

Great Westfield

Well Name: Postle LC 11-002HN

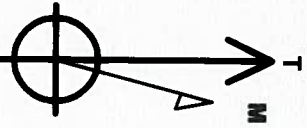
Surface Location: Postle West Pad Sec 11-T3N-R68W
North American Datum 1983, US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4976.9
+N-S +E-W Northing Easting Latitude Longitude Slot
0.0 0.0 1332145.01 3145606.20 40.243961 -104.978394
RKB - 16.5' WELL @ 4993.4ft (RKB - 16.5')

WELLBORE TARGET DETAILS

Name	TVD	+N-S	+E-W	Shape
SHL 1460FNL & 388FWL	1.0	0.0	0.0	Point
BHL 11FNL & 470FEL	7152.4	1480.9	4442.1	Point
Entry Pt. 11FNL & 460FWL	7152.4	1459.4	65.9	Point

Azinuths to True North
Magnetic North: 8.63°

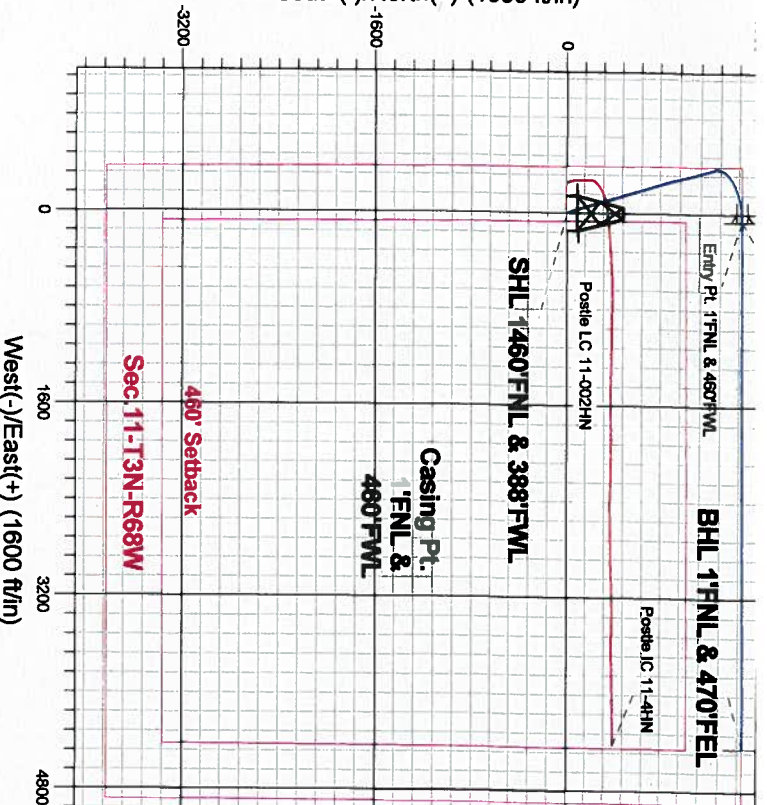
Magnetic Field
Strength: 52/63.4snT
Dip Angle: 66.80°
Date: 12/10/2013
Model: IGRF2010



Postle West Pad Sec. 11-T3N-R68W
Postle LC 11-002HN
Plan #1 (12-10-13)
7-38, December 12 2013

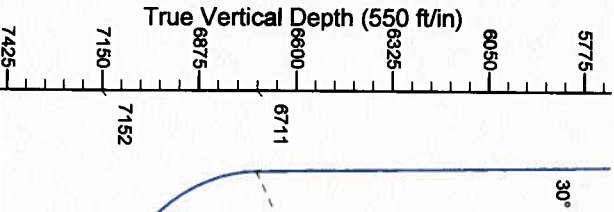
TVD	MD	Annotation
4000.0	4000.0	KOP - Start Build 3.00
6711.4	7027.5	Start DLS 13.00 TFO 104.50
7152.4	12159.3	TD at 12159.3

South(-)/North(+) (1600 ft/in)



ENSIGN Directional

Start DLS 13.00 TFO 104.50



Entry Pt. 11FNL & 460FWL

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	4000.0	0.00	0.00	4000.0	0.0	0.0	0.00	0.00	0.0	
3	4998.8	29.96	343.08	4953.9	244.2	-74.3	3.00	343.08	6.8	
4	7027.5	29.96	343.08	6711.5	1213.6	-369.1	0.00	0.00	33.7	
5	7783.0	90.00	89.71	7152.4	1459.4	65.9	13.00	104.50	524.1	Entry Pt. 11FNL & 460FWL
6	7783.9	90.00	89.72	7152.4	1459.4	66.7	1.00	90.00	524.8	
7	12159.3	90.00	89.72	7152.4	1480.9	4442.1	0.00	0.00	4682.4	BHL 11FNL & 470FEL

BHL 11FNL & 470FEL

TD at 12159.3

Vertical Section at 71.56° (550 ft/in)



Directional

Great Western

SEC.11-T3N-R68W

Postle West Pad Sec.11-T3N-R68W

Postle IC 11-002HN

Wellbore #1

Plan: Plan #1 (12-10-13)

Standard Planning Report

12 December, 2013

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Bulld 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	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,998.8	29.96	343.08	4,953.9	244.2	-74.3	3.00	3.00	0.00	343.08	
7,027.5	29.96	343.08	6,711.5	1,213.6	-369.1	0.00	0.00	0.00	0.00	
7,783.0	90.00	89.71	7,152.4	1,459.4	65.9	13.00	7.95	14.11	104.50	Entry Pt. 1°FNL & 40°F
7,783.9	90.00	89.72	7,152.4	1,459.4	66.7	1.00	0.00	1.00	90.00	
12,159.3	90.00	89.72	7,152.4	1,480.9	4,442.1	0.00	0.00	0.00	0.00	BHL 1°FNL & 470°F

Database:	Landmark	Local Co-ordinate Reference:	Well Postle LC 11-002HN
Company:	Great Western	TVD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Project:	SEC.11-T3N-R68W	MD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Site:	Postle West Pad Sec.11-T3N-R68W	North Reference:	True
Well:	Postle LC 11-002HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-10-13)		

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
SHL 1480'FNL & 388'FWL									
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
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP - Start Build 3.00									
4,100.0	3.00	343.08	4,100.0	2.5	-0.8	0.1	3.00	3.00	0.00
4,200.0	6.00	343.08	4,199.6	10.0	-3.0	0.3	3.00	3.00	0.00
4,300.0	9.00	343.08	4,298.8	22.5	-6.8	0.6	3.00	3.00	0.00
4,400.0	12.00	343.08	4,397.1	39.9	-12.1	1.1	3.00	3.00	0.00
4,500.0	15.00	343.08	4,494.3	62.3	-18.9	1.7	3.00	3.00	0.00
4,600.0	18.00	343.08	4,590.2	89.4	-27.2	2.5	3.00	3.00	0.00
4,700.0	21.00	343.08	4,684.4	121.4	-36.9	3.4	3.00	3.00	0.00
4,800.0	24.00	343.08	4,776.8	158.0	-48.0	4.4	3.00	3.00	0.00
4,900.0	27.00	343.08	4,867.1	199.2	-60.6	5.5	3.00	3.00	0.00
4,998.8	29.96	343.08	4,953.9	244.2	-74.3	6.8	3.00	3.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well PostleIC 11-002HN
Company:	Great Western	TVD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Project:	SEC.11-T3N-R68W	MD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Site:	Postle West Pad Sec.11-T3N-R68W	North Reference:	True
Well:	PostleIC 11-002HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-10-13)		

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)
5,000.0	29.96	343.08	4,954.9	244.8	-74.5	6.8	0.00	0.00	0.00
5,100.0	29.96	343.08	5,041.6	292.6	-89.0	8.1	0.00	0.00	0.00
5,200.0	29.96	343.08	5,128.2	340.4	-103.5	9.4	0.00	0.00	0.00
5,300.0	29.96	343.08	5,214.8	388.2	-118.0	10.8	0.00	0.00	0.00
5,400.0	29.96	343.08	5,301.5	435.9	-132.6	12.1	0.00	0.00	0.00
5,500.0	29.96	343.08	5,388.1	483.7	-147.1	13.4	0.00	0.00	0.00
5,600.0	29.96	343.08	5,474.7	531.5	-161.6	14.8	0.00	0.00	0.00
5,700.0	29.96	343.08	5,561.4	579.3	-176.2	16.1	0.00	0.00	0.00
5,800.0	29.96	343.08	5,648.0	627.1	-190.7	17.4	0.00	0.00	0.00
5,900.0	29.96	343.08	5,734.6	674.9	-205.2	18.7	0.00	0.00	0.00
6,000.0	29.96	343.08	5,821.3	722.6	-219.8	20.1	0.00	0.00	0.00
6,100.0	29.96	343.08	5,907.9	770.4	-234.3	21.4	0.00	0.00	0.00
6,200.0	29.96	343.08	5,994.5	818.2	-248.8	22.7	0.00	0.00	0.00
6,300.0	29.96	343.08	6,081.2	866.0	-263.4	24.0	0.00	0.00	0.00
6,400.0	29.96	343.08	6,167.8	913.8	-277.9	25.4	0.00	0.00	0.00
6,500.0	29.96	343.08	6,254.4	961.6	-292.4	26.7	0.00	0.00	0.00
6,600.0	29.96	343.08	6,341.1	1,009.3	-307.0	28.0	0.00	0.00	0.00
6,700.0	29.96	343.08	6,427.7	1,057.1	-321.5	29.3	0.00	0.00	0.00
6,800.0	29.96	343.08	6,514.4	1,104.9	-336.0	30.7	0.00	0.00	0.00
6,900.0	29.96	343.08	6,601.0	1,152.7	-350.6	32.0	0.00	0.00	0.00
7,000.0	29.96	343.08	6,687.6	1,200.5	-365.1	33.3	0.00	0.00	0.00
7,027.5	29.96	343.08	6,711.4	1,213.6	-369.1	33.7	0.00	0.00	0.00
Start DLS 13.00 TFO 104.50									
7,100.0	28.94	2.20	6,774.7	1,248.5	-373.7	40.4	12.99	-1.41	26.36
7,200.0	31.94	27.34	6,861.3	1,296.4	-360.6	68.0	13.00	3.00	25.14
7,300.0	38.88	46.46	6,943.0	1,341.7	-325.5	115.5	13.00	6.93	19.12
7,400.0	48.05	59.94	7,015.6	1,382.2	-270.3	180.7	13.00	9.17	13.48
7,500.0	58.38	69.83	7,075.5	1,415.6	-197.9	260.0	13.00	10.33	9.89
7,600.0	69.32	77.67	7,119.6	1,440.4	-111.9	349.4	13.00	10.94	7.85
7,700.0	80.56	84.44	7,145.6	1,455.2	-16.7	444.4	13.00	11.25	6.77
7,783.0	89.99	89.71	7,152.4	1,459.4	65.9	524.1	12.99	11.36	6.34
7" - Entry Pt. 1'FNL & 460'FWL									
7,783.9	90.00	89.72	7,152.4	1,459.4	66.7	524.8	1.54	0.69	1.38
7,800.0	90.00	89.72	7,152.4	1,459.5	82.8	540.2	0.00	0.00	0.00
7,900.0	90.00	89.72	7,152.4	1,460.0	182.8	635.2	0.00	0.00	0.00
8,000.0	90.00	89.72	7,152.4	1,460.5	282.8	730.2	0.00	0.00	0.00
8,100.0	90.00	89.72	7,152.4	1,461.0	382.8	825.2	0.00	0.00	0.00
8,200.0	90.00	89.72	7,152.4	1,461.5	482.8	920.3	0.00	0.00	0.00
8,300.0	90.00	89.72	7,152.4	1,461.9	582.8	1,015.3	0.00	0.00	0.00
8,400.0	90.00	89.72	7,152.4	1,462.4	682.8	1,110.3	0.00	0.00	0.00
8,500.0	90.00	89.72	7,152.4	1,462.9	782.8	1,205.3	0.00	0.00	0.00
8,600.0	90.00	89.72	7,152.4	1,463.4	882.8	1,300.3	0.00	0.00	0.00
8,700.0	90.00	89.72	7,152.4	1,463.9	982.8	1,395.4	0.00	0.00	0.00
8,800.0	90.00	89.72	7,152.4	1,464.4	1,082.8	1,490.4	0.00	0.00	0.00
8,900.0	90.00	89.72	7,152.4	1,464.9	1,182.8	1,585.4	0.00	0.00	0.00
9,000.0	90.00	89.72	7,152.4	1,465.4	1,282.8	1,680.4	0.00	0.00	0.00
9,100.0	90.00	89.72	7,152.4	1,465.9	1,382.8	1,775.5	0.00	0.00	0.00
9,200.0	90.00	89.72	7,152.4	1,466.4	1,482.8	1,870.5	0.00	0.00	0.00
9,300.0	90.00	89.72	7,152.4	1,466.9	1,582.8	1,965.5	0.00	0.00	0.00
9,400.0	90.00	89.72	7,152.4	1,467.4	1,682.8	2,060.5	0.00	0.00	0.00
9,500.0	90.00	89.72	7,152.4	1,467.8	1,782.8	2,155.5	0.00	0.00	0.00
9,600.0	90.00	89.72	7,152.4	1,468.3	1,882.8	2,250.6	0.00	0.00	0.00
9,700.0	90.00	89.72	7,152.4	1,468.8	1,982.8	2,345.6	0.00	0.00	0.00
9,800.0	90.00	89.72	7,152.4	1,469.3	2,082.8	2,440.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Postle IC 11-002HN
Company:	Great Western	TVD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Project:	SEC.11-T3N-R68W	MD Reference:	WELL @ 4993.4ft (RKB - 16.5')
Site:	Postle West Pad Sec.11-T3N-R68W	North Reference:	True
Well:	Postle IC 11-002HN	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1 (12-10-13)		

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)
9,900.0	90.00	89.72	7,152.4	1,469.8	2,182.8	2,535.6	0.00	0.00	0.00
10,000.0	90.00	89.72	7,152.4	1,470.3	2,282.8	2,630.6	0.00	0.00	0.00
10,100.0	90.00	89.72	7,152.4	1,470.8	2,382.8	2,725.7	0.00	0.00	0.00
10,200.0	90.00	89.72	7,152.4	1,471.3	2,482.8	2,820.7	0.00	0.00	0.00
10,300.0	90.00	89.72	7,152.4	1,471.8	2,582.8	2,915.7	0.00	0.00	0.00
10,400.0	90.00	89.72	7,152.4	1,472.3	2,682.8	3,010.7	0.00	0.00	0.00
10,500.0	90.00	89.72	7,152.4	1,472.8	2,782.8	3,105.7	0.00	0.00	0.00
10,600.0	90.00	89.72	7,152.4	1,473.3	2,882.8	3,200.8	0.00	0.00	0.00
10,700.0	90.00	89.72	7,152.4	1,473.8	2,982.8	3,295.8	0.00	0.00	0.00
10,800.0	90.00	89.72	7,152.4	1,474.2	3,082.8	3,390.8	0.00	0.00	0.00
10,900.0	90.00	89.72	7,152.4	1,474.7	3,182.8	3,485.8	0.00	0.00	0.00
11,000.0	90.00	89.72	7,152.4	1,475.2	3,282.8	3,580.9	0.00	0.00	0.00
11,100.0	90.00	89.72	7,152.4	1,475.7	3,382.8	3,675.9	0.00	0.00	0.00
11,200.0	90.00	89.72	7,152.4	1,476.2	3,482.8	3,770.9	0.00	0.00	0.00
11,300.0	90.00	89.72	7,152.4	1,476.7	3,582.8	3,865.9	0.00	0.00	0.00
11,400.0	90.00	89.72	7,152.4	1,477.2	3,682.8	3,960.9	0.00	0.00	0.00
11,500.0	90.00	89.72	7,152.4	1,477.7	3,782.8	4,056.0	0.00	0.00	0.00
11,600.0	90.00	89.72	7,152.4	1,478.2	3,882.8	4,151.0	0.00	0.00	0.00
11,700.0	90.00	89.72	7,152.4	1,478.7	3,982.8	4,246.0	0.00	0.00	0.00
11,800.0	90.00	89.72	7,152.4	1,479.2	4,082.8	4,341.0	0.00	0.00	0.00
11,900.0	90.00	89.72	7,152.4	1,479.7	4,182.8	4,436.0	0.00	0.00	0.00
12,000.0	90.00	89.72	7,152.4	1,480.1	4,282.8	4,531.1	0.00	0.00	0.00
12,100.0	90.00	89.72	7,152.4	1,480.6	4,382.8	4,626.1	0.00	0.00	0.00
12,159.3	90.00	89.72	7,152.4	1,480.9	4,442.1	4,682.4	0.00	0.00	0.00

BHL 1'FNL & 470'FEL

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
7,783.0	7,152.4	7"	7	7-1/2

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,000.0	4,000.0	0.0	0.0	KOP - Start Build 3.00
7,027.5	6,711.4	1,213.6	-369.1	Start DLS 13.00 TFO 104.50
12,159.3	7,152.4	1,480.9	4,442.1	TD at 12159.3