

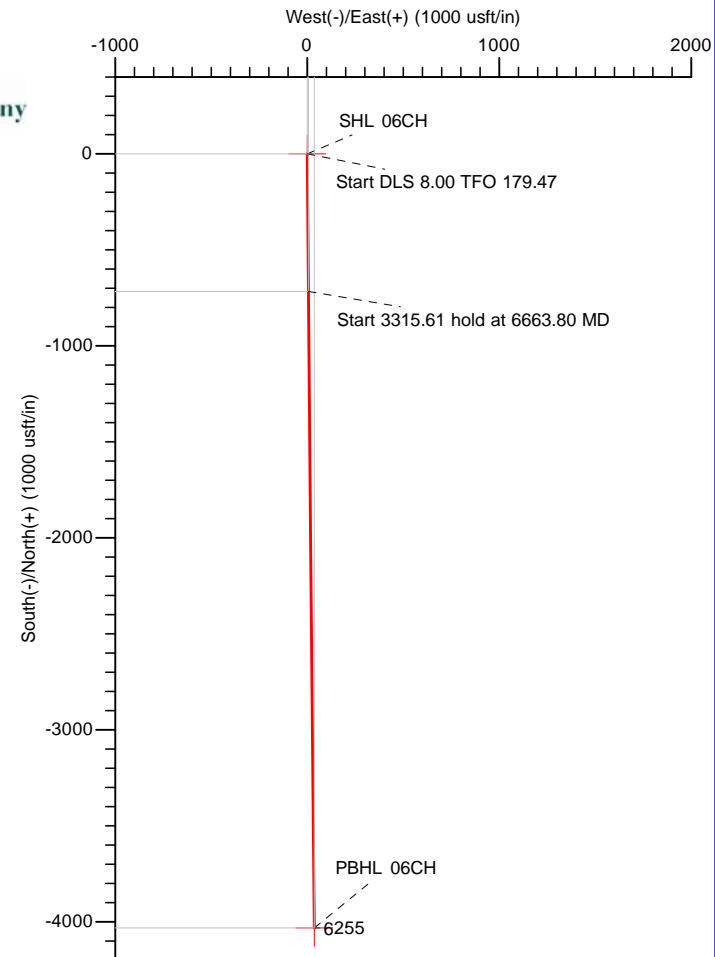
HILCORP ENERGY COMPANY

Project: El Paso County, CO
 Site: Myers
 Well: 21-06CH
 Wellbore: OH
 Design: Plan #3



Azimuths to True North
 Magnetic North: 8.49°

Magnetic Field
 Strength: 52305.9snT
 Dip Angle: 65.82°
 Date: 02/29/2012
 Model: IGRF2010

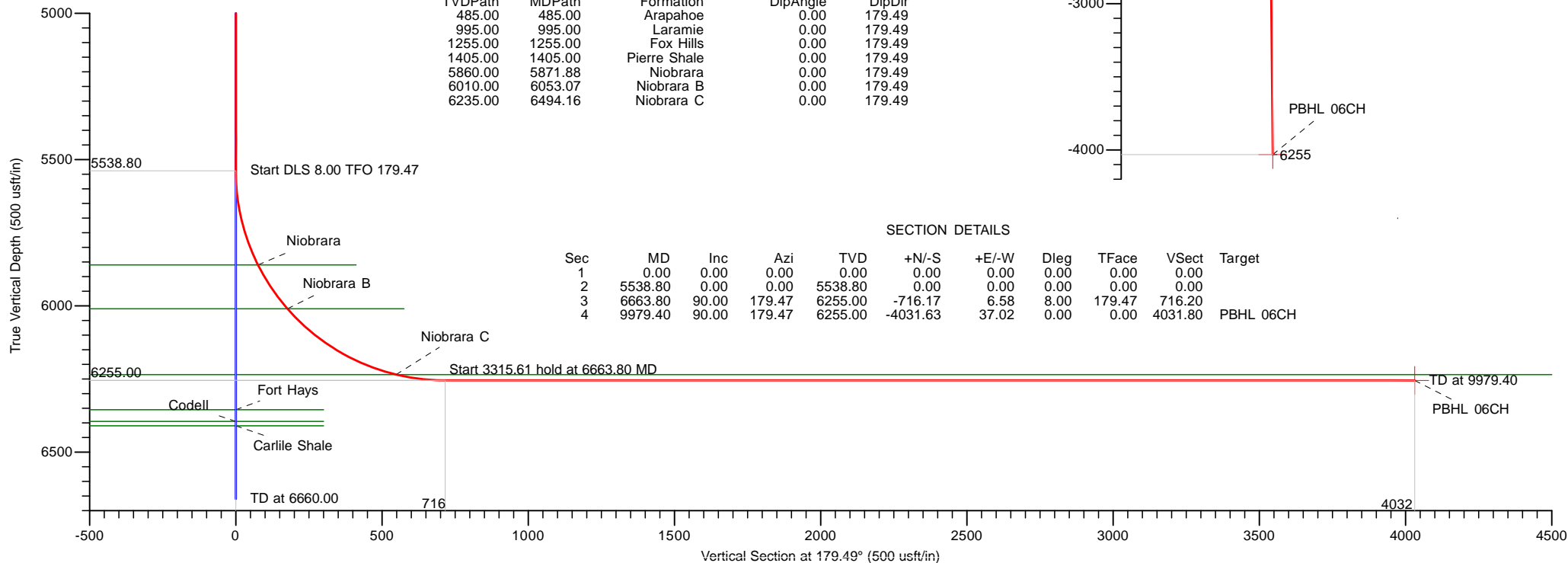


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
SHL 06CH	0.00	0.00	0.00	38° 51' 56.484 N	104° 29' 29.436 W
PBHL 06CH	6255.00	-4031.63	37.02	38° 51' 16.632 N	104° 29' 28.968 W

FORMATION TOP DETAILS

TVDPATH	MDPATH	Formation	DipAngle	DipDir
485.00	485.00	Arapahoe	0.00	179.49
995.00	995.00	Laramie	0.00	179.49
1255.00	1255.00	Fox Hills	0.00	179.49
1405.00	1405.00	Pierre Shale	0.00	179.49
5860.00	5871.88	Niobrara	0.00	179.49
6010.00	6053.07	Niobrara B	0.00	179.49
6235.00	6494.16	Niobrara C	0.00	179.49



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5538.80	0.00	0.00	5538.80	0.00	0.00	0.00	0.00	0.00	
3	6663.80	90.00	179.47	6255.00	-716.17	6.58	8.00	179.47	716.20	
4	9979.40	90.00	179.47	6255.00	-4031.63	37.02	0.00	0.00	4031.80	PBHL 06CH



LEAM DRILLING SYSTEMS, INC.
 2010 East Davis, Conroe, Texas 77301
 Phone: 936/756-7577, Fax 936/756-7595

Plan: Plan #3 (21-06CH/OH)
 Myers
 Created By: Justin Andoe
 Date: 11:02, March 06 2012
 Approved: _____ Date: _____

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 21-06CH
Company:	HILCORP ENERGY COMPANY	TVD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Project:	El Paso County, CO	MD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Site:	Myers	North Reference:	True
Well:	21-06CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Project	El Paso County, CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Central Zone		

Site	Myers				
Site Position:		Northing:	1,377,573.24 usft	Latitude:	38° 51' 56.484 N
From:	Lat/Long	Easting:	3,287,138.90 usft	Longitude:	104° 29' 29.436 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.64 °

Well	21-06CH					
Well Position	+N/-S	0.00 usft	Northing:	1,377,573.24 usft	Latitude:	38° 51' 56.484 N
	+E/-W	0.00 usft	Easting:	3,287,138.90 usft	Longitude:	104° 29' 29.436 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	6,344.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/29/12	8.49	65.82	52,306

Design	Plan #3			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.49

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,538.80	0.00	0.00	5,538.80	0.00	0.00	0.00	0.00	0.00	0.00	
6,663.80	90.00	179.47	6,255.00	-716.17	6.58	8.00	8.00	15.95	179.47	
9,979.40	90.00	179.47	6,255.00	-4,031.63	37.02	0.00	0.00	0.00	0.00	PBHL 06CH

Planning Report

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Project:	El Paso County, CO	MD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Site:	Myers	North Reference:	True
Well:	21-06CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL 06CH									
100.00	0.00	0.00	100.00	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
485.00	0.00	0.00	485.00	0.00	0.00	0.00	0.00	0.00	0.00
Arapahoe									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
995.00	0.00	0.00	995.00	0.00	0.00	0.00	0.00	0.00	0.00
Laramie									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,255.00	0.00	0.00	1,255.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills									
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,405.00	0.00	0.00	1,405.00	0.00	0.00	0.00	0.00	0.00	0.00
Pierre Shale									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

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Company:	HILCORP ENERGY COMPANY	TVD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Project:	El Paso County, CO	MD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Site:	Myers	North Reference:	True
Well:	21-06CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,538.80	0.00	0.00	5,538.80	0.00	0.00	0.00	0.00	0.00	0.00
5,550.00	0.90	179.47	5,550.00	-0.09	0.00	0.09	8.00	8.00	0.00
5,600.00	4.90	179.47	5,599.93	-2.61	0.02	2.61	8.00	8.00	0.00
5,650.00	8.90	179.47	5,649.55	-8.62	0.08	8.62	8.00	8.00	0.00
5,700.00	12.90	179.47	5,698.64	-18.06	0.17	18.06	8.00	8.00	0.00
5,750.00	16.90	179.47	5,746.95	-30.91	0.28	30.92	8.00	8.00	0.00
5,800.00	20.90	179.47	5,794.25	-47.10	0.43	47.10	8.00	8.00	0.00
5,850.00	24.90	179.47	5,840.30	-66.55	0.61	66.55	8.00	8.00	0.00
5,871.88	26.65	179.47	5,860.00	-76.06	0.70	76.07	8.00	8.00	0.00
Niobrara									
5,900.00	28.90	179.47	5,884.88	-89.16	0.82	89.17	8.00	8.00	0.00
5,950.00	32.90	179.47	5,927.78	-114.83	1.05	114.84	8.00	8.00	0.00
6,000.00	36.90	179.47	5,968.78	-143.43	1.32	143.44	8.00	8.00	0.00
6,050.00	40.90	179.47	6,007.69	-174.82	1.61	174.82	8.00	8.00	0.00
6,053.07	41.14	179.47	6,010.00	-176.83	1.62	176.84	8.00	8.00	0.00
Niobrara B									
6,100.00	44.90	179.47	6,044.31	-208.84	1.92	208.85	8.00	8.00	0.00
6,150.00	48.90	179.47	6,078.47	-245.34	2.25	245.35	8.00	8.00	0.00
6,200.00	52.90	179.47	6,110.00	-284.13	2.61	284.14	8.00	8.00	0.00
6,250.00	56.90	179.47	6,138.74	-325.02	2.98	325.04	8.00	8.00	0.00
6,300.00	60.90	179.47	6,164.57	-367.83	3.38	367.84	8.00	8.00	0.00
6,350.00	64.90	179.47	6,187.34	-412.32	3.79	412.34	8.00	8.00	0.00
6,400.00	68.90	179.47	6,206.96	-458.30	4.21	458.32	8.00	8.00	0.00
6,450.00	72.90	179.47	6,223.32	-505.54	4.64	505.56	8.00	8.00	0.00
6,494.16	76.43	179.47	6,235.00	-548.11	5.03	548.14	8.00	8.00	0.00
Niobrara C									
6,500.00	76.90	179.47	6,236.35	-553.80	5.09	553.82	8.00	8.00	0.00
6,550.00	80.90	179.47	6,245.98	-602.85	5.54	602.88	8.00	8.00	0.00
6,600.00	84.90	179.47	6,252.16	-652.45	5.99	652.48	8.00	8.00	0.00
6,650.00	88.90	179.47	6,254.86	-702.37	6.45	702.40	8.00	8.00	0.00
6,663.80	90.00	179.47	6,255.00	-716.17	6.58	716.20	8.00	8.00	0.00
6,700.00	90.00	179.47	6,255.00	-752.37	6.91	752.40	0.00	0.00	0.00
6,800.00	90.00	179.47	6,255.00	-852.36	7.83	852.40	0.00	0.00	0.00
6,900.00	90.00	179.47	6,255.00	-952.36	8.74	952.40	0.00	0.00	0.00
7,000.00	90.00	179.47	6,255.00	-1,052.35	9.66	1,052.40	0.00	0.00	0.00
7,100.00	90.00	179.47	6,255.00	-1,152.35	10.58	1,152.40	0.00	0.00	0.00
7,200.00	90.00	179.47	6,255.00	-1,252.34	11.50	1,252.40	0.00	0.00	0.00
7,300.00	90.00	179.47	6,255.00	-1,352.34	12.42	1,352.40	0.00	0.00	0.00
7,400.00	90.00	179.47	6,255.00	-1,452.34	13.34	1,452.40	0.00	0.00	0.00
7,500.00	90.00	179.47	6,255.00	-1,552.33	14.25	1,552.40	0.00	0.00	0.00
7,600.00	90.00	179.47	6,255.00	-1,652.33	15.17	1,652.40	0.00	0.00	0.00
7,700.00	90.00	179.47	6,255.00	-1,752.32	16.09	1,752.40	0.00	0.00	0.00

Planning Report

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Site:	Myers	North Reference:	True
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Wellbore:	OH		
Design:	Plan #3		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,800.00	90.00	179.47	6,255.00	-1,852.32	17.01	1,852.40	0.00	0.00	0.00
7,900.00	90.00	179.47	6,255.00	-1,952.31	17.93	1,952.40	0.00	0.00	0.00
8,000.00	90.00	179.47	6,255.00	-2,052.31	18.85	2,052.40	0.00	0.00	0.00
8,100.00	90.00	179.47	6,255.00	-2,152.31	19.76	2,152.40	0.00	0.00	0.00
8,200.00	90.00	179.47	6,255.00	-2,252.30	20.68	2,252.40	0.00	0.00	0.00
8,300.00	90.00	179.47	6,255.00	-2,352.30	21.60	2,352.40	0.00	0.00	0.00
8,400.00	90.00	179.47	6,255.00	-2,452.29	22.52	2,452.40	0.00	0.00	0.00
8,500.00	90.00	179.47	6,255.00	-2,552.29	23.44	2,552.40	0.00	0.00	0.00
8,600.00	90.00	179.47	6,255.00	-2,652.29	24.35	2,652.40	0.00	0.00	0.00
8,700.00	90.00	179.47	6,255.00	-2,752.28	25.27	2,752.40	0.00	0.00	0.00
8,800.00	90.00	179.47	6,255.00	-2,852.28	26.19	2,852.40	0.00	0.00	0.00
8,900.00	90.00	179.47	6,255.00	-2,952.27	27.11	2,952.40	0.00	0.00	0.00
9,000.00	90.00	179.47	6,255.00	-3,052.27	28.03	3,052.40	0.00	0.00	0.00
9,100.00	90.00	179.47	6,255.00	-3,152.26	28.95	3,152.40	0.00	0.00	0.00
9,200.00	90.00	179.47	6,255.00	-3,252.26	29.86	3,252.40	0.00	0.00	0.00
9,300.00	90.00	179.47	6,255.00	-3,352.26	30.78	3,352.40	0.00	0.00	0.00
9,400.00	90.00	179.47	6,255.00	-3,452.25	31.70	3,452.40	0.00	0.00	0.00
9,500.00	90.00	179.47	6,255.00	-3,552.25	32.62	3,552.40	0.00	0.00	0.00
9,600.00	90.00	179.47	6,255.00	-3,652.24	33.54	3,652.40	0.00	0.00	0.00
9,700.00	90.00	179.47	6,255.00	-3,752.24	34.45	3,752.40	0.00	0.00	0.00
9,800.00	90.00	179.47	6,255.00	-3,852.23	35.37	3,852.40	0.00	0.00	0.00
9,900.00	90.00	179.47	6,255.00	-3,952.23	36.29	3,952.40	0.00	0.00	0.00
9,979.40	90.00	179.47	6,255.00	-4,031.63	37.02	4,031.80	0.00	0.00	0.00
PBHL 06CH									

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude		Longitude
- hit/miss target										
- Shape										
SHL 06CH	0.00	2.96	0.00	0.00	0.00	1,377,573.24	3,287,138.90	38° 51' 56.484 N		104° 29' 29.436 W
- plan hits target center										
- Point										
PBHL 06CH	0.00	2.96	6,255.00	-4,031.63	37.02	1,373,542.26	3,287,220.67	38° 51' 16.632 N		104° 29' 28.968 W
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
485.00	485.00	Arapahoe		0.00	179.49	
995.00	995.00	Laramie		0.00	179.49	
1,255.00	1,255.00	Fox Hills		0.00	179.49	
1,405.00	1,405.00	Pierre Shale		0.00	179.49	
5,871.88	5,860.00	Niobrara		0.00	179.49	
6,053.07	6,010.00	Niobrara B		0.00	179.49	
6,494.16	6,235.00	Niobrara C		0.00	179.49	

Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well 21-06CH
Company:	HILCORP ENERGY COMPANY	TVD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Project:	El Paso County, CO	MD Reference:	GL 6344.5+KB 15.5' @ 6360.00usft
Site:	Myers	North Reference:	True
Well:	21-06CH	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3		