

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 13-T2N-67W

Kerr 34C-25HZ

Plan A0

Plan: Plan A0 Permit

Sperry Drilling Services

Proposal Report

08 August, 2013

Well Coordinates: 1,291,306.13 N, 3,182,653.85 E (40° 07' 52.26" N, 104° 50' 48.34" W)

Ground Level: 4,891.00 ft

Local Coordinate Origin: Centered on Well Kerr 34C-25HZ

Viewing Datum: RKB = 25' @ 4916.00ft (Drilling Rig)

TVDs to System: N

North Reference: True

Unit System: API - US Survey Feet - Custom

Geodetic Scale Factor Applied

Version: 2003.16 Build: 431

HALLIBURTON

Project: Weld County, CO (NAD 83)
 Site: Sec. 13-T2N-67W
 Well: Kerr 34C-25HZ
 Wellbore: Plan A0
 Design: Plan A0 Permit

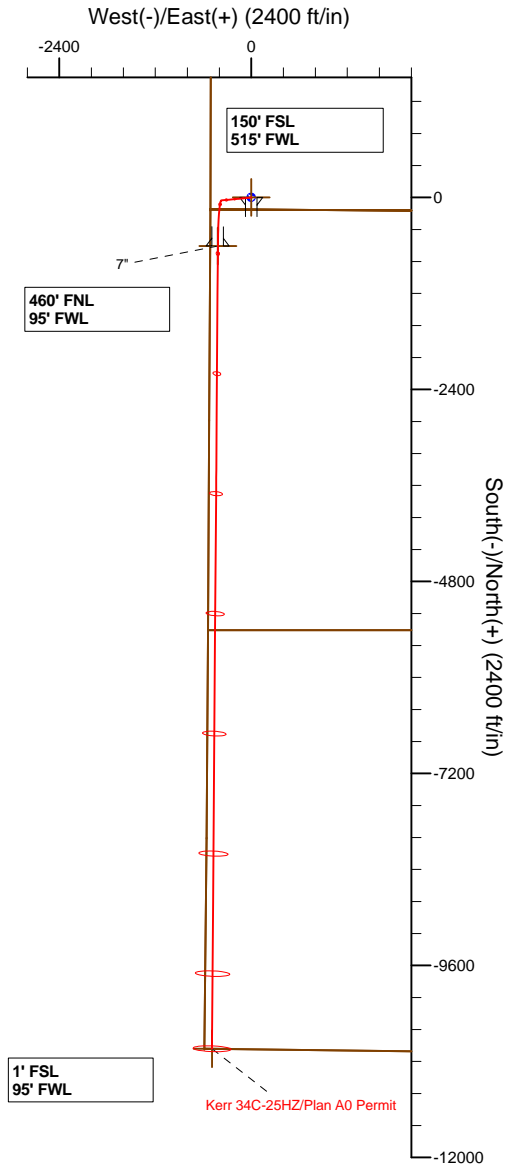
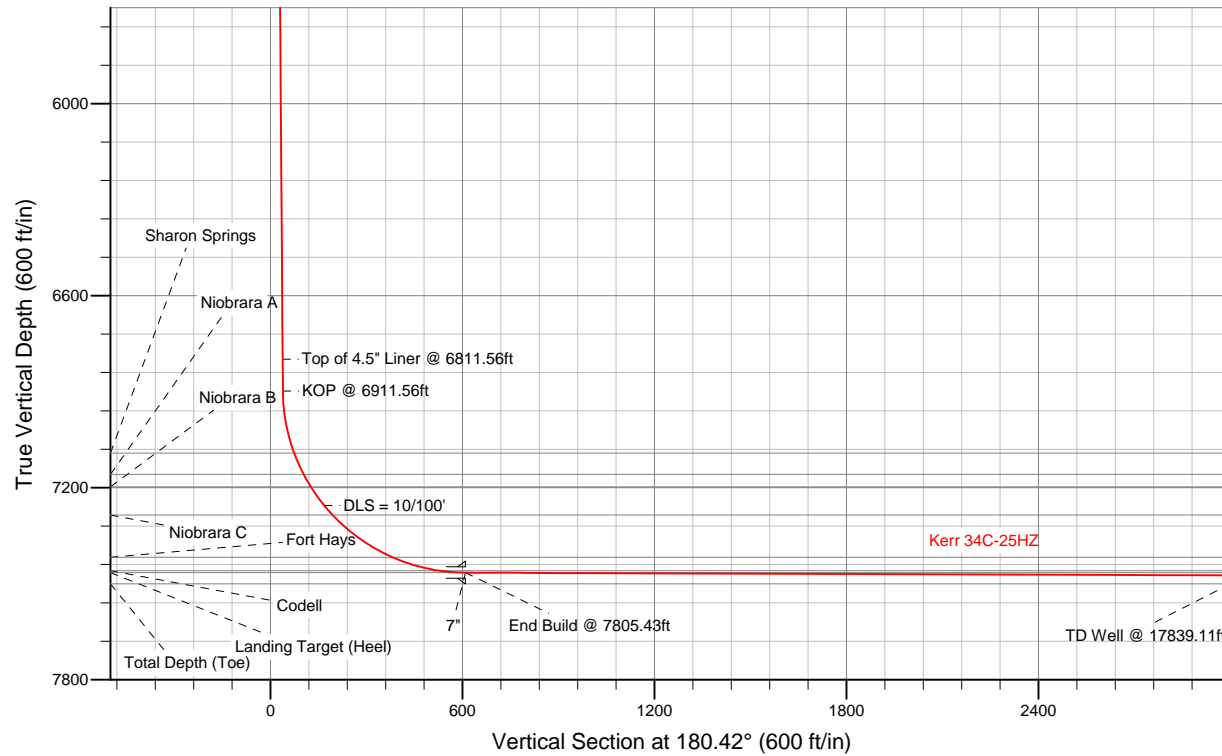


SECTION DETAILS

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	1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	
3	1599.43	3.99	264.47	1599.27	-0.67	-6.91	2.00	264.47	0.72	
4	6911.56	3.99	264.47	6898.53	-36.28	-374.70	0.00	0.00	39.03	
5	7805.43	89.80	180.42	7466.00	-606.93	-418.06	10.00	-84.08	609.98	KERR 34C-25HZ_CP
6	17839.11	89.80	180.42	7501.00	-10640.28	-490.95	0.00	0.00	10643.59	KERR 34C-25HZ_BHL

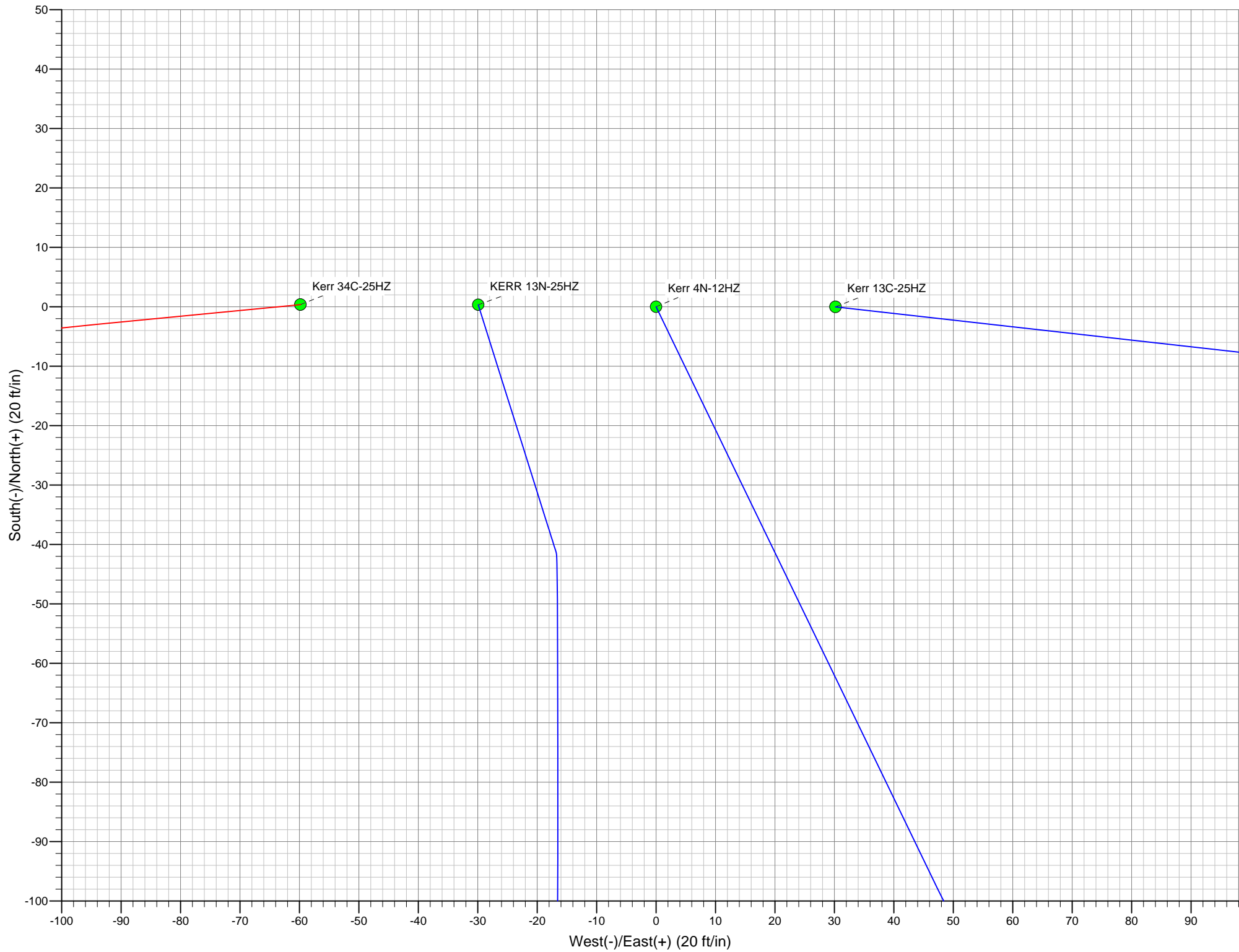
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
KERR 34C-25HZ_SHL	0.00	0.00	0.00	40.131182	-104.846760	Point
Kerr_SEC	8.00	3117.49	2111.94	40.139739	-104.839206	Polygon
KERR 34C-25HZ_CP	7466.00	-606.93	-418.06	40.129516	-104.848255	Point
KERR 34C-25HZ_BHL	7501.00	-10640.28	-490.95	40.101974	-104.848515	Point



TVD	MD	Description
6798.77	6811.56	Top of 4.5" Liner @ 6811.56ft
6898.53	6911.56	KOP @ 6911.56ft

WELL DETAILS: Kerr 34C-25HZ	
Ground Level:	4891.00
RKB = 25' @	4916.00ft (Drilling Rig)
Plan:	Plan A0 Permit (Kerr 34C-25HZ/Plan A0)
Created By:	Clint Eshelman
Date:	08/08/2013



Plan Report for Kerr 34C-25HZ - Plan A0 Permit

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
KERR 34C-25HZ_SHL										
8.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Kerr_SEC										
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
381.00	0.00	0.00	381.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fox Hills Base										
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
9 5/8"										
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
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
Begin Nudge @ 1400.00ft										
1,500.00	2.00	264.47	1,499.98	-0.17	-1.74	0.18	2.00	2.00	0.00	264.47
1,599.43	3.99	264.47	1,599.27	-0.67	-6.91	0.72	2.00	2.00	0.00	0.00
End Nudge @ 1599.43ft										
1,600.00	3.99	264.47	1,599.84	-0.67	-6.95	0.72	0.02	0.02	0.00	0.00
1,700.00	3.99	264.47	1,699.60	-1.34	-13.87	1.44	0.00	0.00	0.00	0.00
1,800.00	3.99	264.47	1,799.35	-2.01	-20.79	2.17	0.00	0.00	0.00	0.00
1,900.00	3.99	264.47	1,899.11	-2.68	-27.72	2.89	0.00	0.00	0.00	0.00
2,000.00	3.99	264.47	1,998.87	-3.35	-34.64	3.61	0.00	0.00	0.00	0.00
2,100.00	3.99	264.47	2,098.63	-4.02	-41.56	4.33	0.00	0.00	0.00	0.00
2,200.00	3.99	264.47	2,198.38	-4.69	-48.49	5.05	0.00	0.00	0.00	0.00
2,300.00	3.99	264.47	2,298.14	-5.37	-55.41	5.77	0.00	0.00	0.00	0.00
2,400.00	3.99	264.47	2,397.90	-6.04	-62.33	6.49	0.00	0.00	0.00	0.00
2,500.00	3.99	264.47	2,497.66	-6.71	-69.26	7.21	0.00	0.00	0.00	0.00
2,600.00	3.99	264.47	2,597.42	-7.38	-76.18	7.93	0.00	0.00	0.00	0.00
2,700.00	3.99	264.47	2,697.17	-8.05	-83.11	8.66	0.00	0.00	0.00	0.00
2,800.00	3.99	264.47	2,796.93	-8.72	-90.03	9.38	0.00	0.00	0.00	0.00
2,900.00	3.99	264.47	2,896.69	-9.39	-96.95	10.10	0.00	0.00	0.00	0.00
3,000.00	3.99	264.47	2,996.45	-10.06	-103.88	10.82	0.00	0.00	0.00	0.00
3,100.00	3.99	264.47	3,096.20	-10.73	-110.80	11.54	0.00	0.00	0.00	0.00
3,200.00	3.99	264.47	3,195.96	-11.40	-117.72	12.26	0.00	0.00	0.00	0.00
3,300.00	3.99	264.47	3,295.72	-12.07	-124.65	12.98	0.00	0.00	0.00	0.00
3,400.00	3.99	264.47	3,395.48	-12.74	-131.57	13.70	0.00	0.00	0.00	0.00
3,500.00	3.99	264.47	3,495.24	-13.41	-138.49	14.42	0.00	0.00	0.00	0.00
3,600.00	3.99	264.47	3,594.99	-14.08	-145.42	15.15	0.00	0.00	0.00	0.00
3,700.00	3.99	264.47	3,694.75	-14.75	-152.34	15.87	0.00	0.00	0.00	0.00
3,800.00	3.99	264.47	3,794.51	-15.42	-159.26	16.59	0.00	0.00	0.00	0.00
3,900.00	3.99	264.47	3,894.27	-16.09	-166.19	17.31	0.00	0.00	0.00	0.00
4,000.00	3.99	264.47	3,994.02	-16.76	-173.11	18.03	0.00	0.00	0.00	0.00
4,100.00	3.99	264.47	4,093.78	-17.43	-180.04	18.75	0.00	0.00	0.00	0.00
4,200.00	3.99	264.47	4,193.54	-18.10	-186.96	19.47	0.00	0.00	0.00	0.00
4,300.00	3.99	264.47	4,293.30	-18.77	-193.88	20.19	0.00	0.00	0.00	0.00
4,400.00	3.99	264.47	4,393.06	-19.44	-200.81	20.92	0.00	0.00	0.00	0.00
4,406.96	3.99	264.47	4,400.00	-19.49	-201.29	20.97	0.00	0.00	0.00	0.00
Sussex										
4,500.00	3.99	264.47	4,492.81	-20.11	-207.73	21.64	0.00	0.00	0.00	0.00

Plan Report for Kerr 34C-25HZ - Plan A0 Permit

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 (°)
4,600.00	3.99	264.47	4,592.57	-20.78	-214.65	22.36	0.00	0.00	0.00	0.00
4,700.00	3.99	264.47	4,692.33	-21.45	-221.58	23.08	0.00	0.00	0.00	0.00
4,800.00	3.99	264.47	4,792.09	-22.13	-228.50	23.80	0.00	0.00	0.00	0.00
4,900.00	3.99	264.47	4,891.84	-22.80	-235.42	24.52	0.00	0.00	0.00	0.00
5,000.00	3.99	264.47	4,991.60	-23.47	-242.35	25.24	0.00	0.00	0.00	0.00
5,100.00	3.99	264.47	5,091.36	-24.14	-249.27	25.96	0.00	0.00	0.00	0.00
5,200.00	3.99	264.47	5,191.12	-24.81	-256.19	26.68	0.00	0.00	0.00	0.00
5,300.00	3.99	264.47	5,290.88	-25.48	-263.12	27.41	0.00	0.00	0.00	0.00
5,400.00	3.99	264.47	5,390.63	-26.15	-270.04	28.13	0.00	0.00	0.00	0.00
5,500.00	3.99	264.47	5,490.39	-26.82	-276.97	28.85	0.00	0.00	0.00	0.00
5,600.00	3.99	264.47	5,590.15	-27.49	-283.89	29.57	0.00	0.00	0.00	0.00
5,700.00	3.99	264.47	5,689.91	-28.16	-290.81	30.29	0.00	0.00	0.00	0.00
5,800.00	3.99	264.47	5,789.66	-28.83	-297.74	31.01	0.00	0.00	0.00	0.00
5,900.00	3.99	264.47	5,889.42	-29.50	-304.66	31.73	0.00	0.00	0.00	0.00
6,000.00	3.99	264.47	5,989.18	-30.17	-311.58	32.45	0.00	0.00	0.00	0.00
6,100.00	3.99	264.47	6,088.94	-30.84	-318.51	33.17	0.00	0.00	0.00	0.00
6,200.00	3.99	264.47	6,188.70	-31.51	-325.43	33.90	0.00	0.00	0.00	0.00
6,300.00	3.99	264.47	6,288.45	-32.18	-332.35	34.62	0.00	0.00	0.00	0.00
6,400.00	3.99	264.47	6,388.21	-32.85	-339.28	35.34	0.00	0.00	0.00	0.00
6,500.00	3.99	264.47	6,487.97	-33.52	-346.20	36.06	0.00	0.00	0.00	0.00
6,600.00	3.99	264.47	6,587.73	-34.19	-353.12	36.78	0.00	0.00	0.00	0.00
6,700.00	3.99	264.47	6,687.48	-34.86	-360.05	37.50	0.00	0.00	0.00	0.00
6,800.00	3.99	264.47	6,787.24	-35.53	-366.97	38.22	0.00	0.00	0.00	0.00
6,811.56	3.99	264.47	6,798.77	-35.61	-367.77	38.31	0.00	0.00	0.00	0.00
Top of 4.5" Liner @ 6811.56ft										
6,900.00	3.99	264.47	6,887.00	-36.20	-373.90	38.94	0.00	0.00	0.00	0.00
6,911.56	3.99	264.47	6,898.53	-36.28	-374.70	39.03	0.00	0.00	0.00	0.00
KOP @ 6911.56ft										
7,000.00	10.06	203.41	6,986.36	-43.68	-380.84	46.47	10.00	6.87	-69.05	-84.08
7,100.00	19.65	191.61	7,082.92	-68.23	-387.71	71.07	10.00	9.58	-11.80	-23.32
7,109.67	20.59	191.04	7,092.00	-71.49	-388.36	74.34	10.00	9.80	-5.85	-11.88
Sharon Springs										
7,183.17	27.84	187.95	7,159.00	-101.22	-393.22	104.10	10.00	9.85	-4.20	-11.35
Niobrara A										
7,200.00	29.50	187.44	7,173.76	-109.22	-394.30	112.10	10.00	9.90	-3.01	-8.52
7,228.25	32.30	186.70	7,198.00	-123.61	-396.08	126.51	10.00	9.91	-2.63	-8.08
Niobrara B										
7,300.00	39.42	185.24	7,256.11	-165.39	-400.40	168.32	10.00	9.93	-2.03	-7.44
DLS = 10/100'										
7,339.86	43.39	184.61	7,286.00	-191.65	-402.66	194.60	10.00	9.95	-1.58	-6.25
Niobrara C										
7,400.00	49.37	183.81	7,327.47	-235.05	-405.84	238.02	10.00	9.95	-1.32	-5.78
7,500.00	59.34	182.76	7,385.67	-316.08	-410.45	319.08	10.00	9.96	-1.05	-5.23
7,570.94	66.41	182.14	7,418.00	-379.13	-413.13	382.14	10.00	9.97	-0.88	-4.61
Fort Hays										
7,600.00	69.31	181.90	7,428.95	-406.02	-414.08	409.05	10.00	9.97	-0.81	-4.33
7,700.00	79.28	181.15	7,455.98	-502.13	-416.63	505.17	10.00	9.97	-0.75	-4.24
7,724.32	81.71	180.98	7,460.00	-526.11	-417.08	529.16	10.00	9.98	-0.71	-4.04
Codell										
7,800.00	89.26	180.45	7,465.96	-601.50	-418.02	604.54	10.00	9.98	-0.70	-4.01
7,805.43	89.80	180.42	7,466.00	-606.93	-418.06	609.98	9.99	9.97	-0.69	-3.97
End Build @ 7805.43ft - Landing Target (Heel) - 7" - KERR 34C-25HZ_CP										
7,900.00	89.80	180.42	7,466.33	-701.49	-418.75	704.54	0.00	0.00	0.00	-3.97
8,000.00	89.80	180.42	7,466.68	-801.49	-419.47	804.54	0.00	0.00	0.00	0.00
8,100.00	89.80	180.42	7,467.03	-901.49	-420.20	904.54	0.00	0.00	0.00	0.00
8,200.00	89.80	180.42	7,467.38	-1,001.48	-420.93	1,004.54	0.00	0.00	0.00	0.00
8,300.00	89.80	180.42	7,467.73	-1,101.48	-421.65	1,104.54	0.00	0.00	0.00	0.00
8,400.00	89.80	180.42	7,468.07	-1,201.48	-422.38	1,204.54	0.00	0.00	0.00	0.00
8,500.00	89.80	180.42	7,468.42	-1,301.47	-423.11	1,304.54	0.00	0.00	0.00	0.00

Plan Report for Kerr 34C-25HZ - Plan A0 Permit

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 (°)
8,600.00	89.80	180.42	7,468.77	-1,401.47	-423.83	1,404.54	0.00	0.00	0.00	0.00
8,700.00	89.80	180.42	7,469.12	-1,501.47	-424.56	1,504.54	0.00	0.00	0.00	0.00
8,800.00	89.80	180.42	7,469.47	-1,601.46	-425.29	1,604.54	0.00	0.00	0.00	0.00
8,900.00	89.80	180.42	7,469.82	-1,701.46	-426.01	1,704.54	0.00	0.00	0.00	0.00
9,000.00	89.80	180.42	7,470.17	-1,801.46	-426.74	1,804.54	0.00	0.00	0.00	0.00
9,100.00	89.80	180.42	7,470.52	-1,901.45	-427.47	1,904.54	0.00	0.00	0.00	0.00
9,200.00	89.80	180.42	7,470.86	-2,001.45	-428.19	2,004.54	0.00	0.00	0.00	0.00
9,300.00	89.80	180.42	7,471.21	-2,101.45	-428.92	2,104.54	0.00	0.00	0.00	0.00
9,400.00	89.80	180.42	7,471.56	-2,201.44	-429.65	2,204.53	0.00	0.00	0.00	0.00
9,500.00	89.80	180.42	7,471.91	-2,301.44	-430.37	2,304.53	0.00	0.00	0.00	0.00
9,600.00	89.80	180.42	7,472.26	-2,401.44	-431.10	2,404.53	0.00	0.00	0.00	0.00
9,700.00	89.80	180.42	7,472.61	-2,501.43	-431.82	2,504.53	0.00	0.00	0.00	0.00
9,800.00	89.80	180.42	7,472.96	-2,601.43	-432.55	2,604.53	0.00	0.00	0.00	0.00
9,900.00	89.80	180.42	7,473.31	-2,701.43	-433.28	2,704.53	0.00	0.00	0.00	0.00
10,000.00	89.80	180.42	7,473.66	-2,801.43	-434.00	2,804.53	0.00	0.00	0.00	0.00
10,100.00	89.80	180.42	7,474.00	-2,901.42	-434.73	2,904.53	0.00	0.00	0.00	0.00
10,200.00	89.80	180.42	7,474.35	-3,001.42	-435.46	3,004.53	0.00	0.00	0.00	0.00
10,300.00	89.80	180.42	7,474.70	-3,101.42	-436.18	3,104.53	0.00	0.00	0.00	0.00
10,400.00	89.80	180.42	7,475.05	-3,201.41	-436.91	3,204.53	0.00	0.00	0.00	0.00
10,500.00	89.80	180.42	7,475.40	-3,301.41	-437.64	3,304.53	0.00	0.00	0.00	0.00
10,600.00	89.80	180.42	7,475.75	-3,401.41	-438.36	3,404.53	0.00	0.00	0.00	0.00
10,700.00	89.80	180.42	7,476.10	-3,501.40	-439.09	3,504.53	0.00	0.00	0.00	0.00
10,800.00	89.80	180.42	7,476.45	-3,601.40	-439.82	3,604.53	0.00	0.00	0.00	0.00
10,900.00	89.80	180.42	7,476.79	-3,701.40	-440.54	3,704.53	0.00	0.00	0.00	0.00
11,000.00	89.80	180.42	7,477.14	-3,801.39	-441.27	3,804.53	0.00	0.00	0.00	0.00
11,100.00	89.80	180.42	7,477.49	-3,901.39	-442.00	3,904.52	0.00	0.00	0.00	0.00
11,200.00	89.80	180.42	7,477.84	-4,001.39	-442.72	4,004.52	0.00	0.00	0.00	0.00
11,300.00	89.80	180.42	7,478.19	-4,101.38	-443.45	4,104.52	0.00	0.00	0.00	0.00
11,400.00	89.80	180.42	7,478.54	-4,201.38	-444.18	4,204.52	0.00	0.00	0.00	0.00
11,500.00	89.80	180.42	7,478.89	-4,301.38	-444.90	4,304.52	0.00	0.00	0.00	0.00
11,600.00	89.80	180.42	7,479.24	-4,401.37	-445.63	4,404.52	0.00	0.00	0.00	0.00
11,700.00	89.80	180.42	7,479.59	-4,501.37	-446.35	4,504.52	0.00	0.00	0.00	0.00
11,800.00	89.80	180.42	7,479.93	-4,601.37	-447.08	4,604.52	0.00	0.00	0.00	0.00
11,900.00	89.80	180.42	7,480.28	-4,701.36	-447.81	4,704.52	0.00	0.00	0.00	0.00
12,000.00	89.80	180.42	7,480.63	-4,801.36	-448.53	4,804.52	0.00	0.00	0.00	0.00
12,100.00	89.80	180.42	7,480.98	-4,901.36	-449.26	4,904.52	0.00	0.00	0.00	0.00
12,200.00	89.80	180.42	7,481.33	-5,001.35	-449.99	5,004.52	0.00	0.00	0.00	0.00
12,300.00	89.80	180.42	7,481.68	-5,101.35	-450.71	5,104.52	0.00	0.00	0.00	0.00
12,400.00	89.80	180.42	7,482.03	-5,201.35	-451.44	5,204.52	0.00	0.00	0.00	0.00
12,500.00	89.80	180.42	7,482.38	-5,301.34	-452.17	5,304.52	0.00	0.00	0.00	0.00
12,600.00	89.80	180.42	7,482.72	-5,401.34	-452.89	5,404.52	0.00	0.00	0.00	0.00
12,700.00	89.80	180.42	7,483.07	-5,501.34	-453.62	5,504.51	0.00	0.00	0.00	0.00
12,800.00	89.80	180.42	7,483.42	-5,601.33	-454.35	5,604.51	0.00	0.00	0.00	0.00
12,900.00	89.80	180.42	7,483.77	-5,701.33	-455.07	5,704.51	0.00	0.00	0.00	0.00
13,000.00	89.80	180.42	7,484.12	-5,801.33	-455.80	5,804.51	0.00	0.00	0.00	0.00
13,100.00	89.80	180.42	7,484.47	-5,901.32	-456.53	5,904.51	0.00	0.00	0.00	0.00
13,200.00	89.80	180.42	7,484.82	-6,001.32	-457.25	6,004.51	0.00	0.00	0.00	0.00
13,300.00	89.80	180.42	7,485.17	-6,101.32	-457.98	6,104.51	0.00	0.00	0.00	0.00
13,400.00	89.80	180.42	7,485.52	-6,201.31	-458.70	6,204.51	0.00	0.00	0.00	0.00
13,500.00	89.80	180.42	7,485.86	-6,301.31	-459.43	6,304.51	0.00	0.00	0.00	0.00
13,600.00	89.80	180.42	7,486.21	-6,401.31	-460.16	6,404.51	0.00	0.00	0.00	0.00
13,700.00	89.80	180.42	7,486.56	-6,501.31	-460.88	6,504.51	0.00	0.00	0.00	0.00
13,800.00	89.80	180.42	7,486.91	-6,601.30	-461.61	6,604.51	0.00	0.00	0.00	0.00
13,900.00	89.80	180.42	7,487.26	-6,701.30	-462.34	6,704.51	0.00	0.00	0.00	0.00
14,000.00	89.80	180.42	7,487.61	-6,801.30	-463.06	6,804.51	0.00	0.00	0.00	0.00
14,100.00	89.80	180.42	7,487.96	-6,901.29	-463.79	6,904.51	0.00	0.00	0.00	0.00
14,200.00	89.80	180.42	7,488.31	-7,001.29	-464.52	7,004.51	0.00	0.00	0.00	0.00
14,300.00	89.80	180.42	7,488.65	-7,101.29	-465.24	7,104.51	0.00	0.00	0.00	0.00
14,400.00	89.80	180.42	7,489.00	-7,201.28	-465.97	7,204.50	0.00	0.00	0.00	0.00
14,500.00	89.80	180.42	7,489.35	-7,301.28	-466.70	7,304.50	0.00	0.00	0.00	0.00

Plan Report for Kerr 34C-25HZ - Plan A0 Permit

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 (°)
14,600.00	89.80	180.42	7,489.70	-7,401.28	-467.42	7,404.50	0.00	0.00	0.00	0.00
14,700.00	89.80	180.42	7,490.05	-7,501.27	-468.15	7,504.50	0.00	0.00	0.00	0.00
14,800.00	89.80	180.42	7,490.40	-7,601.27	-468.88	7,604.50	0.00	0.00	0.00	0.00
14,900.00	89.80	180.42	7,490.75	-7,701.27	-469.60	7,704.50	0.00	0.00	0.00	0.00
15,000.00	89.80	180.42	7,491.10	-7,801.26	-470.33	7,804.50	0.00	0.00	0.00	0.00
15,100.00	89.80	180.42	7,491.45	-7,901.26	-471.06	7,904.50	0.00	0.00	0.00	0.00
15,200.00	89.80	180.42	7,491.79	-8,001.26	-471.78	8,004.50	0.00	0.00	0.00	0.00
15,300.00	89.80	180.42	7,492.14	-8,101.25	-472.51	8,104.50	0.00	0.00	0.00	0.00
15,400.00	89.80	180.42	7,492.49	-8,201.25	-473.23	8,204.50	0.00	0.00	0.00	0.00
15,500.00	89.80	180.42	7,492.84	-8,301.25	-473.96	8,304.50	0.00	0.00	0.00	0.00
15,600.00	89.80	180.42	7,493.19	-8,401.24	-474.69	8,404.50	0.00	0.00	0.00	0.00
15,700.00	89.80	180.42	7,493.54	-8,501.24	-475.41	8,504.50	0.00	0.00	0.00	0.00
15,800.00	89.80	180.42	7,493.89	-8,601.24	-476.14	8,604.50	0.00	0.00	0.00	0.00
15,900.00	89.80	180.42	7,494.24	-8,701.23	-476.87	8,704.50	0.00	0.00	0.00	0.00
16,000.00	89.80	180.42	7,494.58	-8,801.23	-477.59	8,804.49	0.00	0.00	0.00	0.00
16,100.00	89.80	180.42	7,494.93	-8,901.23	-478.32	8,904.49	0.00	0.00	0.00	0.00
16,200.00	89.80	180.42	7,495.28	-9,001.22	-479.05	9,004.49	0.00	0.00	0.00	0.00
16,300.00	89.80	180.42	7,495.63	-9,101.22	-479.77	9,104.49	0.00	0.00	0.00	0.00
16,400.00	89.80	180.42	7,495.98	-9,201.22	-480.50	9,204.49	0.00	0.00	0.00	0.00
16,500.00	89.80	180.42	7,496.33	-9,301.21	-481.23	9,304.49	0.00	0.00	0.00	0.00
16,600.00	89.80	180.42	7,496.68	-9,401.21	-481.95	9,404.49	0.00	0.00	0.00	0.00
16,700.00	89.80	180.42	7,497.03	-9,501.21	-482.68	9,504.49	0.00	0.00	0.00	0.00
16,800.00	89.80	180.42	7,497.38	-9,601.20	-483.41	9,604.49	0.00	0.00	0.00	0.00
16,900.00	89.80	180.42	7,497.72	-9,701.20	-484.13	9,704.49	0.00	0.00	0.00	0.00
17,000.00	89.80	180.42	7,498.07	-9,801.20	-484.86	9,804.49	0.00	0.00	0.00	0.00
17,100.00	89.80	180.42	7,498.42	-9,901.19	-485.58	9,904.49	0.00	0.00	0.00	0.00
17,200.00	89.80	180.42	7,498.77	-10,001.19	-486.31	10,004.49	0.00	0.00	0.00	0.00
17,300.00	89.80	180.42	7,499.12	-10,101.19	-487.04	10,104.49	0.00	0.00	0.00	0.00
17,400.00	89.80	180.42	7,499.47	-10,201.18	-487.76	10,204.49	0.00	0.00	0.00	0.00
17,500.00	89.80	180.42	7,499.82	-10,301.18	-488.49	10,304.49	0.00	0.00	0.00	0.00
17,600.00	89.80	180.42	7,500.17	-10,401.18	-489.22	10,404.49	0.00	0.00	0.00	0.00
17,700.00	89.80	180.42	7,500.51	-10,501.18	-489.94	10,504.48	0.00	0.00	0.00	0.00
17,800.00	89.80	180.42	7,500.86	-10,601.17	-490.67	10,604.48	0.00	0.00	0.00	0.00
17,839.11	89.80	180.42	7,501.00	-10,640.28	-490.95	10,643.59	0.00	0.00	0.00	0.00

TD Well @ 17839.11ft - KERR 34C-25HZ_BHL

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,400.00	1,400.00	0.00	0.00	Begin Nudge @ 1400.00ft
1,599.43	1,599.27	-0.67	-6.91	End Nudge @ 1599.43ft
6,811.56	6,798.77	-35.61	-367.77	Top of 4.5" Liner @ 6811.56ft
6,911.56	6,898.53	-36.28	-374.70	KOP @ 6911.56ft
7,300.00	7,256.11	-165.39	-400.40	DLS = 10/100'
7,805.43	7,466.00	-606.93	-418.06	End Build @ 7805.43ft
17,839.11	7,501.00	-10,640.28	-490.95	TD Well @ 17839.11ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/_S (ft)	+E/-W (ft)	
User	No Target (Freehand)	180.42	Slot	0.00	0.00	0.00

Plan Report for Kerr 34C-25HZ - Plan A0 Permit**Survey tool program**

From (ft)	To (ft)	Survey/Plan	Survey Tool
0.00	7,805.43	Plan A0 Permit	MWD
7,805.43	17,839.11	Plan A0 Permit	MWD

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,000.00	1,000.00	9 5/8"	9-5/8	13-1/2
7,805.43	7,466.00	7"	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
381.00	381.00	Fox Hills Base			
4,406.96	4,400.00	Sussex			
7,109.67	7,092.00	Sharon Springs			
7,183.17	7,159.00	Niobrara A			
7,228.25	7,198.00	Niobrara B			
7,339.86	7,286.00	Niobrara C			
7,570.94	7,418.00	Fort Hays			
7,724.32	7,460.00	Codell			
7,805.43	7,466.00	Landing Target (Heel)			
17,839.11	7,501.00	Total Depth (Toe)			

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
KERR 34C-25HZ_BHL	7,501.00	-10,640.28	-490.95	Point
KERR 34C-25HZ_SHL	0.00	0.00	0.00	Point
Kerr_SEC	8.00	3,117.49	2,111.94	Polygon
KERR 34C-25HZ_CP	7,466.00	-606.93	-418.06	Point

North Reference Sheet for Sec. 13-T2N-67W - Kerr 34C-25HZ - Plan A0

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

Vertical Depths are relative to RKB = 25' @ 4916.00ft (Drilling Rig). Northing and Easting are relative to Kerr 34C-25HZ

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: 0.99995901

Grid Coordinates of Well: 1,291,306.13 ft N, 3,182,653.85 ft E

Geographical Coordinates of Well: 40° 07' 52.26" N, 104° 50' 48.34" W

Grid Convergence at Surface is: 0.42°

Based upon Minimum Curvature type calculations, at a Measured Depth of 17,839.11ft
the Bottom Hole Displacement is 10,651.60ft in the Direction of 182.64° (True).

Magnetic Convergence at surface is: -8.20° (8 August 2013, , BGGM2013)

