460.03	-9,858.29	9,868.64	0.00	0.00	0.00	
16,500.00	90.00	270.68	7,010.00	461.21	-9,958.29	9,968.61	0.00	0.00	0.00	
16,600.00	90.00	270.68	7,010.00	462.40	-10,058.28	10,068.58	0.00	0.00	0.00	
16,700.00	90.00	270.68	7,010.00	463.58	-10,158.27	10,168.54	0.00	0.00	0.00	
16,800.00	90.00	270.68	7,010.00	464.76	-10,258.26	10,268.51	0.00	0.00	0.00	
16,900.00	90.00	270.68	7,010.00	465.94	-10,358.26	10,368.47	0.00	0.00	0.00	
17,000.00	90.00	270.68	7,010.00	467.12	-10,458.25	10,468.44	0.00	0.00	0.00	
17,100.00	90.00	270.68	7,010.00	468.30	-10,558.24	10,568.41	0.00	0.00	0.00	
17,200.00	90.00	270.68	7,010.00	469.48	-10,658.24	10,668.37	0.00	0.00	0.00	
17,300.00	90.00	270.68	7,010.00	470.66	-10,758.23	10,768.34	0.00	0.00	0.00	
17,400.00	90.00	270.68	7,010.00	471.84	-10,858.22	10,868.30	0.00	0.00	0.00	
17,500.00	90.00	270.68	7,010.00	473.03	-10,958.22	10,968.27	0.00	0.00	0.00	
17,600.00	90.00	270.68	7,010.00	474.21	-11,058.21	11,068.24	0.00	0.00	0.00	
17,700.00	90.00	270.68	7,010.00	475.39	-11,158.20	11,168.20	0.00	0.00	0.00	
17,800.00	90.00	270.68	7,010.00	476.57	-11,258.19	11,268.17	0.00	0.00	0.00	
17,900.00	90.00	270.68	7,010.00	477.75	-11,358.19	11,368.13	0.00	0.00	0.00	
18,000.00	90.00	270.68	7,010.00	478.93	-11,458.18	11,468.10	0.00	0.00	0.00	
18,100.00	90.00	270.68	7,010.00	480.11	-11,558.17	11,568.07	0.00	0.00	0.00	
18,200.00	90.00	270.68	7,010.00	481.29	-11,658.17	11,668.03	0.00	0.00	0.00	
18,300.00	90.00	270.68	7,010.00	482.47	-11,758.16	11,768.00	0.00	0.00	0.00	
18,400.00	90.00	270.68	7,010.00	483.66	-11,858.15	11,867.96	0.00	0.00	0.00	
18,500.00	90.00	270.68	7,010.00	484.84	-11,958.15	11,967.93	0.00	0.00	0.00	
18,600.00	90.00	270.68	7,010.00	486.02	-12,058.14	12,067.90	0.00	0.00	0.00	
18,700.00	90.00	270.68	7,010.00	487.20	-12,158.13	12,167.86	0.00	0.00	0.00	

## Planning Report

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<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Project:</b>	WELD COUNTY	<b>MD Reference:</b>	KB-EST @ 4654.00usft (Original Well Elev)
<b>Site:</b>	Sec 21-T5N-R65W	<b>North Reference:</b>	True
<b>Well:</b>	AD FED DOUBLE CLUTCH 20W-25-08	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
18,800.00	90.00	270.68	7,010.00	488.38	-12,258.12	12,267.83	0.00	0.00	0.00
18,900.00	90.00	270.68	7,010.00	489.56	-12,358.12	12,367.79	0.00	0.00	0.00
19,000.00	90.00	270.68	7,010.00	490.74	-12,458.11	12,467.76	0.00	0.00	0.00
19,100.00	90.00	270.68	7,010.00	491.92	-12,558.10	12,567.73	0.00	0.00	0.00
19,200.00	90.00	270.68	7,010.00	493.10	-12,658.10	12,667.69	0.00	0.00	0.00
19,300.00	90.00	270.68	7,010.00	494.29	-12,758.09	12,767.66	0.00	0.00	0.00
19,400.00	90.00	270.68	7,010.00	495.47	-12,858.08	12,867.62	0.00	0.00	0.00
19,500.00	90.00	270.68	7,010.00	496.65	-12,958.08	12,967.59	0.00	0.00	0.00
19,600.00	90.00	270.68	7,010.00	497.83	-13,058.07	13,067.55	0.00	0.00	0.00
19,699.01	90.00	270.68	7,010.00	499.00	-13,157.07	13,166.53	0.00	0.00	0.00
TD at 19699.01									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
HZ LANDING PNT - AD- - plan hits target center - Point	0.00	0.00	7,010.00	353.39	-830.16	1,383,796.51	3,228,579.50	40.384020°N	104.679460°W
BHL - AD-DOUBLE CLU - plan misses target center by 0.04usft at 19699.01usft MD (7010.00 TVD, 499.00 N, -13157.07 E) - Point	0.00	0.00	7,010.00	498.96	-13,157.07	1,383,827.59	3,216,251.76	40.384410°N	104.723710°W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,800.00	3,800.00	PARKMAN				
4,554.29	4,550.00	SUSSEX				
5,071.18	5,060.00	SHANNON				
6,952.91	6,865.00	SHARON SPRINGS				
6,992.20	6,890.00	NIORARA				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,920.00	3,920.00	0.00	0.00	Start Build 2.00
4,388.10	4,386.02	28.15	-25.76	Start 2146.99 hold at 4388.10 MD
6,535.09	6,504.41	285.84	-261.51	Start DLS 10.00 TFO -47.25
7,371.23	7,010.00	353.39	-830.16	Start 12327.77 hold at 7371.23 MD
19,699.01	7,010.00	499.00	-13,157.07	TD at 19699.01