

Great Western Oil & Gas

Weld County, Colorado

Sec. 11-T3N-R68W

Postle IC 11-4HN

Plan A

Plan: Plan A rev0

Sperry Drilling Services

Proposal Report

24 May, 2013

Well Coordinates: 1,332,143.74 N, 3,145,575.78 E (40° 14' 38.25" N, 104° 58' 42.61" W)

Ground Level: 4,974.00 ft

Local Coordinate Origin: Centered on Well Postle IC 11-4HN

Viewing Datum: RKB 16' @ 4990.00ft (Original Well Elev)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Plan Report for Postle IC 11-4HN - Plan A rev0

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)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	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	0.00
300.00	0.00	0.00	300.00	0.00	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	0.00
500.00	0.00	0.00	500.00	0.00	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	0.00
700.00	0.00	0.00	700.00	0.00	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	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	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	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8" Surface										
1,300.00	0.00	0.00	1,300.00	0.00	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	0.00
1,500.00	0.00	0.00	1,500.00	0.00	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	0.00
1,700.00	0.00	0.00	1,700.00	0.00	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	0.00
1,900.00	0.00	0.00	1,900.00	0.00	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	0.00
2,100.00	0.00	0.00	2,100.00	0.00	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	0.00
2,300.00	0.00	0.00	2,300.00	0.00	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	0.00
2,500.00	0.00	0.00	2,500.00	0.00	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	0.00
2,700.00	0.00	0.00	2,700.00	0.00	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	0.00
2,900.00	0.00	0.00	2,900.00	0.00	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	0.00
3,100.00	0.00	0.00	3,100.00	0.00	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	0.00
3,300.00	0.00	0.00	3,300.00	0.00	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	0.00
3,500.00	0.00	0.00	3,500.00	0.00	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	0.00
3,700.00	0.00	0.00	3,700.00	0.00	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	0.00
3,900.00	0.00	0.00	3,900.00	0.00	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	0.00
4,100.00	0.00	0.00	4,100.00	0.00	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	0.00
4,300.00	0.00	0.00	4,300.00	0.00	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	0.00
4,500.00	0.00	0.00	4,500.00	0.00	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	0.00
4,700.00	0.00	0.00	4,700.00	0.00	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	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,957.00	0.00	0.00	4,957.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Begin Build at 4957.00 ft										
5,000.00	0.86	306.96	5,000.00	0.19	-0.26	-0.26	2.00	2.00	0.00	306.96
5,100.00	2.86	306.96	5,099.94	2.15	-2.85	-2.85	2.00	2.00	0.00	0.00
5,200.00	4.86	306.96	5,199.71	6.19	-8.23	-8.23	2.00	2.00	0.00	0.00
5,300.00	6.86	306.96	5,299.18	12.33	-16.39	-16.39	2.00	2.00	0.00	0.00
5,400.00	8.86	306.96	5,398.24	20.55	-27.32	-27.32	2.00	2.00	0.00	0.00

Plan Report for Postle IC 11-4HN - Plan A rev0

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)	Toolface Azimuth (°)
5,500.00	10.86	306.96	5,496.75	30.85	-41.00	-41.00	2.00	2.00	0.00	0.00
5,600.00	12.86	306.96	5,594.61	43.20	-57.42	-57.42	2.00	2.00	0.00	0.00
5,700.00	14.86	306.96	5,691.70	57.60	-76.56	-76.56	2.00	2.00	0.00	0.00
5,800.00	16.86	306.96	5,787.89	74.03	-98.40	-98.40	2.00	2.00	0.00	0.00
5,900.00	18.86	306.96	5,883.06	92.47	-122.90	-122.90	2.00	2.00	0.00	0.00
5,957.07	20.00	306.96	5,936.88	103.89	-138.07	-138.07	2.00	2.00	0.00	0.00
End Build at 5957.07 ft										
6,000.00	20.00	306.96	5,977.22	112.72	-149.81	-149.81	0.00	0.00	0.00	0.00
6,100.00	20.00	306.96	6,071.19	133.28	-177.14	-177.14	0.00	0.00	0.00	0.00
6,200.00	20.00	306.96	6,165.16	153.84	-204.47	-204.47	0.00	0.00	0.00	0.00
6,300.00	20.00	306.96	6,259.13	174.41	-231.80	-231.80	0.00	0.00	0.00	0.00
6,400.00	20.00	306.96	6,353.10	194.97	-259.14	-259.14	0.00	0.00	0.00	0.00
6,500.00	20.00	306.96	6,447.06	215.54	-286.47	-286.47	0.00	0.00	0.00	0.00
6,600.00	20.00	306.96	6,541.03	236.10	-313.80	-313.80	0.00	0.00	0.00	0.00
6,629.62	20.00	306.96	6,568.86	242.19	-321.89	-321.89	0.00	0.00	0.00	0.00
Kick Off Point at 6629.62 ft										
6,700.00	14.17	331.47	6,636.20	257.03	-335.66	-335.66	13.00	-8.29	34.82	140.33
6,800.00	14.16	26.58	6,733.57	278.81	-336.03	-336.03	13.00	0.00	55.11	116.84
6,900.00	23.09	57.37	6,828.46	300.42	-313.95	-313.95	13.00	8.92	30.79	63.17
7,000.00	34.61	70.11	6,915.98	320.74	-270.55	-270.55	13.00	11.52	12.74	33.84
7,100.00	46.84	76.92	6,991.66	338.74	-208.05	-208.05	13.00	12.23	6.81	22.61
7,200.00	59.34	81.41	7,051.61	353.49	-129.66	-129.66	13.00	12.50	4.49	17.42
7,300.00	71.96	84.85	7,092.77	364.23	-39.39	-39.39	13.00	12.62	3.44	14.70
7,400.00	84.63	87.82	7,113.02	370.42	58.12	58.12	13.00	12.67	2.97	13.28
7,442.73	90.05	89.04	7,115.00	371.59	100.78	100.78	13.00	12.68	2.85	12.67
End Build & Turn at 7442.73 ft - Niobrara B - 7" Intermediate - Postle IC 11-4HN Plan A Entry Point										
7,500.00	90.05	89.04	7,114.95	372.55	158.03	158.03	0.00	0.00	0.00	12.61
7,600.00	90.05	89.04	7,114.86	374.23	258.02	258.02	0.00	0.00	0.00	0.00
7,700.00	90.05	89.04	7,114.76	375.90	358.01	358.01	0.00	0.00	0.00	0.00
7,800.00	90.05	89.04	7,114.67	377.58	457.99	457.99	0.00	0.00	0.00	0.00
7,900.00	90.05	89.04	7,114.58	379.26	557.98	557.98	0.00	0.00	0.00	0.00
8,000.00	90.05	89.04	7,114.49	380.94	657.96	657.96	0.00	0.00	0.00	0.00
8,100.00	90.05	89.04	7,114.40	382.61	757.95	757.95	0.00	0.00	0.00	0.00
8,200.00	90.05	89.04	7,114.31	384.29	857.93	857.93	0.00	0.00	0.00	0.00
8,300.00	90.05	89.04	7,114.21	385.97	957.92	957.92	0.00	0.00	0.00	0.00
8,400.00	90.05	89.04	7,114.12	387.65	1,057.91	1,057.91	0.00	0.00	0.00	0.00
8,500.00	90.05	89.04	7,114.03	389.32	1,157.89	1,157.89	0.00	0.00	0.00	0.00
8,600.00	90.05	89.04	7,113.94	391.00	1,257.88	1,257.88	0.00	0.00	0.00	0.00
8,700.00	90.05	89.04	7,113.85	392.68	1,357.86	1,357.86	0.00	0.00	0.00	0.00
8,800.00	90.05	89.04	7,113.76	394.36	1,457.85	1,457.85	0.00	0.00	0.00	0.00
8,900.00	90.05	89.04	7,113.67	396.03	1,557.84	1,557.84	0.00	0.00	0.00	0.00
9,000.00	90.05	89.04	7,113.57	397.71	1,657.82	1,657.82	0.00	0.00	0.00	0.00
9,100.00	90.05	89.04	7,113.48	399.39	1,757.81	1,757.81	0.00	0.00	0.00	0.00
9,200.00	90.05	89.04	7,113.39	401.07	1,857.79	1,857.79	0.00	0.00	0.00	0.00
9,300.00	90.05	89.04	7,113.30	402.74	1,957.78	1,957.78	0.00	0.00	0.00	0.00
9,400.00	90.05	89.04	7,113.21	404.42	2,057.77	2,057.77	0.00	0.00	0.00	0.00
9,500.00	90.05	89.04	7,113.12	406.10	2,157.75	2,157.75	0.00	0.00	0.00	0.00
9,600.00	90.05	89.04	7,113.02	407.78	2,257.74	2,257.74	0.00	0.00	0.00	0.00
9,700.00	90.05	89.04	7,112.93	409.46	2,357.72	2,357.72	0.00	0.00	0.00	0.00
9,800.00	90.05	89.04	7,112.84	411.13	2,457.71	2,457.71	0.00	0.00	0.00	0.00
9,900.00	90.05	89.04	7,112.75	412.81	2,557.69	2,557.69	0.00	0.00	0.00	0.00
10,000.00	90.05	89.04	7,112.66	414.49	2,657.68	2,657.68	0.00	0.00	0.00	0.00
10,100.00	90.05	89.04	7,112.57	416.17	2,757.67	2,757.67	0.00	0.00	0.00	0.00
10,200.00	90.05	89.04	7,112.47	417.84	2,857.65	2,857.65	0.00	0.00	0.00	0.00
10,300.00	90.05	89.04	7,112.38	419.52	2,957.64	2,957.64	0.00	0.00	0.00	0.00
10,400.00	90.05	89.04	7,112.29	421.20	3,057.62	3,057.62	0.00	0.00	0.00	0.00
10,500.00	90.05	89.04	7,112.20	422.88	3,157.61	3,157.61	0.00	0.00	0.00	0.00
10,600.00	90.05	89.04	7,112.11	424.55	3,257.60	3,257.60	0.00	0.00	0.00	0.00
10,700.00	90.05	89.04	7,112.02	426.23	3,357.58	3,357.58	0.00	0.00	0.00	0.00

Plan Report for Postle IC 11-4HN - Plan A rev0

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)	Toolface Azimuth (°)
10,800.00	90.05	89.04	7,111.93	427.91	3,457.57	3,457.57	0.00	0.00	0.00	0.00
10,900.00	90.05	89.04	7,111.83	429.59	3,557.55	3,557.55	0.00	0.00	0.00	0.00
11,000.00	90.05	89.04	7,111.74	431.26	3,657.54	3,657.54	0.00	0.00	0.00	0.00
11,100.00	90.05	89.04	7,111.65	432.94	3,757.53	3,757.53	0.00	0.00	0.00	0.00
11,200.00	90.05	89.04	7,111.56	434.62	3,857.51	3,857.51	0.00	0.00	0.00	0.00
11,300.00	90.05	89.04	7,111.47	436.30	3,957.50	3,957.50	0.00	0.00	0.00	0.00
11,400.00	90.05	89.04	7,111.38	437.97	4,057.48	4,057.48	0.00	0.00	0.00	0.00
11,500.00	90.05	89.04	7,111.28	439.65	4,157.47	4,157.47	0.00	0.00	0.00	0.00
11,600.00	90.05	89.04	7,111.19	441.33	4,257.45	4,257.45	0.00	0.00	0.00	0.00
11,700.00	90.05	89.04	7,111.10	443.01	4,357.44	4,357.44	0.00	0.00	0.00	0.00
11,800.00	90.05	89.04	7,111.01	444.68	4,457.43	4,457.43	0.00	0.00	0.00	0.00
11,809.95	90.05	89.04	7,111.00	444.85	4,467.37	4,467.37	0.00	0.00	0.00	0.00

Total Depth at 11809.95 ft - Postle IC 11-4HN Plan A BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
4,957.00	4,957.00	0.00	0.00	Begin Build at 4957.00 ft
5,957.07	5,936.88	103.89	-138.07	End Build at 5957.07 ft
6,629.62	6,568.86	242.19	-321.89	Kick Off Point at 6629.62 ft
7,442.73	7,115.00	371.59	100.78	End Build & Turn at 7442.73 ft
11,809.95	7,111.00	444.85	4,467.37	Total Depth at 11809.95 ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft)	Origin +E/-W (ft)	Start TVD (ft)
User	No Target (Freehand)	90.00	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	11,809.95	Plan A rev0	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,200.00	1,200.00	9 5/8" Surface	9-5/8	12-1/4
7,442.73	7,115.00	7" Intermediate	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,442.73	7,115.00	Niobrara B		0.00	

Plan Report for Postle IC 11-4HN - Plan A rev0

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Postle IC 11-15HN Section Lines	0.00	-179.96	7.82	Polygon
Postle IC 11-4HN Plan A Entry Point	7,115.00	371.59	100.78	Point
Postle IC 11-4HN Plan A BHL	7,111.00	444.85	4,467.37	Point
Postle IC 11-4HN Setbacks	0.00	-179.96	7.82	Polygon

North Reference Sheet for Sec. 11-T3N-R68W - Postle IC 11-4HN - Plan A

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to RKB 16' @ 4990.00ft (Original Well Elev). Northing and Easting are relative to Postle IC 11-4HN

Coordinate System is US State Plane 1983, Colorado Northern Zone using datum North American Datum 1983, ellipsoid GRS 1980

Projection method is Lambert Conformal Conic (2 parallel)

Central Meridian is -105.50°, Longitude Origin:0.000000°, Latitude Origin:40.783333°

False Easting: 3,000,000.00ft, False Northing: 1,000,000.00ft, Scale Reduction: 0.99995685

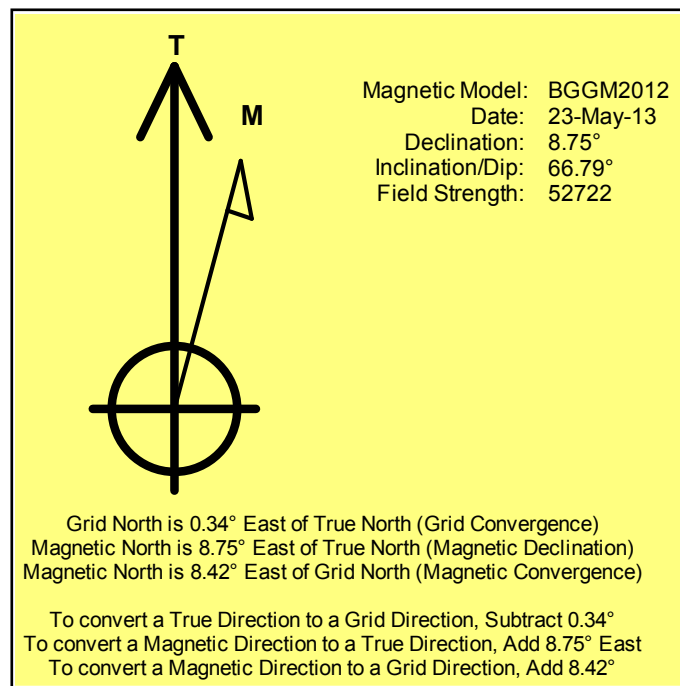
Grid Coordinates of Well: 1,332,143.74 ft N, 3,145,575.78 ft E

Geographical Coordinates of Well: 40° 14' 38.25" N, 104° 58' 42.61" W

Grid Convergence at Surface is: 0.34°

Based upon Minimum Curvature type calculations, at a Measured Depth of 11,809.95ft
the Bottom Hole Displacement is 4,489.47ft in the Direction of 84.31° (True).

Magnetic Convergence at surface is: -8.42° (23 May 2013, , BGGM2012)



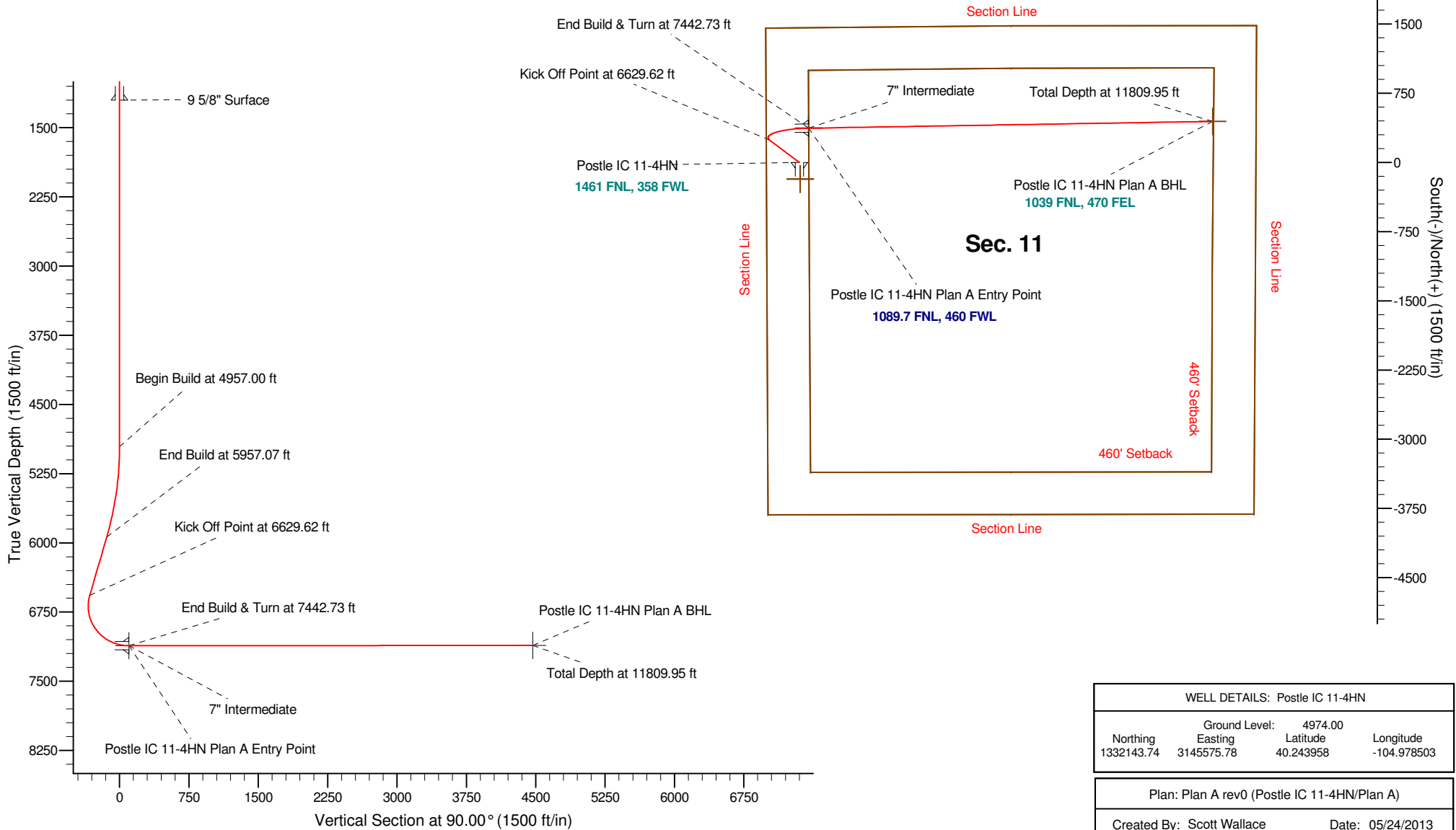
Project: Weld County, Colorado
 Site: Sec. 11-T3N-R68W
 Well: Postle IC 11-4HN
 Wellbore: Plan A
 Design: Plan A rev0

Great Western Oil & Gas



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4957.00	0.00	0.00	4957.00	0.00	0.00	0.00	0.00	0.00	
3	5957.07	20.00	306.96	5936.88	103.89	-138.07	2.00	306.96	-138.07	
4	6629.62	20.00	306.96	6568.86	242.19	-321.89	0.00	0.00	-321.89	
5	7442.73	90.05	89.04	7115.00	371.59	100.78	13.00	140.33	100.78	Postle IC 11-4HN Plan A Entry Point
6	11809.95	90.05	89.04	7111.00	444.85	4467.37	0.00	0.00	4467.37	Postle IC 11-4HN Plan A BHL



WELL DETAILS: Postle IC 11-4HN			
Ground Level:	4974.00		
Northing	Easting	Latitude	Longitude
1332143.74	3145575.78	40.243958	-104.978503
Plan: Plan A rev0 (Postle IC 11-4HN/Plan A)			
Created By: Scott Wallace		Date: 05/24/2013	