

Departure Energy Services (US) LP
Phone: 307.265.2231
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www.departureus.com



Departure
Energy Services (US) LP

Laramie Energy II, LLC

MESA CO

Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)

Hawxhurst 24-10B

DD

Plan: Plan #2

Planning Report

01 September, 2010

Laramie Energy II, LLC

Site: Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)
Well: Hawxhurst 24-10B
Wellbore: DD
Design: Plan #2

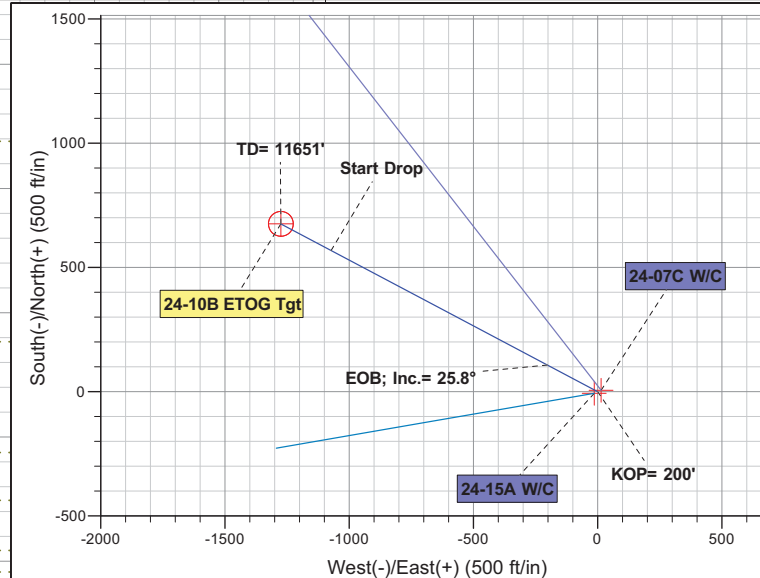
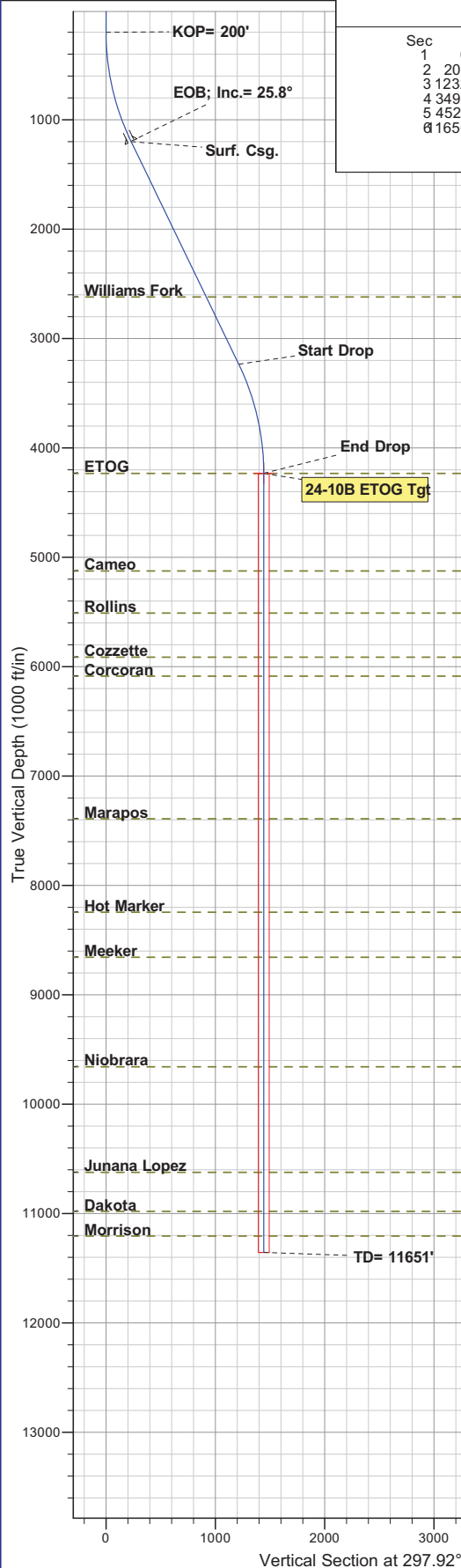
Reference Details - WELL CENTRE
Geodetic System: Universal Transverse Mercator
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
Northing: 4349672.26
Easting: 246707.95
Latitude: 39° 15' 33.865 N
Longitude: 107° 56' 8.236 W
Grid Convergence: 1.86° East
Ground Elevation: 6356.20
KB Elevation: Est. KB @ 6375.00ft



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SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1232.58	25.81	297.92	1198.00	107.08	-202.09	2.50	297.92	228.70	
4	3495.39	25.81	297.92	3235.00	568.46	-1072.76	0.00	0.00	1214.07	
5	4527.97	0.00	0.00	4233.00	675.54	-1274.85	2.50	180.00	1442.77	24-10B ETOG Tgt
6	1650.97	0.00	0.00	11356.00	675.54	-1274.85	0.00	0.00	1442.77	



Azimuths to True North
Magnetic North: 10.41°

Magnetic Field
Strength: 52216.1snT
Dip Angle: 65.58°
Date: 7/23/2010
Model: IGRF2010

ANNOTATIONS

TVD	MD	Annotation
200.00	200.00	KOP= 200'
1198.00	1232.58	EOB; Inc.= 25.8°
3235.00	3495.39	Start Drop
4233.00	4527.97	End Drop
11355.03	11650.00	TD= 11651'

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
2620.00	2812.22	Williams Fork
4233.00	4527.97	ETOG
5125.00	5419.97	Cameo
5510.00	5804.97	Rollins
5913.00	6207.97	Cozzette
6087.00	6381.97	Corcoran
7391.00	7685.97	Marapos
8245.00	8539.97	Hot Marker
8657.00	8951.97	Meeker
9658.00	9952.97	Niobrara
10623.00	10917.97	Junana Lopez
10980.00	11274.97	Dakota
11206.00	11500.97	Morrison



Database:	EDM 2003.21 DB	Local Co-ordinate Reference:	Well Hawxhurst 24-10B
Company:	Laramie Energy II, LLC	TVD Reference:	Est. KB @ 6375.00ft
Project:	MESA CO	MD Reference:	Est. KB @ 6375.00ft
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	North Reference:	True
Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

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:	4,349,673.90 m	Latitude:	39° 15' 33.923 N
From:	Lat/Long	Easting:	246,712.24 m	Longitude:	107° 56' 8.059 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	-1.86 °

Well	Hawxhurst 24-10B					
Well Position	+N/-S	0.00 ft	Northing:	4,349,672.26 m	Latitude:	39° 15' 33.865 N
	+E/-W	0.00 ft	Easting:	246,707.95 m	Longitude:	107° 56' 8.236 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,356.20 ft

Wellbore	DD				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/23/2010	10.41	65.58	52,216

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	297.92	

Plan Sections											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	SS (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	-6,375.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	-6,175.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,232.58	25.81	297.92	1,198.00	-5,177.00	107.08	-202.09	2.50	2.50	0.00	297.92	
3,495.39	25.81	297.92	3,235.00	-3,140.00	568.46	-1,072.76	0.00	0.00	0.00	0.00	
4,527.97	0.00	0.00	4,233.00	-2,142.00	675.54	-1,274.85	2.50	-2.50	0.00	180.00	24-10B ETOG Tgt
11,650.97	0.00	0.00	11,356.00	4,981.00	675.54	-1,274.85	0.00	0.00	0.00	0.00	

Database:	EDM 2003.21 DB	Local Co-ordinate Reference:	Well Hawxhurst 24-10B
Company:	Laramie Energy II, LLC	TVD Reference:	Est. KB @ 6375.00ft
Project:	MESA CO	MD Reference:	Est. KB @ 6375.00ft
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	North Reference:	True
Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	SS (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
100.00	0.00	0.00	100.00	6,275.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP= 200'										
200.00	0.00	0.00	200.00	6,175.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	2.50	297.92	299.97	6,075.03	1.02	-1.93	2.18	2.50	2.50	0.00
400.00	5.00	297.92	399.75	5,975.25	4.08	-7.71	8.72	2.50	2.50	0.00
500.00	7.50	297.92	499.14	5,875.86	9.18	-17.32	19.61	2.50	2.50	0.00
600.00	10.00	297.92	597.97	5,777.03	16.30	-30.77	34.82	2.50	2.50	0.00
700.00	12.50	297.92	696.04	5,678.96	25.44	-48.00	54.33	2.50	2.50	0.00
800.00	15.00	297.92	793.17	5,581.83	36.56	-69.00	78.09	2.50	2.50	0.00
900.00	17.50	297.92	889.17	5,485.83	49.67	-93.73	106.07	2.50	2.50	0.00
1,000.00	20.00	297.92	983.85	5,391.15	64.72	-122.13	138.21	2.50	2.50	0.00
1,100.00	22.50	297.92	1,077.05	5,297.95	81.68	-154.15	174.46	2.50	2.50	0.00
1,200.00	25.00	297.92	1,168.57	5,206.43	100.54	-189.73	214.73	2.50	2.50	0.00
EOB; Inc.= 25.8°										
1,232.58	25.81	297.92	1,198.00	5,177.00	107.09	-202.09	228.71	2.50	2.50	0.00
Surf. Csg.										
1,234.80	25.81	297.92	1,200.00	5,175.00	107.54	-202.94	229.67	0.00	0.00	0.00
1,300.00	25.81	297.92	1,258.69	5,116.31	120.83	-228.03	258.06	0.00	0.00	0.00
1,400.00	25.81	297.92	1,348.71	5,026.29	141.22	-266.51	301.61	0.00	0.00	0.00
1,500.00	25.81	297.92	1,438.73	4,936.27	161.61	-304.98	345.16	0.00	0.00	0.00
1,600.00	25.81	297.92	1,528.75	4,846.25	182.00	-343.46	388.70	0.00	0.00	0.00
1,700.00	25.81	297.92	1,618.77	4,756.23	202.39	-381.94	432.25	0.00	0.00	0.00
1,800.00	25.81	297.92	1,708.79	4,666.21	222.78	-420.42	475.79	0.00	0.00	0.00
1,900.00	25.81	297.92	1,798.82	4,576.18	243.17	-458.89	519.34	0.00	0.00	0.00
2,000.00	25.81	297.92	1,888.84	4,486.16	263.56	-497.37	562.88	0.00	0.00	0.00
2,100.00	25.81	297.92	1,978.86	4,396.14	283.95	-535.85	606.43	0.00	0.00	0.00
2,200.00	25.81	297.92	2,068.88	4,306.12	304.33	-574.33	649.98	0.00	0.00	0.00
2,300.00	25.81	297.92	2,158.90	4,216.10	324.72	-612.80	693.52	0.00	0.00	0.00
2,400.00	25.81	297.92	2,248.92	4,126.08	345.11	-651.28	737.07	0.00	0.00	0.00
2,500.00	25.81	297.92	2,338.94	4,036.06	365.50	-689.76	780.61	0.00	0.00	0.00
2,600.00	25.81	297.92	2,428.96	3,946.04	385.89	-728.24	824.16	0.00	0.00	0.00
2,700.00	25.81	297.92	2,518.98	3,856.02	406.28	-766.71	867.71	0.00	0.00	0.00
2,800.00	25.81	297.92	2,609.00	3,766.00	426.67	-805.19	911.25	0.00	0.00	0.00
Williams Fork										
2,812.22	25.81	297.92	2,620.00	3,755.00	429.16	-809.89	916.57	0.00	0.00	0.00
2,900.00	25.81	297.92	2,699.02	3,675.98	447.06	-843.67	954.80	0.00	0.00	0.00
3,000.00	25.81	297.92	2,789.05	3,585.95	467.45	-882.15	998.34	0.00	0.00	0.00
3,100.00	25.81	297.92	2,879.07	3,495.93	487.84	-920.62	1,041.89	0.00	0.00	0.00
3,200.00	25.81	297.92	2,969.09	3,405.91	508.23	-959.10	1,085.43	0.00	0.00	0.00
3,300.00	25.81	297.92	3,059.11	3,315.89	528.62	-997.58	1,128.98	0.00	0.00	0.00
3,400.00	25.81	297.92	3,149.13	3,225.87	549.01	-1,036.06	1,172.53	0.00	0.00	0.00
Start Drop										
3,495.39	25.81	297.92	3,235.00	3,140.00	568.45	-1,072.76	1,214.06	0.00	0.00	0.00
3,500.00	25.70	297.92	3,239.15	3,135.85	569.39	-1,074.53	1,216.07	2.50	-2.50	0.00
3,600.00	23.20	297.92	3,330.18	3,044.82	588.77	-1,111.10	1,257.45	2.50	-2.50	0.00
3,700.00	20.70	297.92	3,422.92	2,952.08	606.27	-1,144.12	1,294.83	2.50	-2.50	0.00
3,800.00	18.20	297.92	3,517.21	2,857.79	621.86	-1,173.54	1,328.12	2.50	-2.50	0.00
3,900.00	15.70	297.92	3,612.86	2,762.14	635.51	-1,199.30	1,357.27	2.50	-2.50	0.00
4,000.00	13.20	297.92	3,709.69	2,665.31	647.19	-1,221.35	1,382.22	2.50	-2.50	0.00
4,100.00	10.70	297.92	3,807.51	2,567.49	656.88	-1,239.64	1,402.93	2.50	-2.50	0.00
4,200.00	8.20	297.92	3,906.15	2,468.85	664.57	-1,254.14	1,419.34	2.50	-2.50	0.00
4,300.00	5.70	297.92	4,005.40	2,369.60	670.24	-1,264.84	1,431.44	2.50	-2.50	0.00



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Project:	MESA CO	MD Reference:	Est. KB @ 6375.00ft
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	North Reference:	True
Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	SS (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,400.00	3.20	297.92	4,105.09	2,269.91	673.87	-1,271.69	1,439.20	2.50	-2.50	0.00
4,500.00	0.70	297.92	4,205.03	2,169.97	675.46	-1,274.69	1,442.60	2.50	-2.50	0.00
End Drop - ETOG - 24-10B ETOG Tgt										
4,527.97	0.00	0.00	4,233.00	2,142.00	675.54	-1,274.85	1,442.77	2.50	-2.50	0.00
4,600.00	0.00	0.00	4,305.03	2,069.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
4,700.00	0.00	0.00	4,405.03	1,969.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
4,800.00	0.00	0.00	4,505.03	1,869.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
4,900.00	0.00	0.00	4,605.03	1,769.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,000.00	0.00	0.00	4,705.03	1,669.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,100.00	0.00	0.00	4,805.03	1,569.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,200.00	0.00	0.00	4,905.03	1,469.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,300.00	0.00	0.00	5,005.03	1,369.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,400.00	0.00	0.00	5,105.03	1,269.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Cameo										
5,419.97	0.00	0.00	5,125.00	1,250.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,500.00	0.00	0.00	5,205.03	1,169.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,600.00	0.00	0.00	5,305.03	1,069.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,700.00	0.00	0.00	5,405.03	969.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,800.00	0.00	0.00	5,505.03	869.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Rollins										
5,804.97	0.00	0.00	5,510.00	865.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
5,900.00	0.00	0.00	5,605.03	769.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,000.00	0.00	0.00	5,705.03	669.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,100.00	0.00	0.00	5,805.03	569.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,200.00	0.00	0.00	5,905.03	469.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Cozzette										
6,207.97	0.00	0.00	5,913.00	462.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,300.00	0.00	0.00	6,005.03	369.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Corcoran										
6,381.97	0.00	0.00	6,087.00	288.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,400.00	0.00	0.00	6,105.03	269.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,500.00	0.00	0.00	6,205.03	169.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,600.00	0.00	0.00	6,305.03	69.97	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,700.00	0.00	0.00	6,405.03	-30.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,800.00	0.00	0.00	6,505.03	-130.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
6,900.00	0.00	0.00	6,605.03	-230.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,000.00	0.00	0.00	6,705.03	-330.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,100.00	0.00	0.00	6,805.03	-430.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,200.00	0.00	0.00	6,905.03	-530.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,300.00	0.00	0.00	7,005.03	-630.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,400.00	0.00	0.00	7,105.03	-730.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,500.00	0.00	0.00	7,205.03	-830.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,600.00	0.00	0.00	7,305.03	-930.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Marapos										
7,685.97	0.00	0.00	7,391.00	-1,016.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,700.00	0.00	0.00	7,405.03	-1,030.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,800.00	0.00	0.00	7,505.03	-1,130.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
7,900.00	0.00	0.00	7,605.03	-1,230.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,000.00	0.00	0.00	7,705.03	-1,330.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,100.00	0.00	0.00	7,805.03	-1,430.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,200.00	0.00	0.00	7,905.03	-1,530.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,300.00	0.00	0.00	8,005.03	-1,630.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00

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Project:	MESA CO	MD Reference:	Est. KB @ 6375.00ft
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	North Reference:	True
Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Planned Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	SS (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,400.00	0.00	0.00	8,105.03	-1,730.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,500.00	0.00	0.00	8,205.03	-1,830.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Hot Marker										
8,539.97	0.00	0.00	8,245.00	-1,870.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,600.00	0.00	0.00	8,305.03	-1,930.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,700.00	0.00	0.00	8,405.03	-2,030.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,800.00	0.00	0.00	8,505.03	-2,130.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
8,900.00	0.00	0.00	8,605.03	-2,230.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Meeker										
8,951.97	0.00	0.00	8,657.00	-2,282.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,000.00	0.00	0.00	8,705.03	-2,330.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,100.00	0.00	0.00	8,805.03	-2,430.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,200.00	0.00	0.00	8,905.03	-2,530.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,300.00	0.00	0.00	9,005.03	-2,630.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,400.00	0.00	0.00	9,105.03	-2,730.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,500.00	0.00	0.00	9,205.03	-2,830.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,600.00	0.00	0.00	9,305.03	-2,930.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,700.00	0.00	0.00	9,405.03	-3,030.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,800.00	0.00	0.00	9,505.03	-3,130.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
9,900.00	0.00	0.00	9,605.03	-3,230.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Niobrara										
9,952.97	0.00	0.00	9,658.00	-3,283.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,000.00	0.00	0.00	9,705.03	-3,330.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,100.00	0.00	0.00	9,805.03	-3,430.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,200.00	0.00	0.00	9,905.03	-3,530.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,300.00	0.00	0.00	10,005.03	-3,630.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,400.00	0.00	0.00	10,105.03	-3,730.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,500.00	0.00	0.00	10,205.03	-3,830.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,600.00	0.00	0.00	10,305.03	-3,930.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,700.00	0.00	0.00	10,405.03	-4,030.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,800.00	0.00	0.00	10,505.03	-4,130.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
10,900.00	0.00	0.00	10,605.03	-4,230.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Junana Lopez										
10,917.97	0.00	0.00	10,623.00	-4,248.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,000.00	0.00	0.00	10,705.03	-4,330.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,100.00	0.00	0.00	10,805.03	-4,430.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,200.00	0.00	0.00	10,905.03	-4,530.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Dakota										
11,274.97	0.00	0.00	10,980.00	-4,605.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,300.00	0.00	0.00	11,005.03	-4,630.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,400.00	0.00	0.00	11,105.03	-4,730.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,500.00	0.00	0.00	11,205.03	-4,830.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
Morrison										
11,500.97	0.00	0.00	11,206.00	-4,831.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,600.00	0.00	0.00	11,305.03	-4,930.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
TD= 11651'										
11,650.00	0.00	0.00	11,355.03	-4,980.03	675.54	-1,274.85	1,442.77	0.00	0.00	0.00
11,650.97	0.00	0.00	11,356.00	-4,981.00	675.54	-1,274.85	1,442.77	0.00	0.00	0.00



Database:	EDM 2003.21 DB	Local Co-ordinate Reference:	Well Hawxhurst 24-10B
Company:	Laramie Energy II, LLC	TVD Reference:	Est. KB @ 6375.00ft
Project:	MESA CO	MD Reference:	Est. KB @ 6375.00ft
Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	North Reference:	True
Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Wellbore:	DD		
Design:	Plan #2		

Targets										
Target Name - hit/miss target - Shape	Dip Angle	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (m)	Easting (m)	Latitude	Longitude	
24-10B ETOG Tot - plan hits target center - Circle (radius 50.00)	0.00	0.00	4,233.00	675.54	-1,274.85	4,349,890.66	246,326.26	39° 15' 40.539 N	107° 56' 24.437 W	
24-15A W/C - plan misses target center by 101.11ft at 100.00ft MD (100.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-6.19	-13.60	4,349,670.50	246,703.75	39° 15' 33.804 N	107° 56' 8.408 W	
24-07C W/C - plan misses target center by 101.13ft at 100.00ft MD (100.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	5.83	13.88	4,349,673.90	246,712.24	39° 15' 33.923 N	107° 56' 8.059 W	

Casing Points				
MD (ft)	TVD (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,234.80	1,200.00	Surf. Csg.		

Formations						
MD (ft)	TVD (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,812.22	2,620.00	Williams Fork		0.00		
4,527.97	4,233.00	ETOG		0.00		
5,419.97	5,125.00	Cameo		0.00		
5,804.97	5,510.00	Rollins		0.00		
6,207.97	5,913.00	Cozzette		0.00		
6,381.97	6,087.00	Corcoran		0.00		
7,685.97	7,391.00	Marapos		0.00		
8,539.97	8,245.00	Hot Marker		0.00		
8,951.97	8,657.00	Meeker		0.00		
9,952.97	9,658.00	Niobrara		0.00		
10,917.97	10,623.00	Junana Lopez		0.00		
11,274.97	10,980.00	Dakota		0.00		
11,500.97	11,206.00	Morrison		0.00		

Plan Annotations				
MD (ft)	TVD (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
200.00	200.00	0.00	0.00	KOP= 200'
1,232.58	1,198.00	107.09	-202.09	EOB; Inc.= 25.8°
3,495.39	3,235.00	568.45	-1,072.76	Start Drop
4,527.97	4,233.00	675.54	-1,274.85	End Drop
11,650.00	11,355.03	675.54	-1,274.85	TD= 11651'

Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-10B
Project:	MESA CO	TVD Reference:	Est. KB @ 6375.00ft
Reference Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	Est. KB @ 6375.00ft
Site Error:	0.00ft	North Reference:	True
Reference Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	MD Interval 100.00ft
Depth Range:	0.00 to 11,650.97ft
Results Limited by:	Maximum center-center distance of 200.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Elliptical Conic

Risk Settings		
Vertical Depth for Analysis:	ft	(Below TVD Reference Datum)
Level of Acceptable Risk (1 in):		
Minimum Separation:	0 ft	

Survey Tool Program		Date	9/1/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.00	11,650.97	Plan #2 (DD)	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						
Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)						
Hawxhurst 24-07C - DD - Plan #1	200.00	200.00	15.06	14.43	23.898 CC, ES	
Hawxhurst 24-07C - DD - Plan #1	500.00	499.79	23.26	21.11	10.855 SF	
Hawxhurst 24-15A - DD - Plan #1	200.00	200.00	14.94	14.31	23.676 CC, ES	
Hawxhurst 24-15A - DD - Plan #1	500.00	497.60	24.24	22.21	11.935 SF	

Offset Design		Sec 24-T9S-R95W (Hawxhurst 24-9 Pad) - Hawxhurst 24-07C - DD - Plan #1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD											Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Risked Separation Factor	Probability of Collision	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)						
0.00	0.00	0.00	0.00	0.00	0.00	67.22	15.06								
100.00	100.00	100.00	100.00	0.09	0.09	67.22	15.06	14.88	0.18	83.420					
200.00	200.00	200.00	200.00	0.32	0.31	67.22	15.06	14.43	0.63	23.898			CC, ES		
300.00	299.97	300.21	300.14	0.54	0.55	124.65	15.69	14.61	1.08	14.560					
400.00	399.75	400.20	399.70	0.78	0.81	113.00	18.11	16.55	1.56	11.600					
500.00	499.14	499.79	498.12	1.04	1.10	99.92	23.26	21.11	2.14	10.855			SF		
600.00	597.97	598.77	594.83	1.36	1.49	89.48	31.59	28.75	2.84	11.127					
700.00	696.04	696.95	689.35	1.75	1.99	82.23	43.05	39.40	3.65	11.802					
800.00	793.17	794.18	781.22	2.20	2.58	77.32	57.41	52.84	4.57	12.559					
900.00	889.17	890.29	870.02	2.74	3.29	73.92	74.49	68.87	5.62	13.260					
1,000.00	983.85	985.17	955.41	3.37	4.09	71.47	94.11	87.32	6.79	13.856					
1,100.00	1,077.05	1,078.70	1,037.11	4.08	4.99	69.61	116.14	108.04	8.10	14.342					
1,200.00	1,168.57	1,170.78	1,114.88	4.88	5.99	68.15	140.44	130.91	9.53	14.739					
1,300.00	1,258.69	1,262.36	1,189.40	5.77	7.06	67.07	167.20	156.11	11.09	15.080					
1,400.00	1,348.71	1,358.33	1,266.46	6.66	8.25	66.08	195.17	182.47	12.70	15.369					



Company:	Laramie Energy II, LLC	Local Co-ordinate Reference:	Well Hawxhurst 24-10B
Project:	MESA CO	TVD Reference:	Est. KB @ 6375.00ft
Reference Site:	Sec 24-T9S-R95W (Hawxhurst 24-9 Pad)	MD Reference:	Est. KB @ 6375.00ft
Site Error:	0.00ft	North Reference:	True
Reference Well:	Hawxhurst 24-10B	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	DD	Database:	EDM 2003.21 DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design Sec 24-T9S-R95W (Hawxhurst 24-9 Pad) - Hawxhurst 24-15A - DD - Plan #1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Distance					Risked Separation Factor	Probability of Collision	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	-114.49	14.94						
100.00	100.00	100.00	100.00	0.09	0.09	-114.49	14.94	14.76	0.18	82.279			
200.00	200.00	200.00	200.00	0.32	0.32	-114.49	14.94	14.31	0.63	23.676			CC, ES
300.00	299.97	299.35	299.32	0.54	0.53	-56.66	15.75	14.69	1.06	14.804			
400.00	399.75	398.59	398.34	0.78	0.76	-66.91	18.61	17.09	1.51	12.289			
500.00	499.14	497.60	496.76	1.04	1.02	-77.97	24.24	22.21	2.03	11.935			SF
600.00	597.97	596.26	594.29	1.36	1.34	-86.60	32.98	30.33	2.65	12.445			
700.00	696.04	694.47	690.65	1.75	1.72	-92.50	44.79	41.40	3.39	13.204			
800.00	793.17	792.14	785.57	2.20	2.17	-96.39	59.53	55.26	4.27	13.950			
900.00	889.17	889.15	878.81	2.74	2.70	-98.95	77.07	71.79	5.28	14.587			
1,000.00	983.85	985.44	970.15	3.37	3.30	-100.65	97.31	90.86	6.45	15.095			
1,100.00	1,077.05	1,080.91	1,059.38	4.08	3.98	-101.77	120.15	112.39	7.76	15.486			
1,200.00	1,168.57	1,175.50	1,146.31	4.88	4.72	-102.49	145.52	136.30	9.22	15.788			
1,300.00	1,258.69	1,271.62	1,233.77	5.77	5.54	-103.68	172.48	161.66	10.82	15.945			
1,400.00	1,348.71	1,367.82	1,321.31	6.66	6.37	-104.77	199.57	187.13	12.44	16.037			