

EE3

Well Name: **Gregory 5-09H**

Surface Location: Gergory 5-09H Pad Sec.9-T7N-R80W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

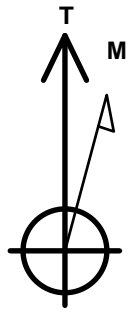
Ground Elevation: 8118.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1457285.05	2753429.44	40.585258	-106.387760	

RKB - 23' WELL @ 8141.0ft (RKB - 23')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
Sectionline	1.0	-202.0	-71.0	Polygon
Setback 600' BHL	1.0	4752.5	1600.0	Polygon
Setback 600' SHL	1.0	412.6	532.2	Polygon
SHL 202'FSL & 71'FWL	1.0	0.0	0.0	Point
Landing Pt. 610'FSL & 610'FWL	7638.0	422.6	542.2	Point
BHL 610'FNL & 1930'FWL	7738.0	4742.5	1890.6	Point



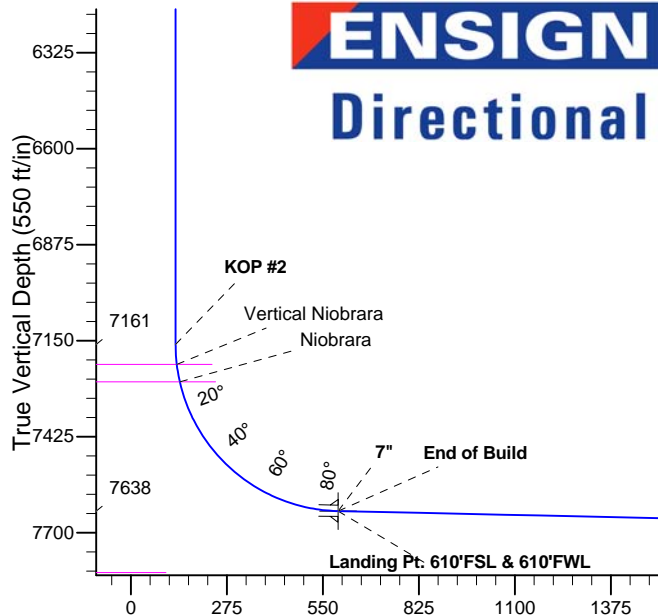
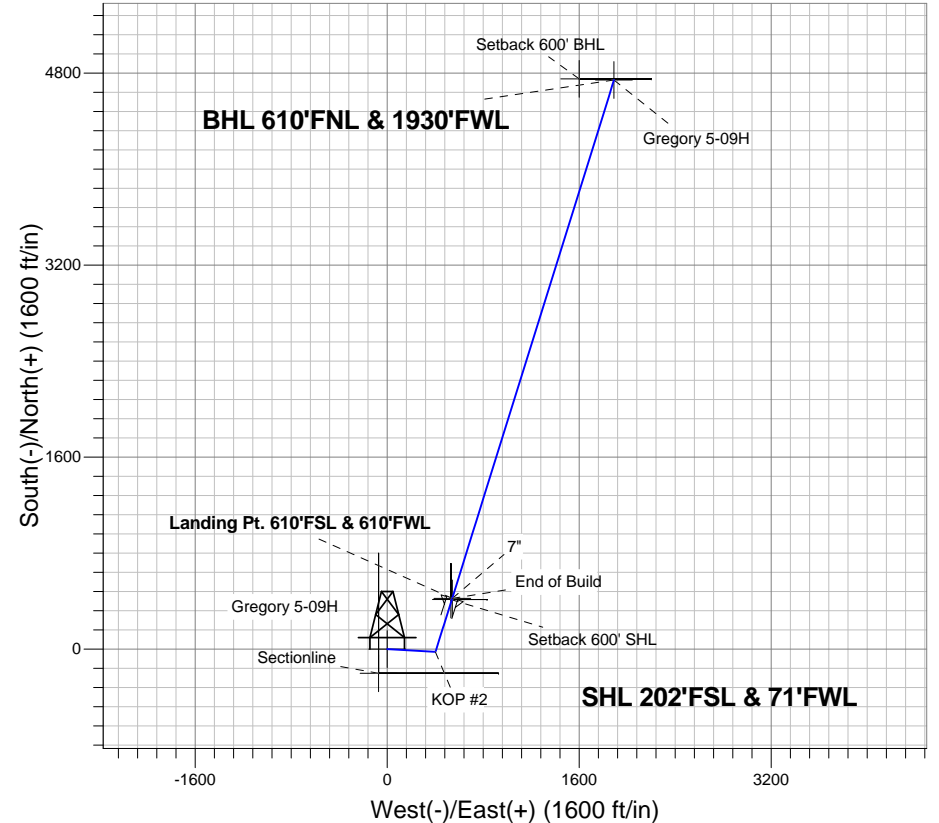
Azimuths to True North
Magnetic North: 9.32°

Magnetic Field
Strength: 52706.3snT
Dip Angle: 66.83°
Date: 6/18/2014
Model: IGRF2010

Gergory 5-09H Pad Sec.9-T7N-R80W
Gregory 5-09H
Plan #1 (6-18-14)
12:03, June 18 2014

ANNOTATIONS

TVD	MD	Annotation
1000.0	1000.0	KOP #1
7160.6	7182.0	KOP #2
7638.0	7921.5	End of Build



ENSIGN
Directional

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	0.00	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1312.0	6.24	93.27	1311.3	-1.0	16.9	2.00	93.27	5.4	
4	4709.4	6.24	93.27	4688.7	-22.0	385.6	0.00	0.00	122.3	
5	5021.4	0.00	0.00	5000.0	-23.0	402.5	2.00	180.00	127.7	
6	7182.0	0.00	0.00	7160.6	-23.0	402.5	0.00	0.00	127.7	
7	7921.4	88.73	17.40	7638.0	422.5	542.1	12.00	17.40	593.2	
8	7921.5	88.73	17.40	7638.0	422.6	542.2	0.00	0.00	593.4	Landing Pt. 610'FSL & 610'FWL
9	7928.2	88.73	17.34	7638.1	429.0	544.2	1.00	-86.46	600.0	
10	12448.1	88.73	17.34	7738.0	4742.5	1890.6	0.00	0.00	5105.5	BHL 610'FNL & 1930'FWL



EE3

SEC.9-T7N-R80W

Gergory 5-09H Pad Sec.9-T7N-R80W

Gregory 5-09H

Wellbore #1

Plan: Plan #1 (6-18-14)

Standard Planning Report

18 June, 2014



Database:	Landmark	Local Co-ordinate Reference:	Well Gregory 5-09H
Company:	EE3	TVD Reference:	WELL @ 8141.0ft (RKB - 23')
Project:	SEC.9-T7N-R80W	MD Reference:	WELL @ 8141.0ft (RKB - 23')
Site:	Gergory 5-09H Pad Sec.9-T7N-R80W	North Reference:	True
Well:	Gregory 5-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-18-14)		

Project	SEC.9-T7N-R80W, Jackson County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	Gergory 5-09H Pad Sec.9-T7N-R80W				
Site Position:		Northing:	1,457,285.06ft	Latitude:	40.585258
From:	Lat/Long	Easting:	2,753,429.44ft	Longitude:	-106.387760
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	-0.57 °

Well	Gregory 5-09H					
Well Position	+N-S	0.0 ft	Northing:	1,457,285.05 ft	Latitude:	40.585258
	+E-W	0.0 ft	Easting:	2,753,429.44 ft	Longitude:	-106.387760
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,118.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/18/2014	9.32	66.83	52,706

Design	Plan #1 (6-18-14)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	21.73

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,312.0	6.24	93.27	1,311.3	-1.0	16.9	2.00	2.00	0.00	93.27	
4,709.4	6.24	93.27	4,688.7	-22.0	385.6	0.00	0.00	0.00	0.00	
5,021.4	0.00	0.00	5,000.0	-23.0	402.5	2.00	-2.00	0.00	180.00	
7,182.0	0.00	0.00	7,160.6	-23.0	402.5	0.00	0.00	0.00	0.00	
7,921.4	88.73	17.40	7,638.0	422.5	542.1	12.00	12.00	0.00	17.40	
7,921.5	88.73	17.40	7,638.0	422.6	542.2	0.00	0.00	0.00	0.00	Landing Pt. 610'FSI
7,928.2	88.73	17.34	7,638.1	429.0	544.2	1.00	0.06	-1.00	-86.46	
12,448.1	88.73	17.34	7,738.0	4,742.5	1,890.6	0.00	0.00	0.00	0.00	BHL 610'FNL & 193

Database:	Landmark	Local Co-ordinate Reference:	Well Gregory 5-09H
Company:	EE3	TVD Reference:	WELL @ 8141.0ft (RKB - 23')
Project:	SEC.9-T7N-R80W	MD Reference:	WELL @ 8141.0ft (RKB - 23')
Site:	Gergory 5-09H Pad Sec.9-T7N-R80W	North Reference:	True
Well:	Gregory 5-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-18-14)		

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
Setback 600' BHL - SHL 202'FSL & 71'FWL - Sectionline - Setback 600' SHL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP #1									
1,100.0	2.00	93.27	1,100.0	-0.1	1.7	0.6	2.00	2.00	0.00
1,200.0	4.00	93.27	1,199.8	-0.4	7.0	2.2	2.00	2.00	0.00
1,300.0	6.00	93.27	1,299.5	-0.9	15.7	5.0	2.00	2.00	0.00
1,312.0	6.24	93.27	1,311.3	-1.0	16.9	5.4	2.00	2.00	0.00
1,400.0	6.24	93.27	1,398.9	-1.5	26.5	8.4	0.00	0.00	0.00
1,500.0	6.24	93.27	1,498.3	-2.1	37.3	11.8	0.00	0.00	0.00
1,600.0	6.24	93.27	1,597.7	-2.8	48.2	15.3	0.00	0.00	0.00
1,700.0	6.24	93.27	1,697.1	-3.4	59.0	18.7	0.00	0.00	0.00
1,800.0	6.24	93.27	1,796.5	-4.0	69.9	22.2	0.00	0.00	0.00
1,900.0	6.24	93.27	1,895.9	-4.6	80.7	25.6	0.00	0.00	0.00
2,000.0	6.24	93.27	1,995.3	-5.2	91.6	29.1	0.00	0.00	0.00
2,100.0	6.24	93.27	2,094.7	-5.9	102.4	32.5	0.00	0.00	0.00
2,200.0	6.24	93.27	2,194.1	-6.5	113.3	35.9	0.00	0.00	0.00
2,274.3	6.24	93.27	2,268.0	-6.9	121.4	38.5	0.00	0.00	0.00
Midcoal									
2,300.0	6.24	93.27	2,293.5	-7.1	124.1	39.4	0.00	0.00	0.00
2,400.0	6.24	93.27	2,392.9	-7.7	135.0	42.8	0.00	0.00	0.00
2,500.0	6.24	93.27	2,492.3	-8.3	145.8	46.3	0.00	0.00	0.00
2,600.0	6.24	93.27	2,591.8	-9.0	156.7	49.7	0.00	0.00	0.00
2,700.0	6.24	93.27	2,691.2	-9.6	167.5	53.1	0.00	0.00	0.00
2,800.0	6.24	93.27	2,790.6	-10.2	178.4	56.6	0.00	0.00	0.00
2,900.0	6.24	93.27	2,890.0	-10.8	189.2	60.0	0.00	0.00	0.00
3,000.0	6.24	93.27	2,989.4	-11.4	200.1	63.5	0.00	0.00	0.00
3,059.0	6.24	93.27	3,048.0	-11.8	206.5	65.5	0.00	0.00	0.00
Suddeth Coal									
3,100.0	6.24	93.27	3,088.8	-12.1	210.9	66.9	0.00	0.00	0.00
3,200.0	6.24	93.27	3,188.2	-12.7	221.8	70.4	0.00	0.00	0.00
3,300.0	6.24	93.27	3,287.6	-13.3	232.6	73.8	0.00	0.00	0.00
3,400.0	6.24	93.27	3,387.0	-13.9	243.5	77.2	0.00	0.00	0.00
3,500.0	6.24	93.27	3,486.4	-14.5	254.3	80.7	0.00	0.00	0.00
3,600.0	6.24	93.27	3,585.8	-15.2	265.2	84.1	0.00	0.00	0.00
3,700.0	6.24	93.27	3,685.2	-15.8	276.0	87.6	0.00	0.00	0.00
3,800.0	6.24	93.27	3,784.6	-16.4	286.9	91.0	0.00	0.00	0.00
3,900.0	6.24	93.27	3,884.1	-17.0	297.7	94.5	0.00	0.00	0.00
4,000.0	6.24	93.27	3,983.5	-17.6	308.6	97.9	0.00	0.00	0.00
4,100.0	6.24	93.27	4,082.9	-18.3	319.4	101.3	0.00	0.00	0.00
4,200.0	6.24	93.27	4,182.3	-18.9	330.3	104.8	0.00	0.00	0.00
4,300.0	6.24	93.27	4,281.7	-19.5	341.1	108.2	0.00	0.00	0.00
4,400.0	6.24	93.27	4,381.1	-20.1	352.0	111.7	0.00	0.00	0.00
4,500.0	6.24	93.27	4,480.5	-20.7	362.8	115.1	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Gregory 5-09H
Company:	EE3	TVD Reference:	WELL @ 8141.0ft (RKB - 23')
Project:	SEC.9-T7N-R80W	MD Reference:	WELL @ 8141.0ft (RKB - 23')
Site:	Gergory 5-09H Pad Sec.9-T7N-R80W	North Reference:	True
Well:	Gregory 5-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-18-14)		

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)
4,600.0	6.24	93.27	4,579.9	-21.4	373.7	118.5	0.00	0.00	0.00
4,700.0	6.24	93.27	4,679.3	-22.0	384.5	122.0	0.00	0.00	0.00
4,709.4	6.24	93.27	4,688.7	-22.0	385.6	122.3	0.00	0.00	0.00
4,800.0	4.43	93.27	4,778.9	-22.5	394.0	125.0	2.00	-2.00	0.00
4,900.0	2.43	93.27	4,878.7	-22.9	399.9	126.9	2.00	-2.00	0.00
5,000.0	0.43	93.27	4,978.6	-23.0	402.4	127.7	2.00	-2.00	0.00
5,021.4	0.00	0.00	5,000.0	-23.0	402.5	127.7	2.00	-2.00	0.00
5,100.0	0.00	0.00	5,078.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,200.0	0.00	0.00	5,178.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,300.0	0.00	0.00	5,278.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,400.0	0.00	0.00	5,378.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,500.0	0.00	0.00	5,478.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,569.4	0.00	0.00	5,548.0	-23.0	402.5	127.7	0.00	0.00	0.00
Sussex									
5,600.0	0.00	0.00	5,578.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,678.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,778.6	-23.0	402.5	127.7	0.00	0.00	0.00
5,869.4	0.00	0.00	5,848.0	-23.0	402.5	127.7	0.00	0.00	0.00
Shannon									
5,900.0	0.00	0.00	5,878.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,978.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,100.0	0.00	0.00	6,078.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,178.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,300.0	0.00	0.00	6,278.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,378.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,500.0	0.00	0.00	6,478.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,578.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,700.0	0.00	0.00	6,678.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,778.6	-23.0	402.5	127.7	0.00	0.00	0.00
6,900.0	0.00	0.00	6,878.6	-23.0	402.5	127.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,978.6	-23.0	402.5	127.7	0.00	0.00	0.00
7,100.0	0.00	0.00	7,078.6	-23.0	402.5	127.7	0.00	0.00	0.00
7,182.0	0.00	0.00	7,160.6	-23.0	402.5	127.7	0.00	0.00	0.00
KOP #2									
7,200.0	2.16	17.40	7,178.6	-22.7	402.6	128.0	12.00	12.00	0.00
7,239.5	6.90	17.40	7,218.0	-19.7	403.5	131.1	12.00	12.00	0.00
Vertical Niobrara									
7,290.3	12.99	17.40	7,268.0	-11.3	406.2	139.9	12.00	12.00	0.00
Niobrara									
7,300.0	14.16	17.40	7,277.4	-9.2	406.8	142.2	12.00	12.00	0.00
7,400.0	26.16	17.40	7,371.2	23.7	417.1	176.5	12.00	12.00	0.00
7,500.0	38.16	17.40	7,455.7	74.4	433.0	229.4	12.00	12.00	0.00
7,600.0	50.16	17.40	7,527.3	140.7	453.8	298.8	12.00	12.00	0.00
7,700.0	62.16	17.40	7,582.8	219.8	478.6	381.4	12.00	12.00	0.00
7,800.0	74.16	17.40	7,620.0	308.2	506.3	473.8	12.00	12.00	0.00
7,900.0	86.16	17.40	7,637.0	402.1	535.7	571.9	12.00	12.00	0.00
7,921.4	88.73	17.40	7,638.0	422.5	542.1	593.2	12.00	12.00	0.00
7,921.5	88.73	17.40	7,638.0	422.6	542.2	593.4	0.00	0.00	0.00
End of Build - 7" - Landing Pt. 610'FSL & 610'FWL									
7,928.2	88.73	17.34	7,638.1	429.0	544.2	600.0	1.00	0.06	-1.00
8,000.0	88.73	17.34	7,639.7	497.5	565.5	671.6	0.00	0.00	0.00
8,100.0	88.73	17.34	7,641.9	592.9	595.3	771.2	0.00	0.00	0.00
8,200.0	88.73	17.34	7,644.2	688.4	625.1	870.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Gregory 5-09H
Company:	EE3	TVD Reference:	WELL @ 8141.0ft (RKB - 23')
Project:	SEC.9-T7N-R80W	MD Reference:	WELL @ 8141.0ft (RKB - 23')
Site:	Gergory 5-09H Pad Sec.9-T7N-R80W	North Reference:	True
Well:	Gregory 5-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-18-14)		

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)
8,300.0	88.73	17.34	7,646.4	783.8	654.9	970.6	0.00	0.00	0.00
8,400.0	88.73	17.34	7,648.6	879.2	684.7	1,070.3	0.00	0.00	0.00
8,500.0	88.73	17.34	7,650.8	974.7	714.5	1,170.0	0.00	0.00	0.00
8,600.0	88.73	17.34	7,653.0	1,070.1	744.3	1,269.6	0.00	0.00	0.00
8,700.0	88.73	17.34	7,655.2	1,165.5	774.1	1,369.3	0.00	0.00	0.00
8,800.0	88.73	17.34	7,657.4	1,261.0	803.9	1,469.0	0.00	0.00	0.00
8,900.0	88.73	17.34	7,659.6	1,356.4	833.7	1,568.7	0.00	0.00	0.00
9,000.0	88.73	17.34	7,661.8	1,451.8	863.4	1,668.4	0.00	0.00	0.00
9,100.0	88.73	17.34	7,664.0	1,547.3	893.2	1,768.1	0.00	0.00	0.00
9,200.0	88.73	17.34	7,666.2	1,642.7	923.0	1,867.7	0.00	0.00	0.00
9,300.0	88.73	17.34	7,668.5	1,738.1	952.8	1,967.4	0.00	0.00	0.00
9,400.0	88.73	17.34	7,670.7	1,833.6	982.6	2,067.1	0.00	0.00	0.00
9,500.0	88.73	17.34	7,672.9	1,929.0	1,012.4	2,166.8	0.00	0.00	0.00
9,600.0	88.73	17.34	7,675.1	2,024.5	1,042.2	2,266.5	0.00	0.00	0.00
9,700.0	88.73	17.34	7,677.3	2,119.9	1,072.0	2,366.1	0.00	0.00	0.00
9,800.0	88.73	17.34	7,679.5	2,215.3	1,101.8	2,465.8	0.00	0.00	0.00
9,900.0	88.73	17.34	7,681.7	2,310.8	1,131.5	2,565.5	0.00	0.00	0.00
10,000.0	88.73	17.34	7,683.9	2,406.2	1,161.3	2,665.2	0.00	0.00	0.00
10,100.0	88.73	17.34	7,686.1	2,501.6	1,191.1	2,764.9	0.00	0.00	0.00
10,200.0	88.73	17.34	7,688.3	2,597.1	1,220.9	2,864.5	0.00	0.00	0.00
10,300.0	88.73	17.34	7,690.5	2,692.5	1,250.7	2,964.2	0.00	0.00	0.00
10,400.0	88.73	17.34	7,692.8	2,787.9	1,280.5	3,063.9	0.00	0.00	0.00
10,500.0	88.73	17.34	7,695.0	2,883.4	1,310.3	3,163.6	0.00	0.00	0.00
10,600.0	88.73	17.34	7,697.2	2,978.8	1,340.1	3,263.3	0.00	0.00	0.00
10,700.0	88.73	17.34	7,699.4	3,074.2	1,369.9	3,363.0	0.00	0.00	0.00
10,800.0	88.73	17.34	7,701.6	3,169.7	1,399.7	3,462.6	0.00	0.00	0.00
10,900.0	88.73	17.34	7,703.8	3,265.1	1,429.4	3,562.3	0.00	0.00	0.00
11,000.0	88.73	17.34	7,706.0	3,360.5	1,459.2	3,662.0	0.00	0.00	0.00
11,100.0	88.73	17.34	7,708.2	3,456.0	1,489.0	3,761.7	0.00	0.00	0.00
11,200.0	88.73	17.34	7,710.4	3,551.4	1,518.8	3,861.4	0.00	0.00	0.00
11,300.0	88.73	17.34	7,712.6	3,646.8	1,548.6	3,961.0	0.00	0.00	0.00
11,400.0	88.73	17.34	7,714.8	3,742.3	1,578.4	4,060.7	0.00	0.00	0.00
11,500.0	88.73	17.34	7,717.1	3,837.7	1,608.2	4,160.4	0.00	0.00	0.00
11,600.0	88.73	17.34	7,719.3	3,933.1	1,638.0	4,260.1	0.00	0.00	0.00
11,700.0	88.73	17.34	7,721.5	4,028.6	1,667.8	4,359.8	0.00	0.00	0.00
11,800.0	88.73	17.34	7,723.7	4,124.0	1,697.5	4,459.4	0.00	0.00	0.00
11,900.0	88.73	17.34	7,725.9	4,219.4	1,727.3	4,559.1	0.00	0.00	0.00
12,000.0	88.73	17.34	7,728.1	4,314.9	1,757.1	4,658.8	0.00	0.00	0.00
12,100.0	88.73	17.34	7,730.3	4,410.3	1,786.9	4,758.5	0.00	0.00	0.00
12,200.0	88.73	17.34	7,732.5	4,505.7	1,816.7	4,858.2	0.00	0.00	0.00
12,300.0	88.73	17.34	7,734.7	4,601.2	1,846.5	4,957.8	0.00	0.00	0.00
12,400.0	88.73	17.34	7,736.9	4,696.6	1,876.3	5,057.5	0.00	0.00	0.00
12,448.1	88.73	17.34	7,738.0	4,742.5	1,890.6	5,105.5	0.00	0.00	0.00
BHL 610'FNL & 1930'FWL									

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,921.5	7,638.0	7"	7	7-1/2

Database:	Landmark	Local Co-ordinate Reference:	Well Gregory 5-09H
Company:	EE3	TVD Reference:	WELL @ 8141.0ft (RKB - 23')
Project:	SEC.9-T7N-R80W	MD Reference:	WELL @ 8141.0ft (RKB - 23')
Site:	Gergory 5-09H Pad Sec.9-T7N-R80W	North Reference:	True
Well:	Gregory 5-09H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-18-14)		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,274.3	2,268.0	Midcoal		0.00	
3,059.0	3,048.0	Suddeth Coal		0.00	
5,569.4	5,548.0	Sussex		0.00	
5,869.4	5,848.0	Shannon		0.00	
7,239.5	7,218.0	Vertical Niobrara		0.00	
7,290.3	7,268.0	Niobrara		0.00	
	7,814.0	Carlisle		0.00	

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,000.0	1,000.0	0.0	0.0	KOP #1
7,182.0	7,160.6	-23.0	402.5	KOP #2
7,921.5	7,638.0	422.6	542.2	End of Build