



Departure
Energy Services (US) LP

Departure Energy Services (US) LP

Denver, Colorado
Phone: 303.542.2000

Casper, Wyoming
Phone: 307.265.2231
Fax: 307.472.5064
www.departureus.com



Laramie Energy II, LLC

Mesa County, Colorado

NESE Sec 24-T9S-R95W

Hawxhurst 24-09D

Final Surveys

Job Number: 311016

Final Survey Report

May 18, 2011



Site: Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)
Well: Hawxhurst 24-09D
Wellbore: Wellbore #1
Design: Plan #1

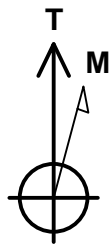
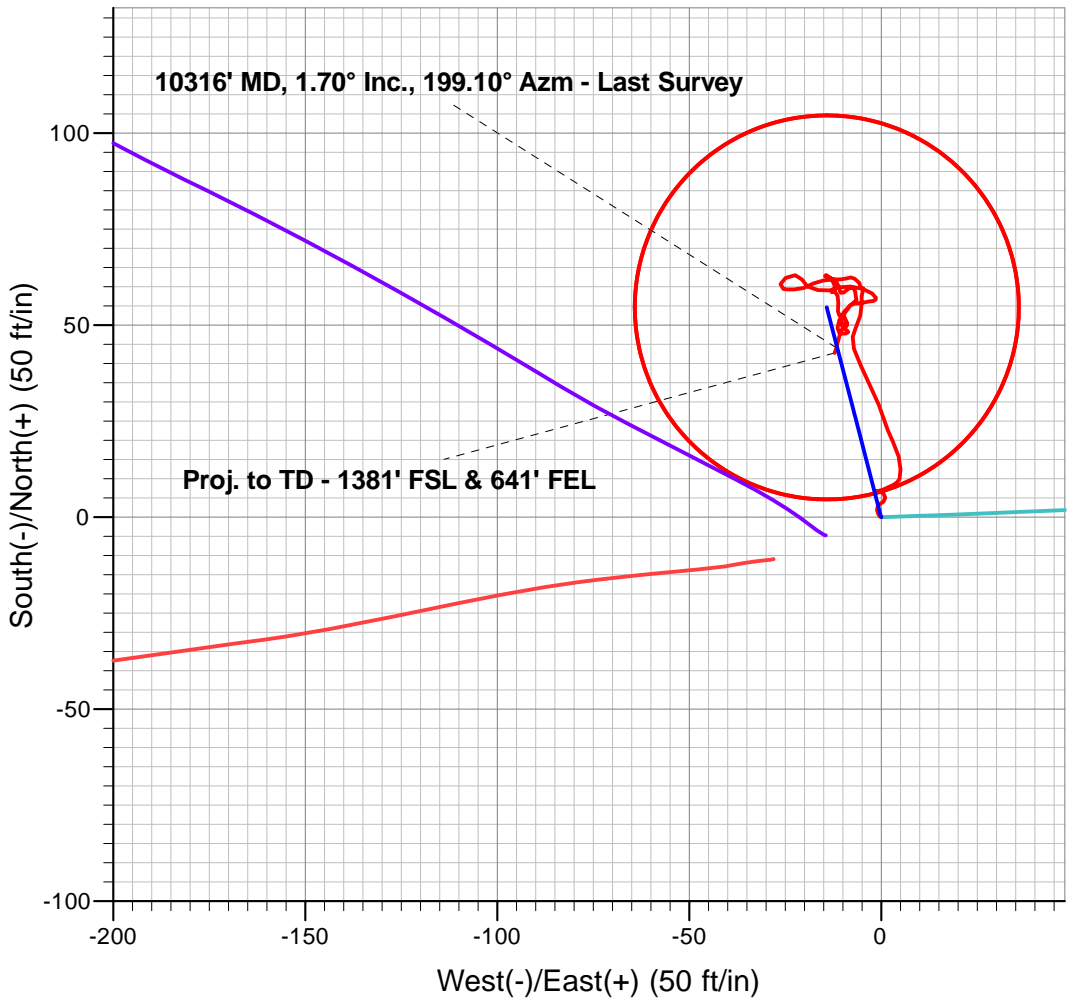
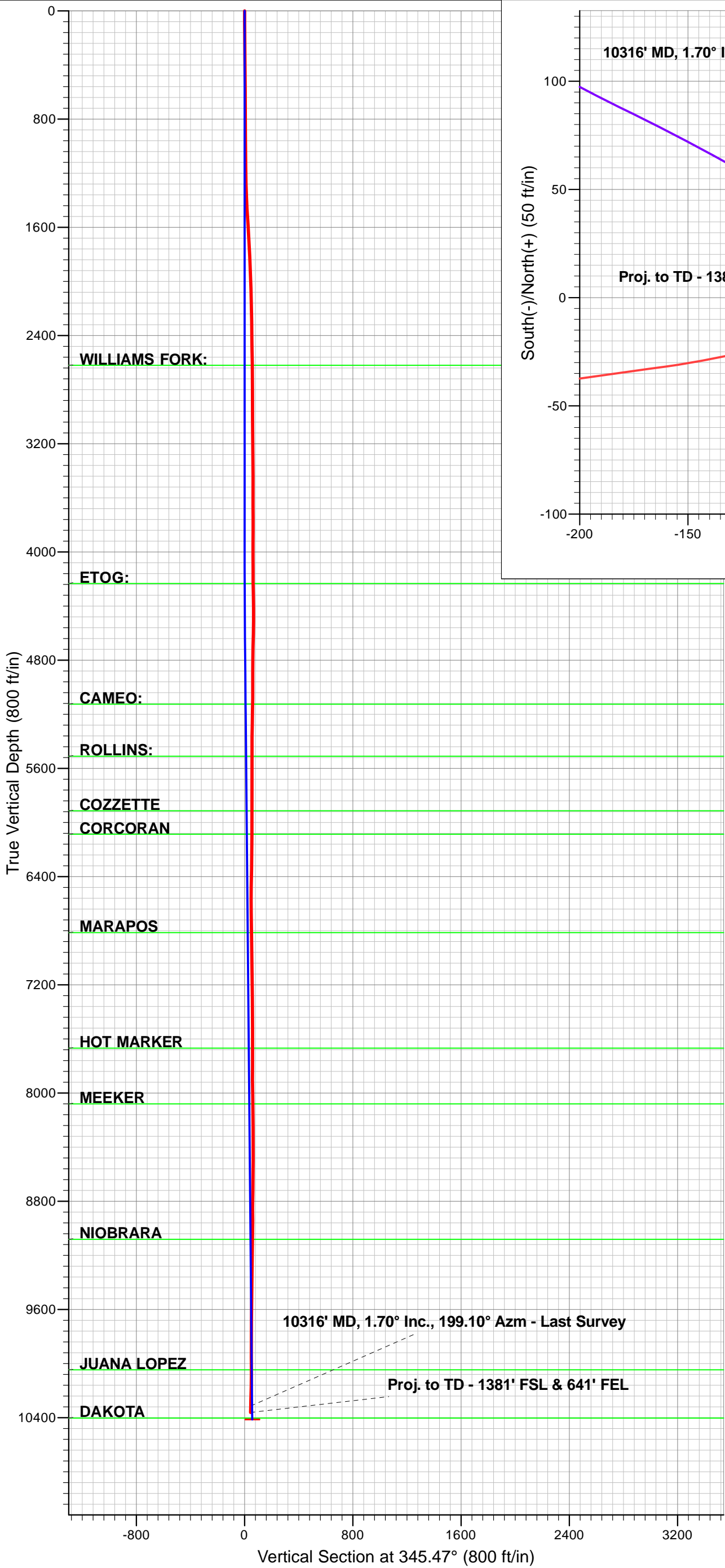
Reference Details - WELL CENTRE
Geodetic System: Universal Transverse Mercator
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
Northing: 14270582.54
Easting: 809423.88
Latitude: 39° 15' 33.9120 N
Longitude: 107° 56' 8.0520 W
Grid Convergence: 1.86° East
Ground Elevation: 6354.00
KB Elevation: WELL @ 6375.00ft (Original Well Elev)



Departure
Energy Services (US) LP

Denver, Colorado
Phone: 303.542.2000

Casper, Wyoming
Phone: 307.265.2231
Fax: 307.472.5064
www.departureus.com



Azimuths to True North
Magnetic North: 10.31°

Magnetic Field
Strength: 52140.6snT
Dip Angle: 65.56°
Date: 04/22/2011
Model: IGRF2010

Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-09D
Project:	MESA, CO	TVD Reference:	WELL @ 6375.00ft (Original Well Elev)
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	WELL @ 6375.00ft (Original Well Elev)
Well:	Hawxhurst 24-09D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Depart

Project	MESA, CO		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)				
Site Position:		Northing:	14,270,583.65 ft	Latitude:	39° 15' 33.9228 N
From:	Lat/Long	Easting:	809,423.35 ft	Longitude:	107° 56' 8.0592 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.86 °

Well	Hawxhurst 24-09D					
Well Position	+N/-S	0.00 ft	Northing:	14,270,582.53 ft	Latitude:	39° 15' 33.9120 N
	+E/-W	0.00 ft	Easting:	809,423.88 ft	Longitude:	107° 56' 8.0520 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,354.00 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	04/22/11	10.31	65.56	52,141

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	350.31	

Survey Program	Date	05/18/11			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
98.00	10,364.00	Survey #1 (Wellbore #1)	MWD	MWD - Standard	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
98.00	0.40	297.50	98.00	0.16	-0.30	0.21	0.41	0.41	0.00	
160.00	1.00	333.80	159.99	0.74	-0.73	0.86	1.16	0.97	58.55	
251.00	0.50	359.80	250.99	1.85	-1.09	2.01	0.65	-0.55	28.57	
343.00	0.80	19.50	342.98	2.86	-0.87	2.97	0.40	0.33	21.41	
435.00	0.50	80.40	434.98	3.53	-0.26	3.53	0.77	-0.33	66.20	
526.00	0.80	47.70	525.97	4.03	0.60	3.87	0.51	0.33	-35.93	
617.00	0.80	0.60	616.96	5.09	1.07	4.84	0.70	0.00	-51.76	
709.00	1.10	315.00	708.95	6.36	0.46	6.19	0.85	0.33	-49.57	
799.00	1.30	261.90	798.93	6.82	-1.16	6.92	1.21	0.22	-59.00	

Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-09D
Project:	MESA, CO	TVD Reference:	WELL @ 6375.00ft (Original Well Elev)
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	WELL @ 6375.00ft (Original Well Elev)
Well:	Hawxhurst 24-09D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Depart

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)	
890.00	0.60	100.30	889.93	6.59	-1.72	6.79	2.06	-0.77	-177.58	
986.00	2.10	67.50	985.90	7.17	0.40	7.01	1.70	1.56	-34.17	
1,081.00	1.60	63.70	1,080.85	8.43	3.20	7.77	0.54	-0.53	-4.00	
1,177.00	1.20	22.40	1,176.82	9.95	4.78	9.01	1.10	-0.42	-43.02	
1,272.00	2.00	354.80	1,271.79	12.52	5.01	11.50	1.15	0.84	-29.05	
1,367.00	2.10	348.30	1,366.73	15.88	4.51	14.89	0.27	0.11	-6.84	
1,462.00	2.90	332.40	1,461.64	19.71	3.04	18.92	1.11	0.84	-16.74	
1,523.00	3.50	339.50	1,522.54	22.82	1.68	22.22	1.18	0.98	11.64	
1,637.00	3.30	342.00	1,636.34	29.20	-0.56	28.88	0.22	-0.18	2.19	
1,748.00	3.30	328.50	1,747.16	34.97	-3.21	35.01	0.70	0.00	-12.16	
1,843.00	3.00	342.70	1,842.02	39.67	-5.38	40.01	0.88	-0.32	14.95	
1,938.00	2.50	333.30	1,936.91	43.90	-7.05	44.46	0.71	-0.53	-9.89	
2,034.00	1.60	25.80	2,032.85	46.97	-7.41	47.55	2.07	-0.94	54.69	
2,129.00	1.00	5.40	2,127.83	48.99	-6.75	49.43	0.79	-0.63	-21.47	
2,225.00	1.00	36.30	2,223.81	50.50	-6.18	50.82	0.55	0.00	32.19	
2,320.00	1.60	8.50	2,318.79	52.48	-5.49	52.66	0.90	0.63	-29.26	
2,415.00	0.70	8.60	2,413.77	54.37	-5.21	54.47	0.95	-0.95	0.11	
2,511.00	1.30	2.60	2,509.75	56.03	-5.07	56.09	0.63	0.63	-6.25	
2,606.00	0.50	354.70	2,604.74	57.52	-5.06	57.56	0.85	-0.84	-8.32	
2,702.00	1.00	18.10	2,700.73	58.74	-4.84	58.71	0.60	0.52	24.38	
2,797.00	0.20	298.40	2,795.73	59.60	-4.73	59.55	1.04	-0.84	-83.89	
2,892.00	0.50	286.60	2,890.73	59.80	-5.27	59.84	0.32	0.32	-12.42	
2,987.00	0.00	22.60	2,985.72	59.92	-5.67	60.02	0.53	-0.53	0.00	
3,083.00	0.40	30.50	3,081.72	60.21	-5.50	60.28	0.42	0.42	0.00	
3,178.00	0.90	323.60	3,176.72	61.10	-5.77	61.20	0.87	0.53	-70.42	
3,273.00	1.00	301.00	3,271.71	62.12	-6.93	62.40	0.41	0.11	-23.79	
3,369.00	0.30	253.20	3,367.70	62.48	-7.89	62.92	0.86	-0.73	-49.79	
3,464.00	1.10	257.10	3,462.69	62.21	-9.01	62.84	0.84	0.84	4.11	
3,560.00	0.60	267.70	3,558.68	61.98	-10.41	62.85	0.54	-0.52	11.04	
3,655.00	1.70	268.30	3,653.66	61.92	-12.32	63.11	1.16	1.16	0.63	
3,750.00	1.60	261.60	3,748.62	61.68	-15.04	63.33	0.23	-0.11	-7.05	
3,846.00	1.60	244.30	3,844.58	60.91	-17.57	62.99	0.50	0.00	-18.02	
3,941.00	1.90	247.60	3,939.54	59.73	-20.22	62.28	0.33	0.32	3.47	
4,036.00	1.30	280.30	4,034.50	59.32	-22.74	62.30	1.13	-0.63	34.42	
4,132.00	0.70	252.30	4,130.49	59.34	-24.37	62.59	0.79	-0.63	-29.17	
4,227.00	0.80	299.70	4,225.48	59.49	-25.50	62.93	0.64	0.11	49.89	
4,323.00	1.10	351.20	4,321.47	60.73	-26.22	64.28	0.90	0.31	53.65	
4,418.00	2.00	65.10	4,416.44	62.33	-24.86	65.63	2.10	0.95	77.79	
4,513.00	1.20	90.50	4,511.41	63.02	-22.36	65.89	1.11	-0.84	26.74	
4,609.00	1.50	147.70	4,607.38	61.95	-20.68	64.55	1.37	0.31	59.58	
4,704.00	1.30	134.20	4,702.35	60.15	-19.25	62.53	0.40	-0.21	-14.21	
4,799.00	2.40	96.30	4,797.31	59.18	-16.50	61.11	1.67	1.16	-39.89	
4,894.00	1.40	83.40	4,892.25	59.10	-13.37	60.50	1.14	-1.05	-13.58	
4,990.00	1.70	64.00	4,988.22	59.85	-10.92	60.84	0.63	0.31	-20.21	

Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-09D
Project:	MESA, CO	TVD Reference:	WELL @ 6375.00ft (Original Well Elev)
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	WELL @ 6375.00ft (Original Well Elev)
Well:	Hawxhurst 24-09D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Depart

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)	
5,085.00	2.10	102.80	5,083.17	60.09	-7.96	60.57	1.39	0.42	40.84	
5,180.00	1.80	99.10	5,178.12	59.46	-4.79	59.42	0.34	-0.32	-3.89	
5,276.00	1.60	135.40	5,274.08	58.27	-2.36	57.84	1.12	-0.21	37.81	
5,371.00	0.20	166.30	5,369.06	57.17	-1.39	56.58	1.51	-1.47	32.53	
5,466.00	0.10	324.10	5,464.06	57.07	-1.40	56.49	0.31	-0.11	166.11	
5,562.00	0.50	174.60	5,560.06	56.72	-1.40	56.15	0.61	0.42	-155.73	
5,657.00	0.80	270.40	5,655.06	56.32	-2.03	55.85	1.04	0.32	100.84	
5,752.00	0.80	255.90	5,750.05	56.16	-3.34	55.92	0.21	0.00	-15.26	
5,848.00	1.40	259.60	5,846.03	55.78	-5.14	55.85	0.63	0.63	3.85	
5,943.00	0.70	277.00	5,941.01	55.64	-6.86	56.00	0.80	-0.74	18.32	
6,038.00	0.70	227.60	6,036.01	55.32	-7.86	55.86	0.62	0.00	-52.00	
6,168.00	1.50	222.80	6,165.98	53.54	-9.60	54.39	0.62	0.62	-3.69	
6,288.00	1.00	191.30	6,285.95	51.36	-10.88	52.46	0.69	-0.42	-26.25	
6,383.00	1.60	195.00	6,380.93	49.27	-11.38	50.48	0.64	0.63	3.89	
6,478.00	1.10	98.30	6,475.91	47.85	-10.82	48.99	2.15	-0.53	-101.79	
6,573.00	0.80	79.90	6,570.90	47.84	-9.27	48.72	0.45	-0.32	-19.37	
6,668.00	0.30	8.60	6,665.90	48.20	-8.58	48.96	0.80	-0.53	-75.05	
6,763.00	1.50	304.00	6,760.88	49.14	-9.57	50.05	1.47	1.26	-68.00	
6,859.00	1.40	10.70	6,856.86	51.00	-10.39	52.02	1.66	-0.10	69.48	
6,954.00	1.40	33.90	6,951.83	53.10	-9.53	53.95	0.59	0.00	24.42	
7,049.00	1.30	35.60	7,046.80	54.94	-8.26	55.55	0.11	-0.11	1.79	
7,144.00	0.80	65.10	7,141.79	56.10	-7.03	56.48	0.76	-0.53	31.05	
7,239.00	0.20	356.60	7,236.79	56.54	-6.44	56.82	0.79	-0.63	-72.11	
7,334.00	0.80	349.90	7,331.78	57.36	-6.56	57.65	0.63	0.63	-7.05	
7,428.00	0.90	352.60	7,425.77	58.74	-6.77	59.04	0.11	0.11	2.87	
7,524.00	0.50	306.40	7,521.76	59.73	-7.21	60.09	0.69	-0.42	-48.13	
7,618.00	0.30	240.80	7,615.76	59.86	-7.75	60.31	0.49	-0.21	-69.79	
7,713.00	0.00	157.30	7,710.76	59.74	-7.97	60.22	0.32	-0.32	0.00	
7,808.00	0.80	247.60	7,805.76	59.48	-8.58	60.08	0.84	0.84	0.00	
7,903.00	1.10	219.90	7,900.75	58.53	-9.78	59.34	0.57	0.32	-29.16	
7,997.00	0.80	341.30	7,994.74	58.46	-10.57	59.40	1.77	-0.32	129.15	
8,092.00	1.40	343.90	8,089.72	60.20	-11.10	61.21	0.63	0.63	2.74	
8,187.00	0.90	311.30	8,184.70	61.81	-11.99	62.95	0.85	-0.53	-34.32	
8,283.00	1.00	269.00	8,280.69	62.29	-13.39	63.66	0.72	0.10	-44.06	
8,378.00	0.80	321.40	8,375.68	62.80	-14.63	64.36	0.86	-0.21	55.16	
8,472.00	0.90	107.90	8,469.68	63.08	-14.34	64.60	1.73	0.11	155.85	
8,567.00	1.10	139.00	8,564.66	62.17	-13.03	63.47	0.60	0.21	32.74	
8,662.00	1.30	164.30	8,659.64	60.44	-12.14	61.62	0.59	0.21	26.63	
8,757.00	0.70	210.10	8,754.63	58.90	-12.14	60.10	1.00	-0.63	48.21	
8,852.00	0.60	297.30	8,849.63	58.63	-12.87	59.96	0.95	-0.11	91.79	
8,946.00	0.60	82.60	8,943.62	58.92	-12.82	60.23	1.22	0.00	154.57	
9,041.00	0.70	133.50	9,038.62	58.58	-11.91	59.75	0.60	0.11	53.58	
9,136.00	0.70	165.20	9,133.61	57.62	-11.34	58.71	0.40	0.00	33.37	

Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-09D
Project:	MESA, CO	TVD Reference:	WELL @ 6375.00ft (Original Well Elev)
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	WELL @ 6375.00ft (Original Well Elev)
Well:	Hawxhurst 24-09D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	EDM Depart

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)	
9,231.00	1.30	179.90	9,228.60	55.98	-11.19	57.07	0.68	0.63	15.47	
9,326.00	1.50	183.30	9,323.57	53.66	-11.26	54.79	0.23	0.21	3.58	
9,421.00	0.50	68.10	9,418.56	52.58	-10.95	53.67	1.86	-1.05	-121.26	
9,515.00	1.00	106.50	9,512.55	52.50	-9.78	53.39	0.73	0.53	40.85	
9,610.00	1.70	180.60	9,607.53	50.85	-9.00	51.64	1.81	0.74	78.00	
9,705.00	0.30	350.20	9,702.52	49.69	-9.06	50.50	2.10	-1.47	178.53	
9,800.00	0.20	56.40	9,797.52	50.02	-8.96	50.82	0.30	-0.11	69.68	
9,895.00	0.50	338.30	9,892.51	50.50	-8.98	51.29	0.53	0.32	-82.21	
9,989.00	0.50	218.20	9,986.51	50.56	-9.38	51.42	0.92	0.00	-127.77	
10,084.00	0.80	202.70	10,081.51	49.62	-9.89	50.58	0.36	0.32	-16.32	
10,178.00	1.50	204.30	10,175.49	47.89	-10.65	49.00	0.75	0.74	1.70	
10,273.00	1.70	187.70	10,270.45	45.36	-11.35	46.63	0.53	0.21	-17.47	
10,316.00	1.70	199.10	10,313.43	44.13	-11.65	45.46	0.79	0.00	26.51	
10316' MD, 1.70° Inc., 199.10° Azm - Last Survey										
10,364.00	1.70	199.10	10,361.41	42.78	-12.11	44.21	0.00	0.00	0.00	
Proj. to TD - 1381' FSL & 641' FEL										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
10,316.00	10,313.43	44.13	-11.65	10316' MD, 1.70° Inc., 199.10° Azm - Last Survey	
10,364.00	10,361.41	42.78	-12.11	Proj. to TD - 1381' FSL & 641' FEL	

Checked By: _____ Approved By: _____ Date: _____