



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

NWNW Sec 17-T9S-R94W

Hawxhurst 17-03C

S- Well

Well Plan #1

Job Number: TBA

Well Plan Report

February 21, 2011



Site: Sec 17-T9S-R94W (Hawxhurst 17-04B Pad)
Well: Hawxhurst 17-03C
Wellbore: S-Well
Design: Plan #1

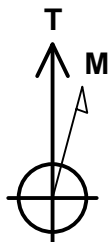
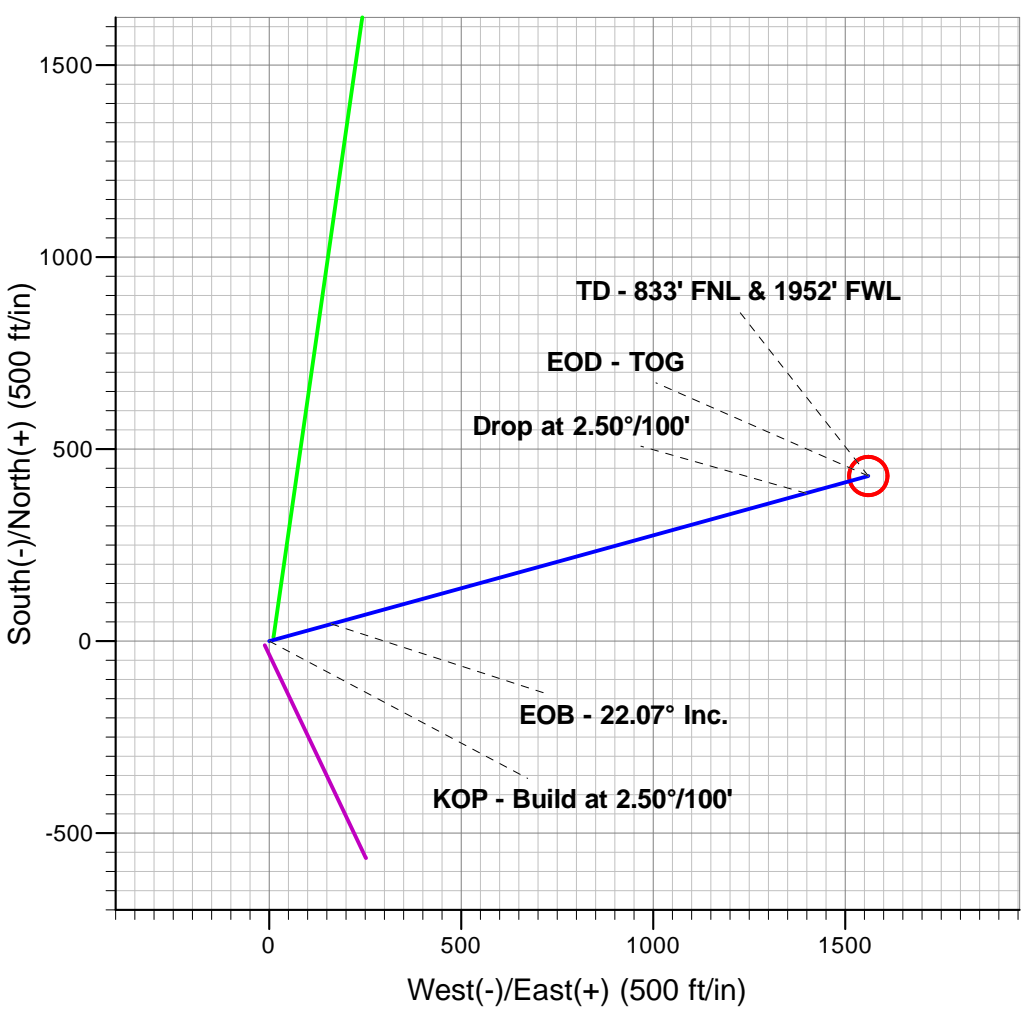
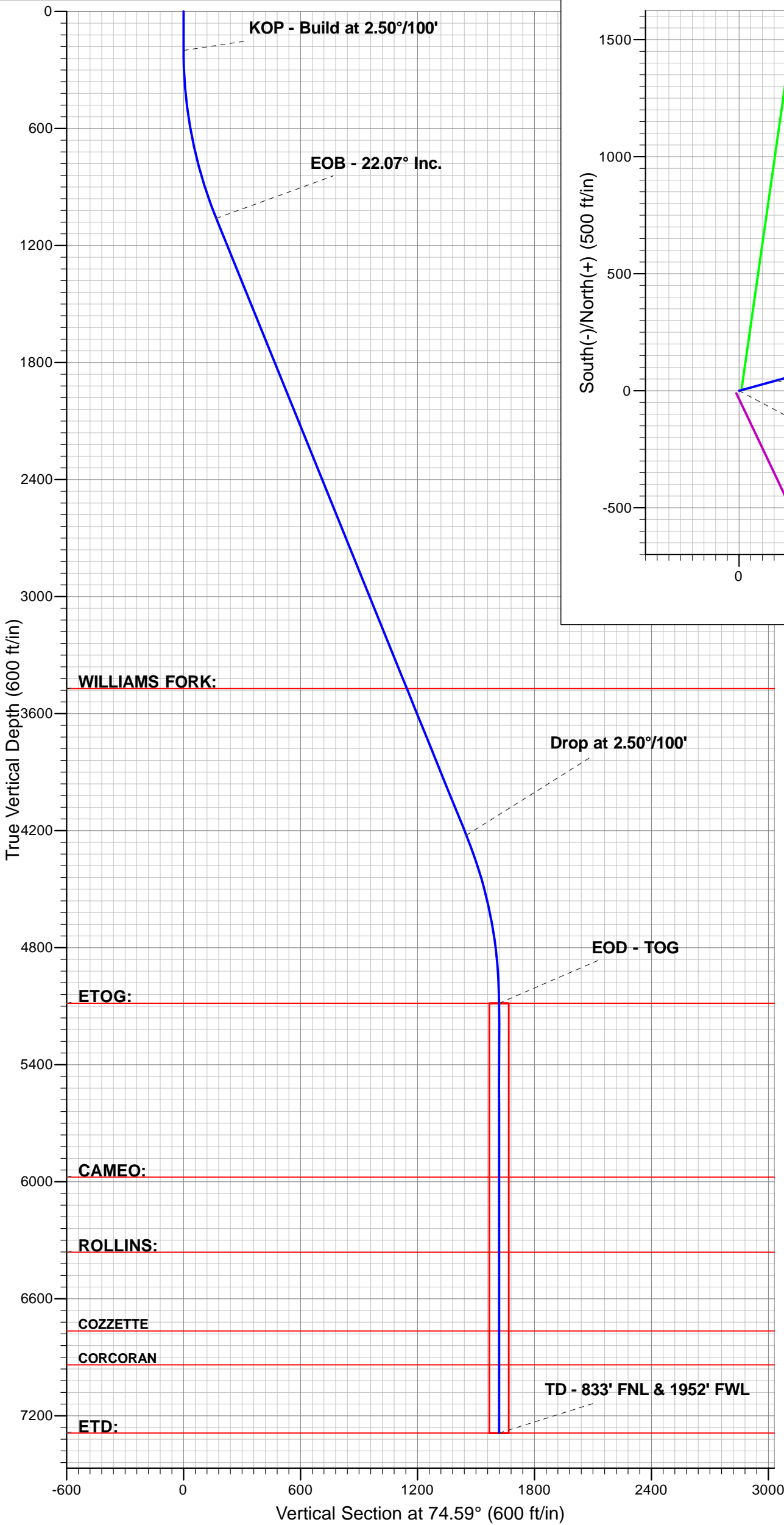
Reference Details - WELL CENTRE
Geodetic System: Universal Transverse Mercator
Ellipsoid: GRS 1980
Zone: Zone 13N (108 W to 102 W)
Northing: 14278097.88
Easting: 815915.45
Latitude: 39° 16' 50.1960 N
Longitude: 107° 54' 48.6720 W
Grid Convergence: 1.85° East
Ground Elevation: 6786.00
KB Elevation: WELL @ 6807.00ft (Original Well Elev)



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Azimuths to True North
Magnetic North: 10.33°

Magnetic Field
Strength: 52169.1snT
Dip Angle: 65.59°
Date: 2/18/2011
Model: IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
200.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP - Build at 2.50°/100'
1061.31	1083.00	22.07	74.59	44.64	161.97	168.01	168.01	EOB - 22.07° Inc.
4223.69	4495.53	22.07	74.59	385.38	1398.37	1450.50	1450.50	Drop at 2.50°/100'
5085.00	5378.53	0.00	0.00	430.02	1560.34	1618.51	1618.51	EOD - TOG
7289.00	7582.53	0.00	0.00	430.02	1560.34	1618.51	1618.51	TD - 833' FNL & 1952' FWL

Database:	EDM Depart	Local Co-ordinate Reference:	Well Hawxhurst 17-03C
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6807.00ft (Original Well Elev)
Project:	MESA CO	MD Reference:	WELL @ 6807.00ft (Original Well Elev)
Site:	Sec 17-T9S-R94W (Hawxhurst 17-04B Pad)	North Reference:	True
Well:	Hawxhurst 17-03C	Survey Calculation Method:	Minimum Curvature
Wellbore:	S-Well		
Design:	Plan #1		

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 17-T9S-R94W (Hawxhurst 17-04B Pad)				
Site Position:		Northing:	14,278,087.32 ft	Latitude:	39° 16' 50.0880 N
From:	Lat/Long	Easting:	815,903.77 ft	Longitude:	107° 54' 48.8160 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	-1.85

Well	Hawxhurst 17-03C					
Well Position	+N/-S	10.93 ft	Northing:	14,278,097.88 ft	Latitude:	39° 16' 50.1960 N
	+E/-W	11.33 ft	Easting:	815,915.45 ft	Longitude:	107° 54' 48.6720 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	6,786.00 ft

Wellbore	S-Well				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/18/2011	10.33	65.59	52,169

Design	Plan #1			
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	74.59

Plan Sections										
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
0.00	0.00	0.00	0.00	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	
1,083.00	22.07	74.59	1,061.31	44.64	161.97	2.50	2.50	0.00	74.59	
4,495.53	22.07	74.59	4,223.69	385.38	1,398.37	0.00	0.00	0.00	0.00	
5,378.53	0.00	0.00	5,085.00	430.02	1,560.34	2.50	-2.50	0.00	180.00	Hawxhurst 17-03C TC
7,582.53	0.00	0.00	7,289.00	430.02	1,560.34	0.00	0.00	0.00	0.00	Hawxhurst 17-03C TC

Database:	EDM Depart	Local Co-ordinate Reference:	Well Hawxhurst 17-03C
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6807.00ft (Original Well Elev)
Project:	MESA CO	MD Reference:	WELL @ 6807.00ft (Original Well Elev)
Site:	Sec 17-T9S-R94W (Hawxhurst 17-04B Pad)	North Reference:	True
Well:	Hawxhurst 17-03C	Survey Calculation Method:	Minimum Curvature
Wellbore:	S-Well		
Design:	Plan #1		

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)
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP - Build at 2.50°/100'									
300.00	2.50	74.59	299.97	0.58	2.10	2.18	2.50	2.50	0.00
400.00	5.00	74.59	399.75	2.32	8.41	8.72	2.50	2.50	0.00
500.00	7.50	74.59	499.14	5.21	18.90	19.61	2.50	2.50	0.00
600.00	10.00	74.59	597.97	9.25	33.57	34.82	2.50	2.50	0.00
700.00	12.50	74.59	696.04	14.43	52.37	54.33	2.50	2.50	0.00
800.00	15.00	74.59	793.17	20.75	75.29	78.09	2.50	2.50	0.00
900.00	17.50	74.59	889.17	28.18	102.26	106.07	2.50	2.50	0.00
1,000.00	20.00	74.59	983.85	36.72	133.25	138.21	2.50	2.50	0.00
1,083.00	22.07	74.59	1,061.31	44.64	161.97	168.01	2.50	2.50	0.00
EOB - 22.07° Inc.									
1,100.00	22.07	74.59	1,077.07	46.34	168.13	174.40	0.00	0.00	0.00
1,200.00	22.07	74.59	1,169.74	56.32	204.36	211.98	0.00	0.00	0.00
1,300.00	22.07	74.59	1,262.41	66.31	240.59	249.56	0.00	0.00	0.00
1,400.00	22.07	74.59	1,355.08	76.29	276.82	287.14	0.00	0.00	0.00
1,500.00	22.07	74.59	1,447.75	86.28	313.05	324.72	0.00	0.00	0.00
1,556.39	22.07	74.59	1,500.00	91.91	333.48	345.92	0.00	0.00	0.00
Surface Casing									
1,600.00	22.07	74.59	1,540.42	96.26	349.28	362.31	0.00	0.00	0.00
1,700.00	22.07	74.59	1,633.09	106.25	385.52	399.89	0.00	0.00	0.00
1,800.00	22.07	74.59	1,725.75	116.23	421.75	437.47	0.00	0.00	0.00
1,900.00	22.07	74.59	1,818.42	126.22	457.98	475.05	0.00	0.00	0.00
2,000.00	22.07	74.59	1,911.09	136.20	494.21	512.63	0.00	0.00	0.00
2,100.00	22.07	74.59	2,003.76	146.19	530.44	550.22	0.00	0.00	0.00
2,200.00	22.07	74.59	2,096.43	156.17	566.67	587.80	0.00	0.00	0.00
2,300.00	22.07	74.59	2,189.10	166.16	602.90	625.38	0.00	0.00	0.00
2,400.00	22.07	74.59	2,281.77	176.14	639.13	662.96	0.00	0.00	0.00
2,500.00	22.07	74.59	2,374.44	186.13	675.37	700.54	0.00	0.00	0.00
2,600.00	22.07	74.59	2,467.11	196.11	711.60	738.12	0.00	0.00	0.00
2,700.00	22.07	74.59	2,559.78	206.10	747.83	775.71	0.00	0.00	0.00
2,800.00	22.07	74.59	2,652.45	216.08	784.06	813.29	0.00	0.00	0.00
2,900.00	22.07	74.59	2,745.12	226.07	820.29	850.87	0.00	0.00	0.00
3,000.00	22.07	74.59	2,837.79	236.05	856.52	888.45	0.00	0.00	0.00
3,100.00	22.07	74.59	2,930.46	246.04	892.75	926.03	0.00	0.00	0.00
3,200.00	22.07	74.59	3,023.13	256.02	928.98	963.62	0.00	0.00	0.00
3,300.00	22.07	74.59	3,115.79	266.01	965.21	1,001.20	0.00	0.00	0.00
3,400.00	22.07	74.59	3,208.46	275.99	1,001.45	1,038.78	0.00	0.00	0.00
3,500.00	22.07	74.59	3,301.13	285.98	1,037.68	1,076.36	0.00	0.00	0.00
3,600.00	22.07	74.59	3,393.80	295.96	1,073.91	1,113.94	0.00	0.00	0.00
3,684.38	22.07	74.59	3,472.00	304.39	1,104.48	1,145.66	0.00	0.00	0.00
WILLIAMS FORK:									
3,700.00	22.07	74.59	3,486.47	305.95	1,110.14	1,151.53	0.00	0.00	0.00
3,800.00	22.07	74.59	3,579.14	315.93	1,146.37	1,189.11	0.00	0.00	0.00
3,900.00	22.07	74.59	3,671.81	325.92	1,182.60	1,226.69	0.00	0.00	0.00
4,000.00	22.07	74.59	3,764.48	335.90	1,218.83	1,264.27	0.00	0.00	0.00
4,100.00	22.07	74.59	3,857.15	345.89	1,255.06	1,301.85	0.00	0.00	0.00
4,200.00	22.07	74.59	3,949.82	355.87	1,291.29	1,339.43	0.00	0.00	0.00
4,300.00	22.07	74.59	4,042.49	365.86	1,327.53	1,377.02	0.00	0.00	0.00
4,400.00	22.07	74.59	4,135.16	375.84	1,363.76	1,414.60	0.00	0.00	0.00
4,495.53	22.07	74.59	4,223.69	385.38	1,398.37	1,450.50	0.00	0.00	0.00
Drop at 2.50°/100'									
4,500.00	21.96	74.59	4,227.83	385.82	1,399.98	1,452.18	2.50	-2.50	0.00

Database:	EDM Depart	Local Co-ordinate Reference:	Well Hawxhurst 17-03C
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6807.00ft (Original Well Elev)
Project:	MESA CO	MD Reference:	WELL @ 6807.00ft (Original Well Elev)
Site:	Sec 17-T9S-R94W (Hawxhurst 17-04B Pad)	North Reference:	True
Well:	Hawxhurst 17-03C	Survey Calculation Method:	Minimum Curvature
Wellbore:	S-Well		
Design:	Plan #1		

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)
4,600.00	19.46	74.59	4,321.36	395.22	1,434.08	1,487.54	2.50	-2.50	0.00
4,700.00	16.96	74.59	4,416.34	403.52	1,464.21	1,518.80	2.50	-2.50	0.00
4,800.00	14.46	74.59	4,512.59	410.72	1,490.32	1,545.88	2.50	-2.50	0.00
4,900.00	11.96	74.59	4,609.94	416.79	1,512.35	1,568.73	2.50	-2.50	0.00
5,000.00	9.46	74.59	4,708.19	421.73	1,530.27	1,587.32	2.50	-2.50	0.00
5,100.00	6.96	74.59	4,807.16	425.53	1,544.04	1,601.60	2.50	-2.50	0.00
5,200.00	4.46	74.59	4,906.65	428.17	1,553.64	1,611.56	2.50	-2.50	0.00
5,300.00	1.96	74.59	5,006.49	429.66	1,559.04	1,617.16	2.50	-2.50	0.00
5,378.53	0.00	0.00	5,085.00	430.02	1,560.34	1,618.51	2.50	-2.50	-94.99
EOD - TOG - ETOG: - Hawxhurst 17-03C TOG									
5,400.00	0.00	0.00	5,106.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
5,500.00	0.00	0.00	5,206.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
5,600.00	0.00	0.00	5,306.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
5,700.00	0.00	0.00	5,406.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
5,800.00	0.00	0.00	5,506.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
5,900.00	0.00	0.00	5,606.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,000.00	0.00	0.00	5,706.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,100.00	0.00	0.00	5,806.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,200.00	0.00	0.00	5,906.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,270.53	0.00	0.00	5,977.00	430.02	1,560.34	1,618.51	0.00	0.00	0.00
CAMEO:									
6,300.00	0.00	0.00	6,006.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,400.00	0.00	0.00	6,106.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,500.00	0.00	0.00	6,206.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,600.00	0.00	0.00	6,306.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,655.53	0.00	0.00	6,362.00	430.02	1,560.34	1,618.51	0.00	0.00	0.00
ROLLINS:									
6,700.00	0.00	0.00	6,406.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,800.00	0.00	0.00	6,506.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
6,900.00	0.00	0.00	6,606.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,000.00	0.00	0.00	6,706.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,058.53	0.00	0.00	6,765.00	430.02	1,560.34	1,618.51	0.00	0.00	0.00
COZZETTE									
7,100.00	0.00	0.00	6,806.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,200.00	0.00	0.00	6,906.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,232.53	0.00	0.00	6,939.00	430.02	1,560.34	1,618.51	0.00	0.00	0.00
CORCORAN									
7,300.00	0.00	0.00	7,006.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,400.00	0.00	0.00	7,106.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,500.00	0.00	0.00	7,206.47	430.02	1,560.34	1,618.51	0.00	0.00	0.00
7,582.53	0.00	0.00	7,289.00	430.02	1,560.34	1,618.51	0.00	0.00	0.00
TD - 833' FNL & 1952' FWL - ETD: - Hawxhurst 17-03C TD									

Database:	EDM Depart	Local Co-ordinate Reference:	Well Hawxhurst 17-03C
Company:	Laramie Energy II, LLC	TVD Reference:	WELL @ 6807.00ft (Original Well Elev)
Project:	MESA CO	MD Reference:	WELL @ 6807.00ft (Original Well Elev)
Site:	Sec 17-T9S-R94W (Hawxhurst 17-04B Pad)	North Reference:	True
Well:	Hawxhurst 17-03C	Survey Calculation Method:	Minimum Curvature
Wellbore:	S-Well		
Design:	Plan #1		

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)		
Hawxhurst 17-03C TOG	0.00	0.00	5,085.00	430.02	1,560.34	14,278,477.42	817,488.83	39° 16' 54.4440 N	107° 54' 28.8360 W
- plan hits target center									
- Circle (radius 50.00)									
Hawxhurst 17-03C TD	0.00	0.00	7,289.00	430.02	1,560.34	14,278,477.42	817,488.83	39° 16' 54.4440 N	107° 54' 28.8360 W
- plan hits target center									
- Circle (radius 0.00)									

Casing Points				
Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
(ft)	(ft)	Name	(in)	(in)
1,556.39	1,500.00	Surface Casing	0.000	0.000

Formations					
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
3,684.38	3,472.00	WILLIAMS FORK:			
5,378.53	5,085.00	ETOG:			
6,270.53	5,977.00	CAMEO:			
6,655.53	6,362.00	ROLLINS:			
7,058.53	6,765.00	COZZETTE			
7,232.53	6,939.00	CORCORAN			
7,582.53	7,289.00	ETD:			

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		
(ft)	(ft)	+N/-S	+E/-W	Comment
(ft)	(ft)	(ft)	(ft)	
200.00	200.00	0.00	0.00	KOP - Build at 2.50°/100'
1,083.00	1,061.31	44.64	161.97	EOB - 22.07° Inc.
4,495.53	4,223.69	385.38	1,398.37	Drop at 2.50°/100'
5,378.53	5,085.00	430.02	1,560.34	EOD - TOG
7,582.53	7,289.00	430.02	1,560.34	TD - 833' FNL & 1952' FWL