

EE3

Well Name: **Marr 6-07H**

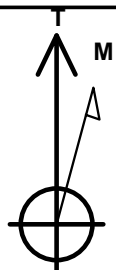
Surface Location: Hebron 2-07 Pad Sec 7 - 7N-80W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
Ground Elevation: 8131.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1462131.49	2745789.85	40.598347	-106.415444	

Original Well Elev WELL @ 8144.0ft (Original Well Elev)

WELLBORE TARGET DETAILS

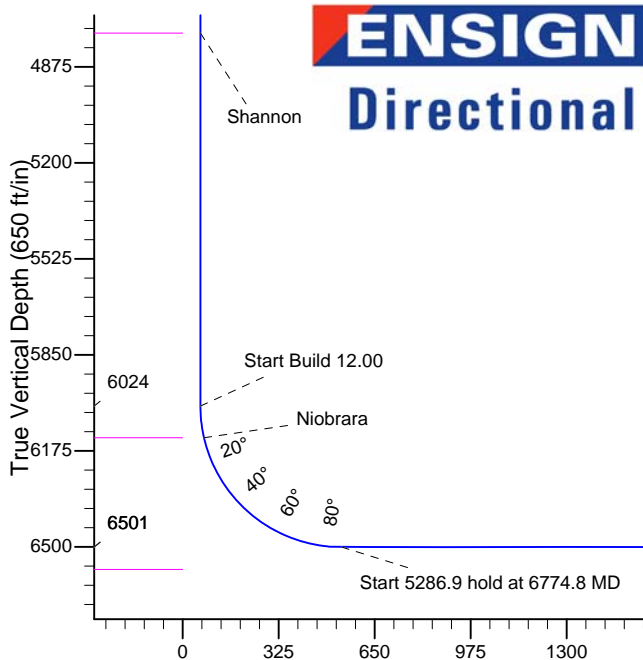
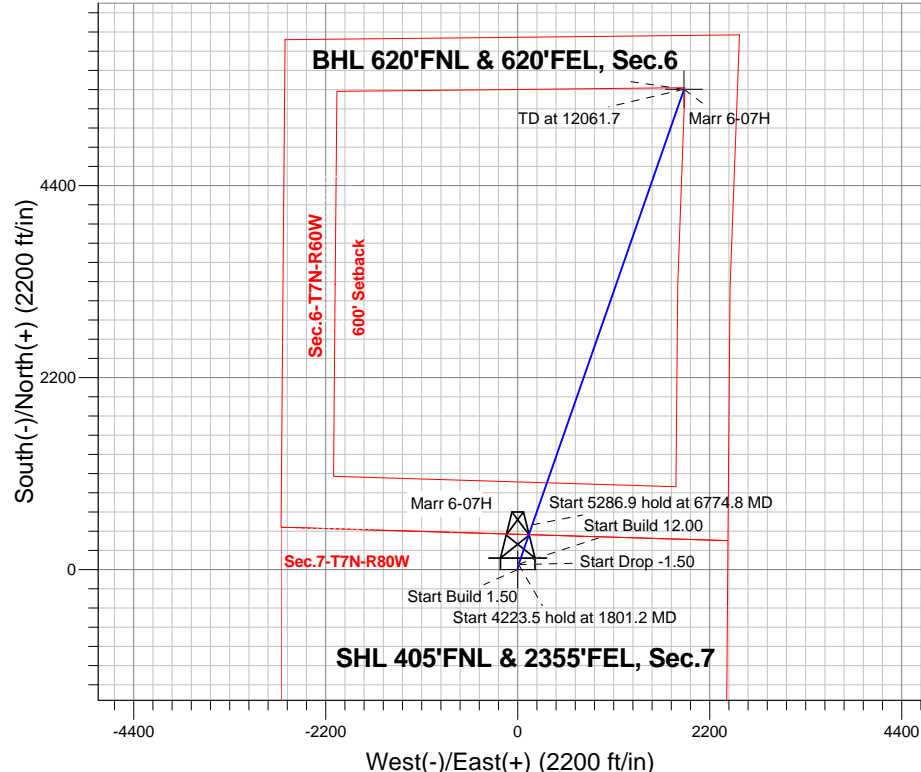
Name	TVD	+N/-S	+E/-W	Shape
SHL 405'FNL & 2355'FEL, Sec.7	1.0	0.0	0.0	Point
BHL 620'FNL & 620'FEL, Sec.6	6501.0	5503.6	1906.3	Point



Azimuths to True North
Magnetic North: 9.33°

Magnetic Field
Strength: 52708.5snT
Dip Angle: 66.83°
Date: 6/23/2014
Model: IGRF2010

Hebron 2-07 Pad Sec 7 - 7N-80W
Marr 6-07H
Plan #1 (6-23-14)
13:10, June 27 2014



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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	361.4	2.42	9.46	361.4	3.4	0.6	1.50	9.46	3.4	
4	1639.8	2.42	9.46	1638.6	56.6	9.4	0.00	0.00	56.6	
5	1801.2	0.00	0.00	1800.0	60.0	10.0	1.50	180.00	60.0	
6	6024.8	0.00	0.00	6023.5	60.0	10.0	0.00	0.00	60.0	
7	6774.8	90.00	19.21	6501.0	510.9	167.1	12.00	19.21	537.4	
8	12061.7	90.00	19.21	6501.0	5503.6	1906.3	0.00	0.00	5824.4	BHL 620'FNL & 620'FEL, Sec.6

BHL 620'FNL & 620'FEL, Sec.6

TD at 12061.7

Vertical Section at 19.10° (650 ft/in)



EE3

NORTH PARK

Hebron 2-07 Pad Sec 7 - 7N-80W

Marr 6-07H

Wellbore #1

Plan: Plan #1 (6-23-14)

Standard Planning Report

27 June, 2014



Database:	landmark	Local Co-ordinate Reference:	Well Marr 6-07H
Company:	EE3	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Project:	NORTH PARK	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	North Reference:	True
Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-23-14)		

Project	NORTH PARK		
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						Hebron 2-07 Pad Sec 7 - 7N-80W							
Site Position: From: Position Uncertainty:			Lat/Long 0.0 ft			Northing:		1,462,116.63ft		Latitude:		40.598306	
						Easting:		2,745,782.76ft		Longitude:		-106.415469	
						Slot Radius:		"		Grid Convergence:		-0.59 °	

Well	Marr 6-07H					
Well Position	+N/-S	14.9 ft	Northing:	1,462,131.49 ft	Latitude:	40.598347
	+E/-W	6.9 ft	Easting:	2,745,789.85 ft	Longitude:	-106.415444
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	8,131.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/23/2014	9.33	66.83	52,708

Design	Plan #1 (6-23-14)			
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	19.10

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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
361.4	2.42	9.46	361.4	3.4	0.6	1.50	1.50	0.00	9.46	
1,639.8	2.42	9.46	1,638.6	56.6	9.4	0.00	0.00	0.00	0.00	
1,801.2	0.00	0.00	1,800.0	60.0	10.0	1.50	-1.50	0.00	180.00	
6,024.8	0.00	0.00	6,023.5	60.0	10.0	0.00	0.00	0.00	0.00	
6,774.8	90.00	19.21	6,501.0	510.9	167.1	12.00	12.00	0.00	19.21	
12,061.7	90.00	19.21	6,501.0	5,503.6	1,906.3	0.00	0.00	0.00	0.00	BHL 620'FNL & 620'

Database:	landmark	Local Co-ordinate Reference:	Well Marr 6-07H
Company:	EE3	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Project:	NORTH PARK	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	North Reference:	True
Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-23-14)		

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
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	1.50	9.46	300.0	1.3	0.2	1.3	1.50	1.50	0.00
361.4	2.42	9.46	361.4	3.4	0.6	3.4	1.50	1.50	0.00
400.0	2.42	9.46	399.9	5.0	0.8	5.0	0.00	0.00	0.00
500.0	2.42	9.46	499.8	9.1	1.5	9.1	0.00	0.00	0.00
600.0	2.42	9.46	599.7	13.3	2.2	13.3	0.00	0.00	0.00
700.0	2.42	9.46	699.6	17.5	2.9	17.5	0.00	0.00	0.00
800.0	2.42	9.46	799.6	21.6	3.6	21.6	0.00	0.00	0.00
900.0	2.42	9.46	899.5	25.8	4.3	25.8	0.00	0.00	0.00
1,000.0	2.42	9.46	999.4	30.0	5.0	30.0	0.00	0.00	0.00
1,100.0	2.42	9.46	1,099.3	34.1	5.7	34.1	0.00	0.00	0.00
1,181.8	2.42	9.46	1,181.0	37.5	6.3	37.5	0.00	0.00	0.00
Midcoal									
1,200.0	2.42	9.46	1,199.2	38.3	6.4	38.3	0.00	0.00	0.00
1,300.0	2.42	9.46	1,299.1	42.5	7.1	42.5	0.00	0.00	0.00
1,400.0	2.42	9.46	1,399.0	46.6	7.8	46.6	0.00	0.00	0.00
1,500.0	2.42	9.46	1,498.9	50.8	8.5	50.8	0.00	0.00	0.00
1,600.0	2.42	9.46	1,598.8	55.0	9.2	54.9	0.00	0.00	0.00
1,639.8	2.42	9.46	1,638.6	56.6	9.4	56.6	0.00	0.00	0.00
1,700.0	1.52	9.46	1,698.8	58.7	9.8	58.6	1.50	-1.50	0.00
1,800.0	0.02	9.46	1,798.8	60.0	10.0	60.0	1.50	-1.50	0.00
1,801.2	0.00	0.00	1,800.0	60.0	10.0	60.0	1.50	-1.50	0.00
1,900.0	0.00	0.00	1,898.8	60.0	10.0	60.0	0.00	0.00	0.00
1,962.2	0.00	0.00	1,961.0	60.0	10.0	60.0	0.00	0.00	0.00
Suddeth Coal									
2,000.0	0.00	0.00	1,998.8	60.0	10.0	60.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,098.8	60.0	10.0	60.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,198.8	60.0	10.0	60.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,298.8	60.0	10.0	60.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,398.8	60.0	10.0	60.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,498.8	60.0	10.0	60.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,598.8	60.0	10.0	60.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,698.8	60.0	10.0	60.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,798.8	60.0	10.0	60.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,898.8	60.0	10.0	60.0	0.00	0.00	0.00
3,000.0	0.00	0.00	2,998.8	60.0	10.0	60.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,098.8	60.0	10.0	60.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,198.8	60.0	10.0	60.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,298.8	60.0	10.0	60.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,398.8	60.0	10.0	60.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,498.8	60.0	10.0	60.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,598.8	60.0	10.0	60.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,698.8	60.0	10.0	60.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,798.8	60.0	10.0	60.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,898.8	60.0	10.0	60.0	0.00	0.00	0.00
4,000.0	0.00	0.00	3,998.8	60.0	10.0	60.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,098.8	60.0	10.0	60.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,198.8	60.0	10.0	60.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,298.8	60.0	10.0	60.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,398.8	60.0	10.0	60.0	0.00	0.00	0.00
4,462.2	0.00	0.00	4,461.0	60.0	10.0	60.0	0.00	0.00	0.00

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Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	North Reference:	True
Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-23-14)		

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)	
Sussex										
4,500.0	0.00	0.00	4,498.8	60.0	10.0	60.0	0.00	0.00	0.00	
4,600.0	0.00	0.00	4,598.8	60.0	10.0	60.0	0.00	0.00	0.00	
4,700.0	0.00	0.00	4,698.8	60.0	10.0	60.0	0.00	0.00	0.00	
4,762.2	0.00	0.00	4,761.0	60.0	10.0	60.0	0.00	0.00	0.00	
Shannon										
4,800.0	0.00	0.00	4,798.8	60.0	10.0	60.0	0.00	0.00	0.00	
4,900.0	0.00	0.00	4,898.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,000.0	0.00	0.00	4,998.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,100.0	0.00	0.00	5,098.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,200.0	0.00	0.00	5,198.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,300.0	0.00	0.00	5,298.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,398.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,498.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,598.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,698.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,798.8	60.0	10.0	60.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,898.8	60.0	10.0	60.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,998.8	60.0	10.0	60.0	0.00	0.00	0.00	
6,024.8	0.00	0.00	6,023.5	60.0	10.0	60.0	0.00	0.00	0.00	
6,100.0	9.03	19.21	6,098.5	65.6	11.9	65.9	12.00	12.00	0.00	
6,133.2	13.01	19.21	6,131.0	71.6	14.0	72.2	12.00	12.00	0.00	
Niobrara										
6,200.0	21.03	19.21	6,194.9	90.0	20.5	91.8	12.00	12.00	0.00	
6,300.0	33.03	19.21	6,283.8	132.9	35.4	137.1	12.00	12.00	0.00	
6,400.0	45.03	19.21	6,361.3	192.2	56.1	200.0	12.00	12.00	0.00	
6,500.0	57.03	19.21	6,424.1	265.5	81.6	277.6	12.00	12.00	0.00	
6,600.0	69.03	19.21	6,469.4	349.5	110.9	366.5	12.00	12.00	0.00	
6,700.0	81.03	19.21	6,495.2	440.6	142.6	463.0	12.00	12.00	0.00	
6,774.8	90.00	19.21	6,501.0	510.9	167.1	537.4	12.00	12.00	0.00	
6,800.0	90.00	19.21	6,501.0	534.7	175.4	562.7	0.00	0.00	0.00	
6,900.0	90.00	19.21	6,501.0	629.1	208.3	662.7	0.00	0.00	0.00	
7,000.0	90.00	19.21	6,501.0	723.6	241.2	762.7	0.00	0.00	0.00	
7,100.0	90.00	19.21	6,501.0	818.0	274.1	862.7	0.00	0.00	0.00	
7,200.0	90.00	19.21	6,501.0	912.5	307.0	962.7	0.00	0.00	0.00	
7,300.0	90.00	19.21	6,501.0	1,006.9	339.8	1,062.7	0.00	0.00	0.00	
7,400.0	90.00	19.21	6,501.0	1,101.3	372.7	1,162.7	0.00	0.00	0.00	
7,500.0	90.00	19.21	6,501.0	1,195.8	405.6	1,262.7	0.00	0.00	0.00	
7,600.0	90.00	19.21	6,501.0	1,290.2	438.5	1,362.7	0.00	0.00	0.00	
7,700.0	90.00	19.21	6,501.0	1,384.6	471.4	1,462.7	0.00	0.00	0.00	
7,800.0	90.00	19.21	6,501.0	1,479.1	504.3	1,562.7	0.00	0.00	0.00	
7,900.0	90.00	19.21	6,501.0	1,573.5	537.2	1,662.7	0.00	0.00	0.00	
8,000.0	90.00	19.21	6,501.0	1,667.9	570.1	1,762.7	0.00	0.00	0.00	
8,100.0	90.00	19.21	6,501.0	1,762.4	603.0	1,862.7	0.00	0.00	0.00	
8,200.0	90.00	19.21	6,501.0	1,856.8	635.9	1,962.7	0.00	0.00	0.00	
8,300.0	90.00	19.21	6,501.0	1,951.2	668.8	2,062.7	0.00	0.00	0.00	
8,400.0	90.00	19.21	6,501.0	2,045.7	701.7	2,162.7	0.00	0.00	0.00	
8,500.0	90.00	19.21	6,501.0	2,140.1	734.6	2,262.7	0.00	0.00	0.00	
8,600.0	90.00	19.21	6,501.0	2,234.5	767.5	2,362.7	0.00	0.00	0.00	
8,700.0	90.00	19.21	6,501.0	2,329.0	800.4	2,462.7	0.00	0.00	0.00	
8,800.0	90.00	19.21	6,501.0	2,423.4	833.3	2,562.7	0.00	0.00	0.00	
8,900.0	90.00	19.21	6,501.0	2,517.8	866.2	2,662.7	0.00	0.00	0.00	
9,000.0	90.00	19.21	6,501.0	2,612.3	899.1	2,762.7	0.00	0.00	0.00	

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Project:	NORTH PARK	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	North Reference:	True
Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (6-23-14)		

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)	
9,100.0	90.00	19.21	6,501.0	2,706.7	932.0	2,862.7	0.00	0.00	0.00	
9,200.0	90.00	19.21	6,501.0	2,801.1	964.9	2,962.7	0.00	0.00	0.00	
9,300.0	90.00	19.21	6,501.0	2,895.6	997.8	3,062.7	0.00	0.00	0.00	
9,400.0	90.00	19.21	6,501.0	2,990.0	1,030.7	3,162.7	0.00	0.00	0.00	
9,500.0	90.00	19.21	6,501.0	3,084.4	1,063.6	3,262.7	0.00	0.00	0.00	
9,600.0	90.00	19.21	6,501.0	3,178.9	1,096.5	3,362.7	0.00	0.00	0.00	
9,700.0	90.00	19.21	6,501.0	3,273.3	1,129.4	3,462.7	0.00	0.00	0.00	
9,800.0	90.00	19.21	6,501.0	3,367.7	1,162.3	3,562.7	0.00	0.00	0.00	
9,900.0	90.00	19.21	6,501.0	3,462.2	1,195.2	3,662.7	0.00	0.00	0.00	
10,000.0	90.00	19.21	6,501.0	3,556.6	1,228.1	3,762.7	0.00	0.00	0.00	
10,100.0	90.00	19.21	6,501.0	3,651.0	1,260.9	3,862.7	0.00	0.00	0.00	
10,200.0	90.00	19.21	6,501.0	3,745.5	1,293.8	3,962.7	0.00	0.00	0.00	
10,300.0	90.00	19.21	6,501.0	3,839.9	1,326.7	4,062.7	0.00	0.00	0.00	
10,400.0	90.00	19.21	6,501.0	3,934.3	1,359.6	4,162.7	0.00	0.00	0.00	
10,500.0	90.00	19.21	6,501.0	4,028.8	1,392.5	4,262.7	0.00	0.00	0.00	
10,600.0	90.00	19.21	6,501.0	4,123.2	1,425.4	4,362.7	0.00	0.00	0.00	
10,700.0	90.00	19.21	6,501.0	4,217.7	1,458.3	4,462.7	0.00	0.00	0.00	
10,800.0	90.00	19.21	6,501.0	4,312.1	1,491.2	4,562.7	0.00	0.00	0.00	
10,900.0	90.00	19.21	6,501.0	4,406.5	1,524.1	4,662.7	0.00	0.00	0.00	
11,000.0	90.00	19.21	6,501.0	4,501.0	1,557.0	4,762.7	0.00	0.00	0.00	
11,100.0	90.00	19.21	6,501.0	4,595.4	1,589.9	4,862.7	0.00	0.00	0.00	
11,200.0	90.00	19.21	6,501.0	4,689.8	1,622.8	4,962.7	0.00	0.00	0.00	
11,300.0	90.00	19.21	6,501.0	4,784.3	1,655.7	5,062.7	0.00	0.00	0.00	
11,400.0	90.00	19.21	6,501.0	4,878.7	1,688.6	5,162.7	0.00	0.00	0.00	
11,500.0	90.00	19.21	6,501.0	4,973.1	1,721.5	5,262.7	0.00	0.00	0.00	
11,600.0	90.00	19.21	6,501.0	5,067.6	1,754.4	5,362.7	0.00	0.00	0.00	
11,700.0	90.00	19.21	6,501.0	5,162.0	1,787.3	5,462.7	0.00	0.00	0.00	
11,800.0	90.00	19.21	6,501.0	5,256.4	1,820.2	5,562.7	0.00	0.00	0.00	
11,900.0	90.00	19.21	6,501.0	5,350.9	1,853.1	5,662.7	0.00	0.00	0.00	
12,000.0	90.00	19.21	6,501.0	5,445.3	1,886.0	5,762.7	0.00	0.00	0.00	
12,061.7	90.00	19.21	6,501.0	5,503.6	1,906.3	5,824.4	0.00	0.00	0.00	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,181.8	1,181.0	Midcoal		0.00		
1,962.2	1,961.0	Suddeth Coal		0.00		
4,462.2	4,461.0	Sussex		0.00		
4,762.2	4,761.0	Shannon		0.00		
6,133.2	6,131.0	Niobrara		0.00		
	6,577.0	Carlisle		0.00		

EE3

NORTH PARK

Hebron 2-07 Pad Sec 7 - 7N-80W

Marr 6-07H

Wellbore #1

Plan #1 (6-23-14)

Anticollision Report

27 June, 2014

Company:	EE3	Local Co-ordinate Reference:	Well Marr 6-07H
Project:	NORTH PARK	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Reference Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #1 (6-23-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 6/24/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	12,061.7	Plan #1 (6-23-14) (Wellbore #1)	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						
Hebron 2-07 Pad Sec 7 - 7N-80W						
Hebron 2-07 - Wellbore #1 - Wellbore #1	223.0	221.1	15.9	15.3	24.375 CC, ES	
Hebron 2-07 - Wellbore #1 - Wellbore #1	4,600.0	4,596.7	89.3	79.1	8.815 SF	

Offset Design Hebron 2-07 Pad Sec 7 - 7N-80W - Hebron 2-07 - Wellbore #1 - Wellbore #1											
Survey Program: 207-MWD											
Reference Offset Semi Major Axis Distance											
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)
0.0	0.0	0.0	0.0	0.0	0.0	-155.06	-14.9	-6.9	16.6	16.6	0.00
100.0	100.0	98.0	98.0	0.1	-155.45	-14.9	-6.8	-6.8	16.3	16.1	0.22
200.0	200.0	198.1	198.1	0.3	-156.69	-14.7	-6.3	-6.3	16.0	15.4	0.56
223.0	223.0	221.1	221.0	0.4	-166.64	-14.6	-6.2	-6.2	15.9	15.3	0.65
300.0	300.0	298.2	298.2	0.6	-169.66	-14.2	-5.4	-5.4	16.5	15.5	1.00
400.0	399.9	398.2	398.2	0.8	-175.57	-13.4	-3.7	-3.7	18.9	17.4	1.46
500.0	499.8	498.2	498.2	1.0	178.87	-12.2	-1.6	-1.6	21.5	19.6	1.91
600.0	599.7	598.2	598.1	1.3	174.12	-10.8	0.7	0.7	24.1	21.9	2.19
700.0	699.6	698.1	698.0	1.5	170.39	-9.4	3.0	3.0	26.9	25.0	1.84
800.0	799.6	798.0	797.9	1.7	167.60	-8.1	5.1	5.1	29.8	28.1	1.69
900.0	899.5	897.9	897.7	2.0	165.01	-7.0	7.5	7.5	33.0	31.1	1.92
1,000.0	999.4	997.8	997.6	2.2	162.54	-6.0	10.0	10.0	36.3	34.2	2.15
1,100.0	1,099.3	1,097.8	1,097.5	2.4	160.43	-5.0	12.7	12.7	39.8	37.4	2.38
1,200.0	1,199.2	1,197.6	1,197.3	2.7	158.60	-4.2	15.4	15.4	43.4	40.8	2.61
1,300.0	1,299.1	1,297.3	1,297.0	2.9	156.81	-3.6	18.3	18.3	47.4	44.6	2.84
1,400.0	1,399.0	1,396.7	1,396.3	3.1	155.21	-3.4	21.5	21.5	51.9	48.8	3.07
1,500.0	1,498.9	1,495.3	1,494.8	3.4	155.53	-5.4	23.5	23.5	58.2	54.9	3.29
1,600.0	1,598.8	1,594.6	1,594.1	3.6	157.76	-9.3	23.7	23.7	66.0	62.5	3.52
1,700.0	1,698.8	1,694.4	1,693.8	3.8	160.30	-13.8	22.8	22.8	73.7	70.0	3.73
1,800.0	1,798.8	1,795.6	1,794.8	4.0	162.49	-17.4	20.9	20.9	78.2	74.3	3.89
1,900.0	1,898.8	1,897.0	1,896.2	4.2	173.95	-19.2	18.4	18.4	79.7	75.6	4.11
2,000.0	1,998.8	1,997.0	1,996.3	4.4	174.71	-19.7	17.4	17.4	80.0	75.7	4.33
2,100.0	2,098.8	2,096.3	2,095.5	4.6	175.36	-21.1	16.6	16.6	81.3	76.8	4.55
2,200.0	2,198.8	2,197.4	2,196.6	4.8	175.90	-22.2	15.9	15.9	82.5	77.7	4.77
2,300.0	2,298.8	2,298.3	2,297.5	5.1	176.39	-21.7	15.2	15.2	81.9	76.9	5.00

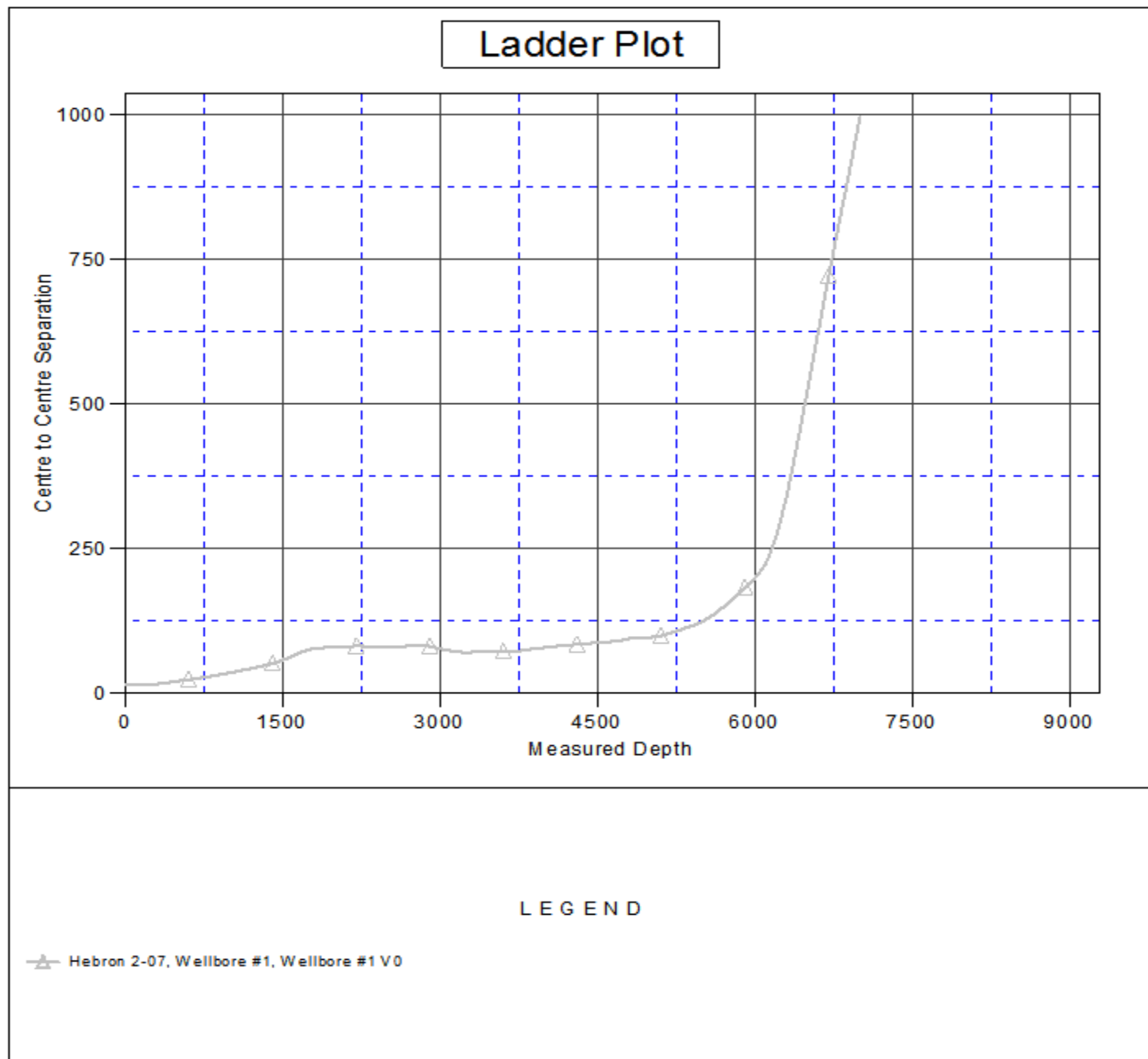
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	EE3	Local Co-ordinate Reference:	Well Marr 6-07H
Project:	NORTH PARK	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Reference Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Survey Program: 207-MWD												Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,400.0	2,398.8	2,397.9	2,397.1	5.3		176.66	-20.9	14.7	81.1	75.9	5.22	15.542	
2,500.0	2,498.8	2,497.8	2,497.0	5.5		177.33	-20.7	13.8	80.8	75.4	5.44	14.857	
2,542.0	2,540.7	2,539.5	2,538.7	5.6		177.80	-20.7	13.1	80.7	75.2	5.53	14.595	
2,600.0	2,598.8	2,597.2	2,596.4	5.7		178.60	-20.9	12.0	80.9	75.2	5.66	14.289	
2,700.0	2,698.8	2,695.5	2,694.7	5.9		179.27	-22.3	11.1	82.4	76.5	5.88	14.001	
2,800.0	2,798.8	2,797.5	2,796.6	6.1		178.53	-23.7	12.1	83.8	77.7	6.11	13.719	
2,900.0	2,898.8	2,900.7	2,899.8	6.4		177.54	-21.7	13.5	81.8	75.5	6.33	12.929	
3,000.0	2,998.8	3,001.2	3,000.1	6.6		174.90	-17.2	16.9	77.6	71.0	6.56	11.838	
3,100.0	3,098.8	3,100.1	3,098.9	6.8		172.87	-13.4	19.2	74.0	67.2	6.78	10.916	
3,200.0	3,198.8	3,198.9	3,197.7	7.0		173.80	-11.3	17.8	71.7	64.7	7.00	10.245	
3,247.4	3,246.2	3,245.4	3,244.2	7.1		174.45	-11.1	16.9	71.4	64.3	7.11	10.051	
3,300.0	3,298.8	3,297.4	3,296.2	7.3		175.01	-11.4	16.2	71.7	64.5	7.22	9.925	
3,400.0	3,398.8	3,397.3	3,396.1	7.5		176.06	-12.7	15.0	72.9	65.4	7.45	9.785	
3,500.0	3,498.8	3,498.2	3,497.0	7.7		177.60	-13.1	13.1	73.2	65.5	7.67	9.546	
3,600.0	3,598.8	3,598.5	3,597.2	7.9		179.97	-12.6	10.0	72.6	64.7	7.89	9.197	
3,657.5	3,656.3	3,655.6	3,654.3	8.0		-178.43	-12.3	8.0	72.3	64.3	8.02	9.015	
3,700.0	3,698.8	3,697.2	3,695.8	8.1		-177.28	-12.5	6.6	72.6	64.5	8.11	8.944	
3,800.0	3,798.8	3,795.9	3,794.5	8.4		-174.99	-14.7	3.5	75.0	66.6	8.34	8.993	
3,900.0	3,898.8	3,896.6	3,895.1	8.6		-173.52	-17.3	1.2	77.9	69.3	8.56	9.094	
4,000.0	3,998.8	3,996.5	3,995.0	8.8		-172.20	-19.1	-0.8	79.8	71.1	8.78	9.090	
4,100.0	4,098.8	4,097.1	4,095.5	9.0		-170.59	-20.7	-3.4	81.9	72.9	9.01	9.088	
4,200.0	4,198.8	4,197.0	4,195.4	9.3		-169.28	-22.0	-5.5	83.4	74.2	9.23	9.038	
4,300.0	4,298.8	4,296.9	4,295.3	9.5		-168.70	-23.5	-6.7	85.1	75.7	9.46	9.005	
4,400.0	4,398.8	4,397.1	4,395.4	9.7		-167.89	-24.9	-8.2	86.8	77.1	9.68	8.970	
4,500.0	4,498.8	4,497.7	4,496.1	9.9		-167.34	-25.7	-9.3	87.9	78.0	9.90	8.874	
4,600.0	4,598.8	4,596.7	4,595.1	10.1		-167.01	-27.0	-10.1	89.3	79.1	10.13	8.815 SF	
4,700.0	4,698.8	4,696.0	4,694.2	10.4		-165.89	-28.7	-12.3	91.5	81.1	10.35	8.836	
4,800.0	4,798.8	4,795.4	4,793.6	10.6		-165.16	-31.8	-14.3	95.1	84.5	10.58	8.989	
4,900.0	4,898.8	4,897.9	4,896.1	10.8		-165.43	-33.6	-14.3	96.7	85.9	10.80	8.951	
5,000.0	4,998.8	4,997.3	4,995.5	11.0		-165.52	-34.3	-14.4	97.4	86.4	11.02	8.836	
5,100.0	5,098.8	5,094.6	5,092.7	11.3		-164.76	-36.3	-16.2	99.9	88.7	11.25	8.882	
5,200.0	5,198.8	5,192.6	5,190.6	11.5		-162.90	-40.6	-20.9	105.4	93.9	11.47	9.186	
5,300.0	5,298.8	5,292.7	5,290.4	11.7		-161.25	-45.1	-25.7	111.2	99.5	11.70	9.502	
5,400.0	5,398.8	5,391.1	5,388.6	11.9		-159.74	-49.8	-30.5	117.3	105.4	11.92	9.838	
5,500.0	5,498.8	5,487.8	5,484.9	12.2		-157.83	-55.7	-37.1	125.5	113.3	12.15	10.329	
5,600.0	5,598.8	5,583.3	5,579.6	12.4		-155.28	-62.9	-46.6	136.4	124.1	12.37	11.029	
5,700.0	5,698.8	5,679.4	5,674.5	12.6		-152.46	-71.8	-58.7	150.3	137.7	12.59	11.935	
5,800.0	5,798.8	5,775.6	5,769.3	12.8		-149.94	-81.7	-72.0	166.0	153.1	12.82	12.946	
5,900.0	5,898.8	5,872.9	5,864.9	13.1		-147.58	-92.2	-86.6	183.1	170.0	13.04	14.036	
6,000.0	5,998.8	5,971.9	5,962.1	13.3		-145.49	-102.7	-101.9	200.5	187.2	13.27	15.110	
6,100.0	6,098.5	6,065.9	6,054.6	13.5		-162.90	-113.0	-115.9	223.5	210.2	13.39	16.700	
6,200.0	6,194.9	6,122.0	6,109.1	13.8		-161.29	-121.8	-125.6	270.6	257.5	13.11	20.647	
6,300.0	6,283.8	6,165.2	6,149.7	14.1		-158.18	-132.5	-135.6	342.2	329.7	12.51	27.358	
6,400.0	6,361.3	6,185.0	6,167.7	14.5		-149.50	-138.7	-141.0	430.1	418.1	12.04	35.722	
6,500.0	6,424.1	6,197.5	6,178.8	15.0		-120.32	-143.0	-144.6	526.5	512.7	13.83	38.062	
6,600.0	6,469.4	6,197.8	6,179.1	15.7		-47.53	-143.1	-144.7	625.3	612.4	12.92	48.391	
6,700.0	6,495.2	6,185.0	6,167.7	16.6		-19.21	-138.7	-141.0	722.4	713.5	8.84	81.721	
6,800.0	6,501.0	6,185.0	6,167.7	17.7		-13.12	-138.7	-141.0	814.4	806.4	8.02	101.609	
6,900.0	6,501.0	6,168.4	6,152.6	18.9		-12.16	-133.4	-136.4	905.7	897.4	8.30	109.081	
7,000.0	6,501.0	6,154.0	6,139.3	20.2		-11.40	-129.4	-132.8	998.4	989.7	8.66	115.242	

Company:	EE3	Local Co-ordinate Reference:	Well Marr 6-07H
Project:	NORTH PARK	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Reference Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 8144.0ft (Original Well Elev) Coordinates are relative to: Marr 6-07H
 Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
 Central Meridian is -105.500000 ° Grid Convergence at Surface is: -0.59°



Company:	EE3	Local Co-ordinate Reference:	Well Marr 6-07H
Project:	NORTH PARK	TVD Reference:	WELL @ 8144.0ft (Original Well Elev)
Reference Site:	Hebron 2-07 Pad Sec 7 - 7N-80W	MD Reference:	WELL @ 8144.0ft (Original Well Elev)
Site Error:	0.0ft	North Reference:	True
Reference Well:	Marr 6-07H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	landmark
Reference Design:	Plan #1 (6-23-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 8144.0ft (Original Well Elev) Coordinates are relative to: Marr 6-07H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 ° Grid Convergence at Surface is: -0.59°

