



**Departure**  
Energy Services (US) LP

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## **Laramie Energy II, LLC**

Jackson County, CO

SWSE Sec 18-T6N-R78W

Fuqua 19-02-10-1H

HZ- Well

Well Plan #9

Job Number: TBD

## **Well Plan Report**

May 18, 2011



Site: SWSE Sec 18-T6N-R78W (Fuqua)  
Well: Fuqua 19-02-10-1H  
Wellbore: Wellbore #1  
Design: Plan #9

Reference Details - WELL CENTRE

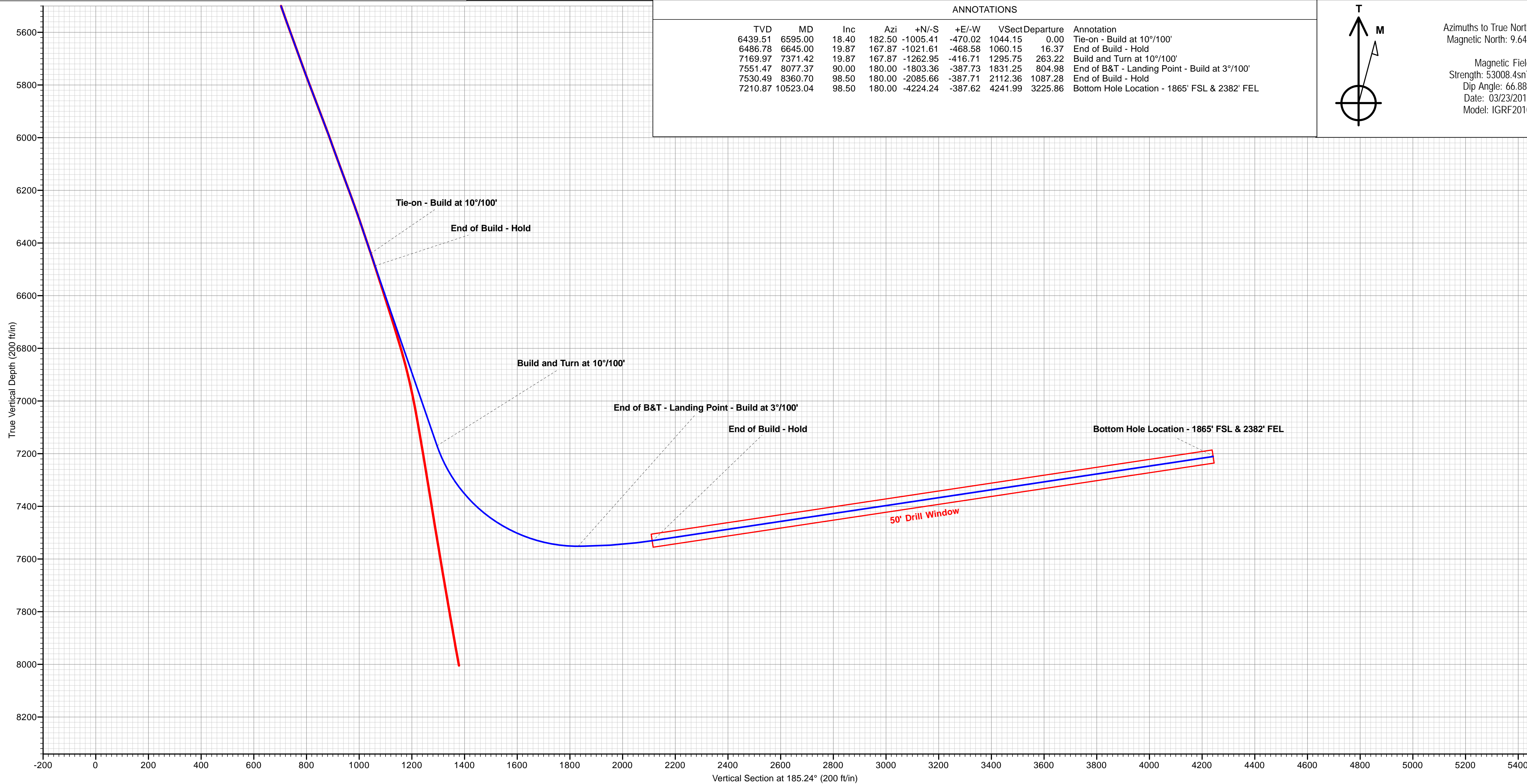
Geodetic System: US State Plane 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone  
Northing: 1420136.59  
Easting: 2809546.80  
Latitude: 40° 29' 4.7400 N  
Longitude: 106° 11' 4.9560 W  
Grid Convergence: 0.44° East  
Ground Elevation: 8607.00  
KB Elevation: WELL @ 8636.00ft (Original Well Elev)



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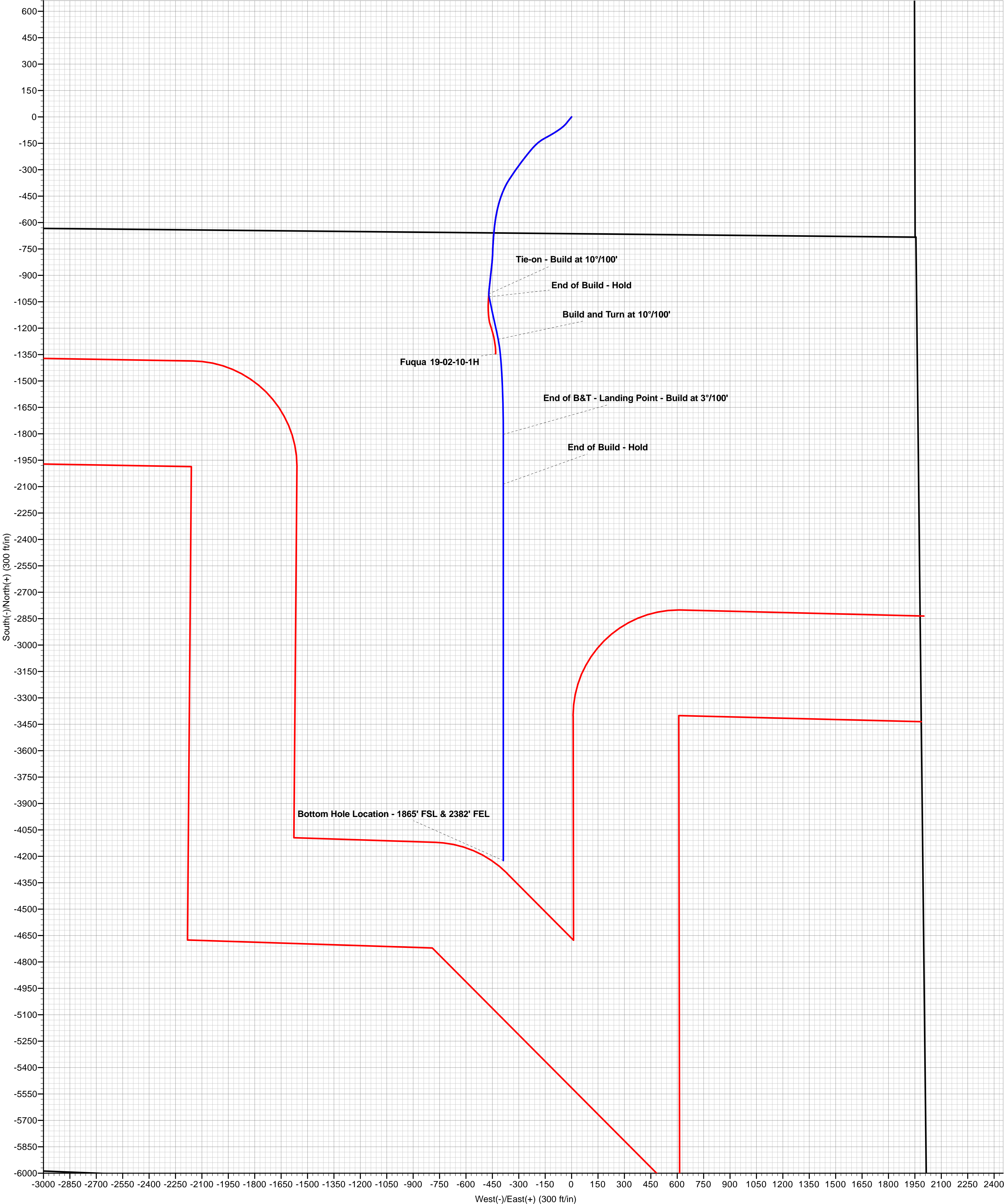
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ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
6439.51	6595.00	18.40	182.50	-1005.41	-470.02	1044.15	0.00	Tie-on - Build at 10°/100'
6486.78	6645.00	19.87	167.87	-1021.61	-468.58	1060.15	16.37	End of Build - Hold
7169.97	7371.42	19.87	167.87	-1262.95	-416.71	1295.75	263.22	Build and Turn at 10°/100'
7551.47	8077.37	90.00	180.00	-1803.36	-387.73	1831.25	804.98	End of B&T - Landing Point - Build at 3°/100'
7530.49	8360.70	98.50	180.00	-2085.66	-387.71	2112.36	1087.28	End of Build - Hold
7210.87	10523.04	98.50	180.00	-4224.24	-387.62	4241.99	3225.86	Bottom Hole Location - 1865' FSL & 2382' FEL



<b>Database:</b>	EDM Depart	<b>Local Co-ordinate Reference:</b>	Well Fuqua 19-02-10-1H
<b>Company:</b>	Laramie Energy II, LLC	<b>TVD Reference:</b>	WELL @ 8636.00ft (Original Well Elev)
<b>Project:</b>	Jackson County, CO	<b>MD Reference:</b>	WELL @ 8636.00ft (Original Well Elev)
<b>Site:</b>	SWSE Sec 18-T6N-R78W (Fuqua)	<b>North Reference:</b>	True
<b>Well:</b>	Fuqua 19-02-10-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #9		

<b>Project</b>	Jackson County, CO		
<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		

Site		SWSE Sec 18-T6N-R78W (Fuqua)			
Site Position:		Northing:	1,420,136.59 ft	Latitude:	40° 29' 4.7400 N
From:	Lat/Long	Easting:	2,809,546.81 ft	Longitude:	106° 11' 4.9560 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-0.44

Well	Fuqua 19-02-10-1H					
Well Position	+N/-S	0.00 ft	Northing:	1,420,136.59 ft	Latitude:	40° 29' 4.7400 N
	+E/-W	0.00 ft	Easting:	2,809,546.81 ft	Longitude:	106° 11' 4.9560 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	8,607.00 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	03/23/11	9.64	66.88	53,008

<b>Design</b>	Plan #9				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	6,595.00	
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	185.24	

<b>Plan Sections</b>										
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
6,595.00	18.40	182.50	6,439.51	-1,005.41	-470.02	0.00	0.00	0.00	0.00	
6,645.00	19.87	167.87	6,486.78	-1,021.61	-468.58	10.00	2.93	-29.26	-80.00	
7,371.42	19.87	167.87	7,169.97	-1,262.95	-416.71	0.00	0.00	0.00	0.00	
8,077.37	90.00	180.00	7,551.47	-1,803.36	-387.73	10.00	9.93	1.72	12.87	
8,360.70	98.50	180.00	7,530.49	-2,085.66	-387.71	3.00	3.00	0.00	0.00	
10,523.04	98.50	180.00	7,210.87	-4,224.24	-387.62	0.00	0.00	0.00	0.00	Fuqua Bottom Hole L

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<b>Company:</b>	Laramie Energy II, LLC	<b>TVD Reference:</b>	WELL @ 8636.00ft (Original Well Elev)
<b>Project:</b>	Jackson County, CO	<b>MD Reference:</b>	WELL @ 8636.00ft (Original Well Elev)
<b>Site:</b>	SWSE Sec 18-T6N-R78W (Fuqua)	<b>North Reference:</b>	True
<b>Well:</b>	Fuqua 19-02-10-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #9		

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)
6,595.00	18.40	182.50	6,439.51	-1,005.41	-470.02	1,044.15	0.00	0.00	0.00
<b>Tie-on - Build at 10°/100'</b>									
6,600.00	18.49	180.95	6,444.26	-1,006.99	-470.07	1,045.73	10.00	1.86	-31.05
6,645.00	19.87	167.87	6,486.78	-1,021.61	-468.58	1,060.15	10.00	3.05	-29.06
<b>End of Build - Hold</b>									
6,700.00	19.87	167.87	6,538.50	-1,039.88	-464.65	1,077.99	0.00	0.00	0.00
6,800.00	19.87	167.87	6,632.55	-1,073.11	-457.51	1,110.42	0.00	0.00	0.00
6,900.00	19.87	167.87	6,726.60	-1,106.33	-450.37	1,142.86	0.00	0.00	0.00
7,000.00	19.87	167.87	6,820.65	-1,139.55	-443.23	1,175.29	0.00	0.00	0.00
7,100.00	19.87	167.87	6,914.70	-1,172.78	-436.09	1,207.72	0.00	0.00	0.00
7,200.00	19.87	167.87	7,008.75	-1,206.00	-428.95	1,240.15	0.00	0.00	0.00
7,300.00	19.87	167.87	7,102.80	-1,239.23	-421.81	1,272.59	0.00	0.00	0.00
7,371.42	19.87	167.87	7,169.97	-1,262.95	-416.71	1,295.75	0.00	0.00	0.00
<b>Build and Turn at 10°/100'</b>									
7,400.00	22.66	169.52	7,196.60	-1,273.12	-414.69	1,305.68	10.00	9.78	5.78
7,500.00	32.52	173.16	7,285.12	-1,318.87	-407.96	1,350.63	10.00	9.86	3.64
7,600.00	42.44	175.24	7,364.38	-1,379.34	-401.95	1,410.30	10.00	9.92	2.08
7,700.00	52.39	176.64	7,431.96	-1,452.69	-396.81	1,482.87	10.00	9.95	1.41
7,800.00	62.35	177.72	7,485.82	-1,536.70	-392.72	1,566.16	10.00	9.96	1.07
7,900.00	72.32	178.61	7,524.31	-1,628.81	-389.79	1,657.62	10.00	9.97	0.89
8,000.00	82.29	179.41	7,546.27	-1,726.23	-388.12	1,754.47	10.00	9.97	0.80
8,077.37	90.00	180.00	7,551.47	-1,803.36	-387.73	1,831.25	10.00	9.97	0.76
<b>End of B&amp;T - Landing Point - Build at 3°/100'</b>									
8,100.00	90.68	180.00	7,551.33	-1,825.99	-387.72	1,853.78	3.00	3.00	0.00
8,200.00	93.68	180.00	7,547.53	-1,925.91	-387.72	1,953.28	3.00	3.00	0.00
8,300.00	96.68	180.00	7,538.51	-2,025.49	-387.72	2,052.44	3.00	3.00	0.00
8,360.70	98.50	180.00	7,530.49	-2,085.66	-387.71	2,112.36	3.00	3.00	0.00
<b>End of Build - Hold</b>									
8,400.00	98.50	180.00	7,524.68	-2,124.52	-387.71	2,151.06	0.00	0.00	0.00
8,500.00	98.50	180.00	7,509.90	-2,223.42	-387.71	2,249.55	0.00	0.00	0.00
8,600.00	98.50	180.00	7,495.12	-2,322.33	-387.70	2,348.04	0.00	0.00	0.00
8,700.00	98.50	180.00	7,480.34	-2,421.23	-387.70	2,446.53	0.00	0.00	0.00
8,800.00	98.50	180.00	7,465.56	-2,520.13	-387.69	2,545.01	0.00	0.00	0.00
8,900.00	98.50	180.00	7,450.78	-2,619.03	-387.69	2,643.50	0.00	0.00	0.00
9,000.00	98.50	180.00	7,435.99	-2,717.93	-387.69	2,741.99	0.00	0.00	0.00
9,100.00	98.50	180.00	7,421.21	-2,816.83	-387.68	2,840.47	0.00	0.00	0.00
9,200.00	98.50	180.00	7,406.43	-2,915.74	-387.68	2,938.96	0.00	0.00	0.00
9,300.00	98.50	180.00	7,391.65	-3,014.64	-387.67	3,037.45	0.00	0.00	0.00
9,400.00	98.50	180.00	7,376.87	-3,113.54	-387.67	3,135.94	0.00	0.00	0.00
9,500.00	98.50	180.00	7,362.09	-3,212.44	-387.66	3,234.42	0.00	0.00	0.00
9,600.00	98.50	180.00	7,347.31	-3,311.34	-387.66	3,332.91	0.00	0.00	0.00
9,700.00	98.50	180.00	7,332.53	-3,410.24	-387.66	3,431.40	0.00	0.00	0.00
9,800.00	98.50	180.00	7,317.75	-3,509.15	-387.65	3,529.89	0.00	0.00	0.00
9,900.00	98.50	180.00	7,302.97	-3,608.05	-387.65	3,628.37	0.00	0.00	0.00
10,000.00	98.50	180.00	7,288.18	-3,706.95	-387.64	3,726.86	0.00	0.00	0.00
10,100.00	98.50	180.00	7,273.40	-3,805.85	-387.64	3,825.35	0.00	0.00	0.00
10,200.00	98.50	180.00	7,258.62	-3,904.75	-387.63	3,923.84	0.00	0.00	0.00
10,300.00	98.50	180.00	7,243.84	-4,003.65	-387.63	4,022.32	0.00	0.00	0.00
10,400.00	98.50	180.00	7,229.06	-4,102.56	-387.63	4,120.81	0.00	0.00	0.00
10,500.00	98.50	180.00	7,214.28	-4,201.46	-387.62	4,219.30	0.00	0.00	0.00
10,523.04	98.50	180.00	7,210.87	-4,224.24	-387.62	4,241.99	0.00	0.00	0.00
<b>Bottom Hole Location - 1865' FSL &amp; 2382' FEL</b>									

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<b>Well:</b>	Fuqua 19-02-10-1H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Plan #9		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
Fuqua Bottom Hole Loca	0.00	0.00	7,210.87	-4,222.28	-408.97	1,415,917.59	2,809,105.25	40° 28' 23.0160 N	106° 11' 10.2480 W
- plan misses target center by 21.35ft at 10521.10ft MD (7211.16 TVD, -4222.33 N, -387.62 E)									
- Point									
Fuqua Drill Window	98.50	0.00	7,530.49	-2,085.66	-387.71	1,418,053.98	2,809,143.00	40° 28' 44.1298 N	106° 11' 9.9733 W
- plan hits target center									
- Rectangle (sides W0.00 H50.00 D2,162.33)									
Fuqua Landing Point (Pc	98.50	0.00	7,551.47	-1,803.36	-387.73	1,418,336.27	2,809,145.16	40° 28' 46.9194 N	106° 11' 9.9737 W
- plan misses target center by 0.01ft at 8077.37ft MD (7551.47 TVD, -1803.36 N, -387.73 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
6,595.00	6,439.51	-1,005.41	-470.02	Tie-on - Build at 10°/100'
6,645.00	6,486.78	-1,021.61	-468.58	End of Build - Hold
7,371.42	7,169.97	-1,262.95	-416.71	Build and Turn at 10°/100'
8,077.37	7,551.47	-1,803.36	-387.73	End of B&T - Landing Point - Build at 3°/100'
8,360.70	7,530.49	-2,085.66	-387.71	End of Build - Hold
10,523.04	7,210.87	-4,224.24	-387.62	Bottom Hole Location - 1865' FSL & 2382' FEL