

Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 33-T2N-R65W

Gittlein 30N-28HZ

Plan A

Plan: Plan A0 Proposal

Sperry Drilling Services

Proposal Report

06 September, 2013

Well Coordinates: 1,276,079.72 N, 3,231,075.17 E (40° 05' 17.79" N, 104° 40' 26.77" W)

Ground Level: 4,917.00 ft

Local Coordinate Origin:

Centered on Well Gittlein 30N-28HZ

Viewing Datum:

RKB = 25' @ 4942.00ft (H&P 308)

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. 33-T2N-R65W
 Well: Gittlein 30N-28HZ
 Wellbore: Plan A
 Design: Plan A0 Proposal

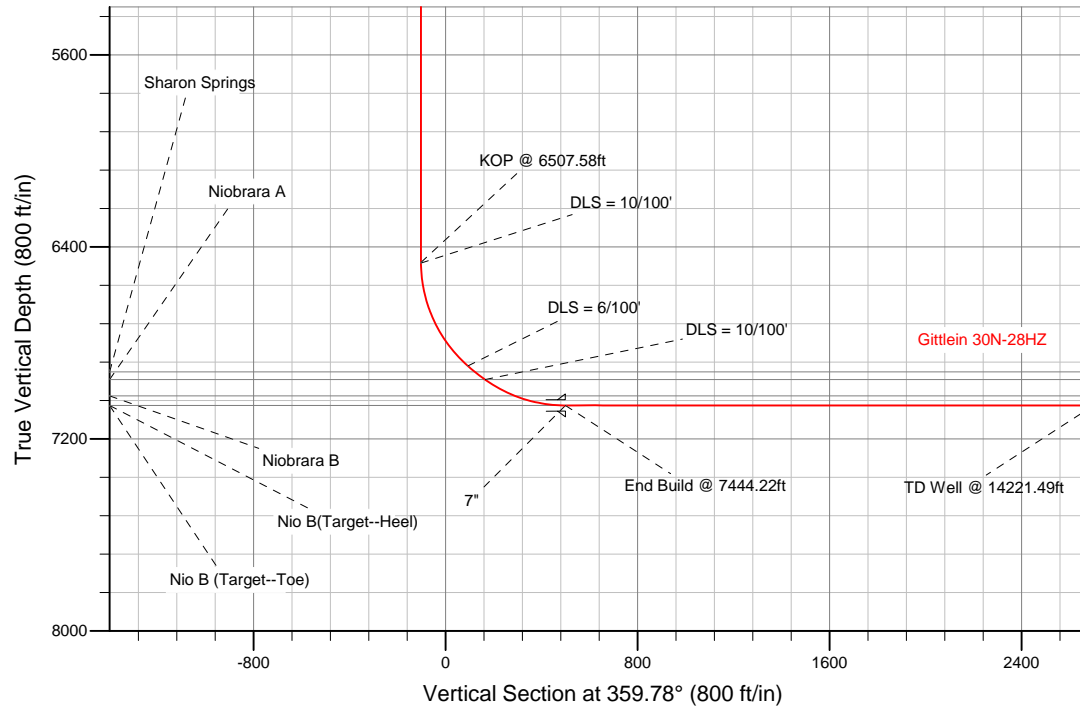


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	1225.00	0.54	353.22	1224.98	4.40	-0.55	0.00	0.00	4.40	
2	1725.00	0.54	353.22	1724.96	9.08	-1.10	0.00	0.00	9.09	
3	2228.63	10.00	257.00	2226.05	1.58	-44.10	2.00	-99.24	1.75	
4	4678.63	10.00	257.00	4638.83	-94.12	-458.64	0.00	0.00	-92.36	
5	5178.63	0.00	0.00	5136.30	-103.91	-501.04	2.00	180.00	-101.99	
6	6507.58	0.00	0.00	6465.25	-103.91	-501.04	0.00	0.00	-101.99	
7	6995.06	48.75	359.78	6896.00	91.25	-501.79	10.00	359.78	93.17	
8	7086.65	54.24	359.78	6953.00	162.89	-502.07	6.00	0.00	164.82	
9	7444.22	90.00	359.78	7061.00	497.70	-503.34	10.00	0.01	499.63	
10	14221.49	90.00	359.78	7061.00	7274.92	-528.95	0.00	0.00	7276.90	Gittlein 30N-28HZ_BHL

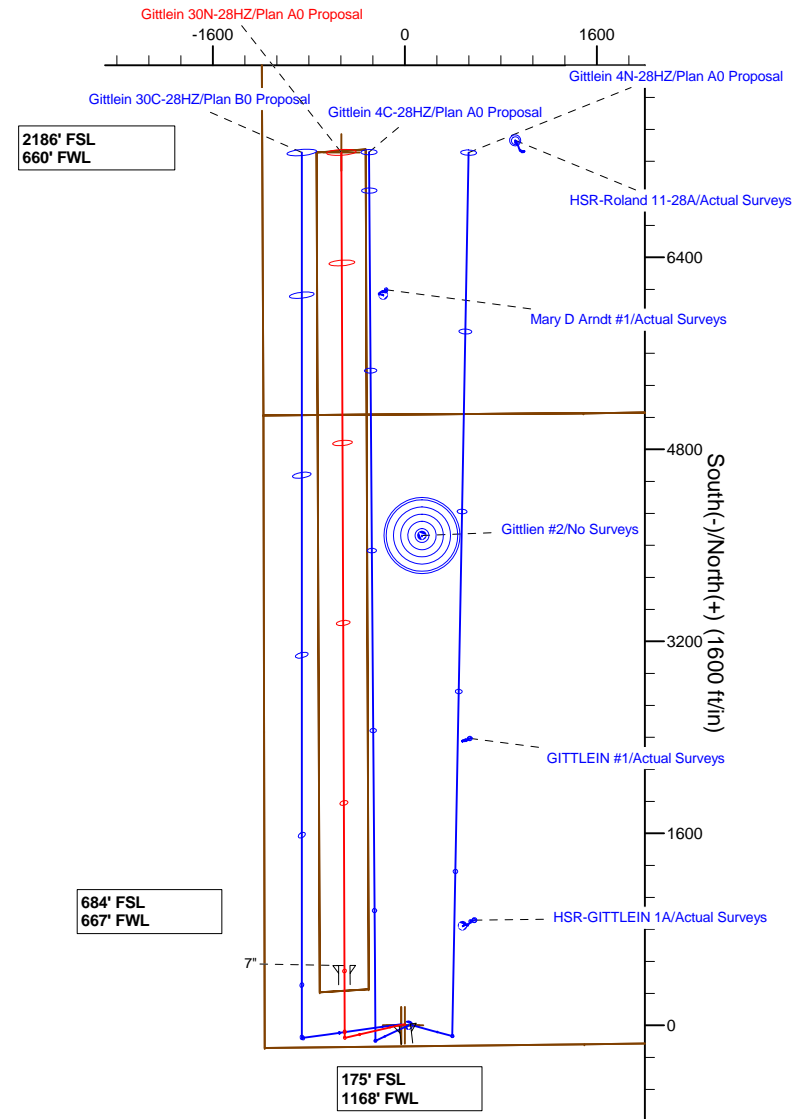
WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Gittlein 30N-28HZ_LD	0.00	-0.36	-29.94	40.088275	-104.674210	Polygon
Gittlein 30N-28HZ_Sec	0.00	-0.36	-29.94	40.088275	-104.674210	Polygon
Gittlein 30N-28HZ_SHL	0.00	0.00	0.00	40.088276	-104.674103	Point
Gittlein 30N-28HZ_BHL	7061.00	7274.92	-528.95	40.108246	-104.675994	Point



TVD	MD	
6465.24	6507.58	KOP @ 6507.58ft

West(-)/East(+) (1600 ft/in)

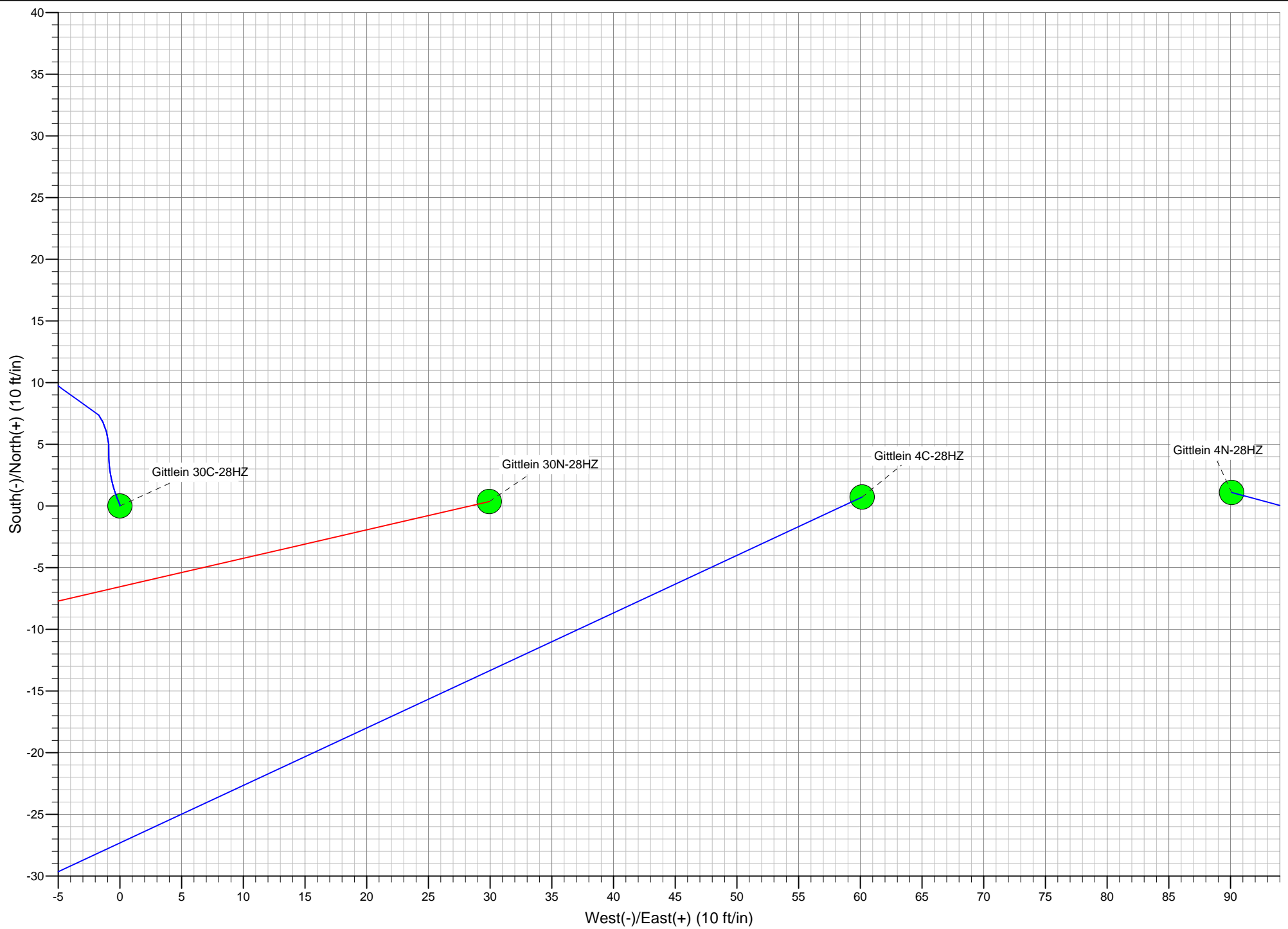


WELL DETAILS: Gittlein 30N-28HZ

Ground Level: 4917.00
 RKB = 25' @ 4942.00ft (H&P 308)

Plan: Plan A0 Proposal (Gittlein 30N-28HZ/Plan A)

Created By: Clint Eshelman Date: 09/06/2013



Plan Report for Gittlein 30N-28HZ - Plan A0 Proposal

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 (°)
1,225.00	0.54	353.22	1,224.98	4.40	-0.55	4.40	0.00	0.00	0.00	0.00
Tie-On to Surface Gyros - Gittlein 30N-28HZ_LD - Gittlein 30N-28HZ_SHL - Gittlein 30N-28HZ_Sec										
1,300.00	0.54	353.22	1,299.98	5.10	-0.63	5.11	0.00	0.00	0.00	0.00
1,313.90	0.54	353.22	1,313.88	5.23	-0.65	5.24	0.00	0.00	0.00	0.00
9 5/8"										
1,400.00	0.54	353.22	1,399.98	6.04	-0.74	6.04	0.00	0.00	0.00	0.00
1,500.00	0.54	353.22	1,499.97	6.98	-0.85	6.98	0.00	0.00	0.00	0.00
1,600.00	0.54	353.22	1,599.97	7.91	-0.97	7.92	0.00	0.00	0.00	0.00
1,700.00	0.54	353.22	1,699.96	8.85	-1.08	8.85	0.00	0.00	0.00	0.00
1,725.00	0.54	353.22	1,724.96	9.08	-1.10	9.09	0.00	0.00	0.00	0.00
Begin Nudge @ 1725.00ft										
1,800.00	1.51	274.63	1,799.95	9.51	-2.13	9.52	2.00	1.29	-104.78	-99.24
1,900.00	3.45	262.84	1,899.85	9.24	-6.44	9.27	2.00	1.94	-11.79	-20.67
2,000.00	5.44	259.58	1,999.55	8.01	-14.09	8.06	2.00	1.98	-3.26	-8.88
2,100.00	7.43	258.07	2,098.91	5.82	-25.08	5.91	2.00	1.99	-1.52	-5.63
2,200.00	9.43	257.19	2,197.83	2.66	-39.39	2.81	2.00	2.00	-0.88	-4.12
2,228.63	10.00	257.00	2,226.05	1.58	-44.10	1.75	2.00	2.00	-0.65	-3.26
End Nudge @ 2228.63ft										
2,300.00	10.00	257.00	2,296.33	-1.21	-56.18	-0.99	0.00	0.00	0.00	-3.07
2,400.00	10.00	257.00	2,394.81	-5.11	-73.10	-4.83	0.00	0.00	0.00	0.00
2,500.00	10.00	257.00	2,493.29	-9.02	-90.02	-8.67	0.00	0.00	0.00	0.00
2,600.00	10.00	257.00	2,591.78	-12.92	-106.94	-12.51	0.00	0.00	0.00	0.00
2,700.00	10.00	257.00	2,690.26	-16.83	-123.86	-16.35	0.00	0.00	0.00	0.00
2,800.00	10.00	257.00	2,788.74	-20.74	-140.78	-20.20	0.00	0.00	0.00	0.00
2,900.00	10.00	257.00	2,887.22	-24.64	-157.70	-24.04	0.00	0.00	0.00	0.00
3,000.00	10.00	257.00	2,985.70	-28.55	-174.62	-27.88	0.00	0.00	0.00	0.00
3,100.00	10.00	257.00	3,084.18	-32.46	-191.54	-31.72	0.00	0.00	0.00	0.00
3,200.00	10.00	257.00	3,182.66	-36.36	-208.46	-35.56	0.00	0.00	0.00	0.00
3,300.00	10.00	257.00	3,281.14	-40.27	-225.38	-39.40	0.00	0.00	0.00	0.00
3,400.00	10.00	257.00	3,379.62	-44.17	-242.30	-43.24	0.00	0.00	0.00	0.00
3,500.00	10.00	257.00	3,478.10	-48.08	-259.21	-47.08	0.00	0.00	0.00	0.00
3,600.00	10.00	257.00	3,576.58	-51.99	-276.13	-50.93	0.00	0.00	0.00	0.00
3,700.00	10.00	257.00	3,675.06	-55.89	-293.05	-54.77	0.00	0.00	0.00	0.00
3,800.00	10.00	257.00	3,773.54	-59.80	-309.97	-58.61	0.00	0.00	0.00	0.00
3,900.00	10.00	257.00	3,872.03	-63.71	-326.89	-62.45	0.00	0.00	0.00	0.00
4,000.00	10.00	257.00	3,970.51	-67.61	-343.81	-66.29	0.00	0.00	0.00	0.00
4,100.00	10.00	257.00	4,068.99	-71.52	-360.73	-70.13	0.00	0.00	0.00	0.00
4,200.00	10.00	257.00	4,167.47	-75.42	-377.65	-73.97	0.00	0.00	0.00	0.00
4,300.00	10.00	257.00	4,265.95	-79.33	-394.57	-77.81	0.00	0.00	0.00	0.00
4,400.00	10.00	257.00	4,364.43	-83.24	-411.49	-81.66	0.00	0.00	0.00	0.00
4,500.00	10.00	257.00	4,462.91	-87.14	-428.41	-85.50	0.00	0.00	0.00	0.00
4,600.00	10.00	257.00	4,561.39	-91.05	-445.33	-89.34	0.00	0.00	0.00	0.00
4,678.63	10.00	257.00	4,638.83	-94.12	-458.64	-92.36	0.00	0.00	0.00	0.00
Begin Drop @ 4678.63ft										
4,700.00	9.57	257.00	4,659.89	-94.94	-462.18	-93.16	2.00	-2.00	0.00	180.00
4,800.00	7.57	257.00	4,758.76	-98.29	-476.70	-96.46	2.00	-2.00	0.00	180.00
4,900.00	5.57	257.00	4,858.10	-100.87	-487.85	-98.99	2.00	-2.00	0.00	180.00
4,999.22	3.59	257.00	4,957.00	-102.65	-495.57	-100.74	2.00	-2.00	0.00	-180.00
Sussex										
5,000.00	3.57	257.00	4,957.78	-102.66	-495.62	-100.75	2.00	-2.00	0.00	180.00
5,100.00	1.57	257.00	5,057.67	-103.67	-499.99	-101.75	2.00	-2.00	0.00	180.00
5,178.63	0.00	257.00	5,136.29	-103.91	-501.04	-101.99	2.00	-2.00	0.00	180.00
End Drop @ 5178.63ft										
5,200.00	0.00	0.00	5,157.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	180.00
5,300.00	0.00	0.00	5,257.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,357.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,457.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00

Plan Report for Gittlein 30N-28HZ - Plan A0 Proposal

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 (°)
5,600.00	0.00	0.00	5,557.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,657.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,757.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,857.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,957.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,057.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,157.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,257.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,357.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,457.66	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
6,507.58	0.00	0.00	6,465.24	-103.91	-501.04	-101.99	0.00	0.00	0.00	0.00
KOP @ 6507.58ft										
6,510.00	0.24	359.78	6,467.66	-103.91	-501.04	-101.98	9.98	9.98	0.00	359.78
DLS = 10/100'										
6,600.00	9.24	359.78	6,557.26	-96.47	-501.07	-94.55	10.00	10.00	0.00	0.00
6,700.00	19.24	359.78	6,654.07	-71.90	-501.17	-69.98	10.00	10.00	0.00	0.00
6,800.00	29.24	359.78	6,745.13	-30.90	-501.32	-28.97	10.00	10.00	0.00	0.00
6,900.00	39.24	359.78	6,827.69	25.30	-501.54	27.22	10.00	10.00	0.00	0.00
6,995.06	48.75	359.78	6,896.00	91.25	-501.79	93.18	10.00	10.00	0.00	0.00
DLS = 6/100'										
7,000.00	49.04	359.78	6,899.25	94.97	-501.81	96.90	6.00	6.00	0.00	0.00
7,033.88	51.08	359.78	6,921.00	120.95	-501.91	122.87	6.00	6.00	0.00	0.00
Sharon Springs										
7,086.65	54.24	359.78	6,953.00	162.89	-502.07	164.82	6.00	6.00	0.00	0.00
DLS = 10/100' - Niobrara A										
7,100.00	55.58	359.78	6,960.68	173.82	-502.11	175.75	10.00	10.00	0.00	0.01
7,200.00	65.58	359.78	7,009.74	260.81	-502.44	262.74	10.00	10.00	0.00	0.01
7,228.85	68.46	359.78	7,021.00	287.37	-502.54	289.30	10.00	10.00	0.00	0.01
Niobrara B										
7,300.00	75.58	359.78	7,042.95	355.00	-502.80	356.93	10.00	10.00	0.00	0.01
7,400.00	85.58	359.78	7,059.30	453.53	-503.18	455.45	10.00	10.00	0.00	0.01
7,444.22	90.00	359.78	7,061.00	497.70	-503.34	499.63	10.00	10.00	0.00	0.00
End Build @ 7444.22ft - Nio B(Target-Heel) - 7"										
7,500.00	90.00	359.78	7,061.00	553.48	-503.55	555.41	0.00	0.00	0.00	0.00
7,600.00	90.00	359.78	7,061.00	653.48	-503.93	655.41	0.00	0.00	0.00	0.00
7,700.00	90.00	359.78	7,061.00	753.48	-504.31	755.41	0.00	0.00	0.00	0.00
7,800.00	90.00	359.78	7,061.00	853.48	-504.69	855.41	0.00	0.00	0.00	0.00
7,900.00	90.00	359.78	7,061.00	953.48	-505.06	955.41	0.00	0.00	0.00	0.00
8,000.00	90.00	359.78	7,061.00	1,053.48	-505.44	1,055.41	0.00	0.00	0.00	0.00
8,100.00	90.00	359.78	7,061.00	1,153.48	-505.82	1,155.41	0.00	0.00	0.00	0.00
8,200.00	90.00	359.78	7,061.00	1,253.48	-506.20	1,255.41	0.00	0.00	0.00	0.00
8,300.00	90.00	359.78	7,061.00	1,353.48	-506.58	1,355.41	0.00	0.00	0.00	0.00
8,400.00	90.00	359.78	7,061.00	1,453.47	-506.95	1,455.41	0.00	0.00	0.00	0.00
8,500.00	90.00	359.78	7,061.00	1,553.47	-507.33	1,555.41	0.00	0.00	0.00	0.00
8,600.00	90.00	359.78	7,061.00	1,653.47	-507.71	1,655.41	0.00	0.00	0.00	0.00
8,700.00	90.00	359.78	7,061.00	1,753.47	-508.09	1,755.41	0.00	0.00	0.00	0.00
8,800.00	90.00	359.78	7,061.00	1,853.47	-508.47	1,855.41	0.00	0.00	0.00	0.00
8,900.00	90.00	359.78	7,061.00	1,953.47	-508.84	1,955.41	0.00	0.00	0.00	0.00
9,000.00	90.00	359.78	7,061.00	2,053.47	-509.22	2,055.41	0.00	0.00	0.00	0.00
9,100.00	90.00	359.78	7,061.00	2,153.47	-509.60	2,155.41	0.00	0.00	0.00	0.00
9,200.00	90.00	359.78	7,061.00	2,253.47	-509.98	2,255.41	0.00	0.00	0.00	0.00
9,300.00	90.00	359.78	7,061.00	2,353.47	-510.35	2,355.41	0.00	0.00	0.00	0.00
9,400.00	90.00	359.78	7,061.00	2,453.47	-510.73	2,455.41	0.00	0.00	0.00	0.00
9,500.00	90.00	359.78	7,061.00	2,553.47	-511.11	2,555.41	0.00	0.00	0.00	0.00
9,600.00	90.00	359.78	7,061.00	2,653.47	-511.49	2,655.41	0.00	0.00	0.00	0.00
9,700.00	90.00	359.78	7,061.00	2,753.47	-511.87	2,755.41	0.00	0.00	0.00	0.00
9,800.00	90.00	359.78	7,061.00	2,853.46	-512.24	2,855.41	0.00	0.00	0.00	0.00
9,900.00	90.00	359.78	7,061.00	2,953.46	-512.62	2,955.41	0.00	0.00	0.00	0.00
10,000.00	90.00	359.78	7,061.00	3,053.46	-513.00	3,055.41	0.00	0.00	0.00	0.00

Plan Report for Gittlein 30N-28HZ - Plan A0 Proposal

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 (°)
10,100.00	90.00	359.78	7,061.00	3,153.46	-513.38	3,155.41	0.00	0.00	0.00	0.00
10,200.00	90.00	359.78	7,061.00	3,253.46	-513.76	3,255.41	0.00	0.00	0.00	0.00
10,300.00	90.00	359.78	7,061.00	3,353.46	-514.13	3,355.41	0.00	0.00	0.00	0.00
10,400.00	90.00	359.78	7,061.00	3,453.46	-514.51	3,455.41	0.00	0.00	0.00	0.00
10,500.00	90.00	359.78	7,061.00	3,553.46	-514.89	3,555.41	0.00	0.00	0.00	0.00
10,600.00	90.00	359.78	7,061.00	3,653.46	-515.27	3,655.41	0.00	0.00	0.00	0.00
10,700.00	90.00	359.78	7,061.00	3,753.46	-515.64	3,755.41	0.00	0.00	0.00	0.00
10,800.00	90.00	359.78	7,061.00	3,853.46	-516.02	3,855.41	0.00	0.00	0.00	0.00
10,900.00	90.00	359.78	7,061.00	3,953.46	-516.40	3,955.41	0.00	0.00	0.00	0.00
11,000.00	90.00	359.78	7,061.00	4,053.46	-516.78	4,055.41	0.00	0.00	0.00	0.00
11,100.00	90.00	359.78	7,061.00	4,153.46	-517.16	4,155.41	0.00	0.00	0.00	0.00
11,200.00	90.00	359.78	7,061.00	4,253.45	-517.53	4,255.41	0.00	0.00	0.00	0.00
11,300.00	90.00	359.78	7,061.00	4,353.45	-517.91	4,355.41	0.00	0.00	0.00	0.00
11,400.00	90.00	359.78	7,061.00	4,453.45	-518.29	4,455.41	0.00	0.00	0.00	0.00
11,500.00	90.00	359.78	7,061.00	4,553.45	-518.67	4,555.41	0.00	0.00	0.00	0.00
11,600.00	90.00	359.78	7,061.00	4,653.45	-519.05	4,655.41	0.00	0.00	0.00	0.00
11,700.00	90.00	359.78	7,061.00	4,753.45	-519.42	4,755.41	0.00	0.00	0.00	0.00
11,800.00	90.00	359.78	7,061.00	4,853.45	-519.80	4,855.41	0.00	0.00	0.00	0.00
11,900.00	90.00	359.78	7,061.00	4,953.45	-520.18	4,955.41	0.00	0.00	0.00	0.00
12,000.00	90.00	359.78	7,061.00	5,053.45	-520.56	5,055.41	0.00	0.00	0.00	0.00
12,100.00	90.00	359.78	7,061.00	5,153.45	-520.93	5,155.41	0.00	0.00	0.00	0.00
12,200.00	90.00	359.78	7,061.00	5,253.45	-521.31	5,255.41	0.00	0.00	0.00	0.00
12,300.00	90.00	359.78	7,061.00	5,353.45	-521.69	5,355.41	0.00	0.00	0.00	0.00
12,400.00	90.00	359.78	7,061.00	5,453.45	-522.07	5,455.41	0.00	0.00	0.00	0.00
12,500.00	90.00	359.78	7,061.00	5,553.45	-522.45	5,555.41	0.00	0.00	0.00	0.00
12,600.00	90.00	359.78	7,061.00	5,653.44	-522.82	5,655.41	0.00	0.00	0.00	0.00
12,700.00	90.00	359.78	7,061.00	5,753.44	-523.20	5,755.41	0.00	0.00	0.00	0.00
12,800.00	90.00	359.78	7,061.00	5,853.44	-523.58	5,855.41	0.00	0.00	0.00	0.00
12,900.00	90.00	359.78	7,061.00	5,953.44	-523.96	5,955.41	0.00	0.00	0.00	0.00
13,000.00	90.00	359.78	7,061.00	6,053.44	-524.33	6,055.41	0.00	0.00	0.00	0.00
13,100.00	90.00	359.78	7,061.00	6,153.44	-524.71	6,155.41	0.00	0.00	0.00	0.00
13,200.00	90.00	359.78	7,061.00	6,253.44	-525.09	6,255.41	0.00	0.00	0.00	0.00
13,300.00	90.00	359.78	7,061.00	6,353.44	-525.47	6,355.41	0.00	0.00	0.00	0.00
13,400.00	90.00	359.78	7,061.00	6,453.44	-525.85	6,455.41	0.00	0.00	0.00	0.00
13,500.00	90.00	359.78	7,061.00	6,553.44	-526.22	6,555.41	0.00	0.00	0.00	0.00
13,600.00	90.00	359.78	7,061.00	6,653.44	-526.60	6,655.41	0.00	0.00	0.00	0.00
13,700.00	90.00	359.78	7,061.00	6,753.44	-526.98	6,755.41	0.00	0.00	0.00	0.00
13,800.00	90.00	359.78	7,061.00	6,853.44	-527.36	6,855.41	0.00	0.00	0.00	0.00
13,900.00	90.00	359.78	7,061.00	6,953.44	-527.74	6,955.41	0.00	0.00	0.00	0.00
14,000.00	90.00	359.78	7,061.00	7,053.43	-528.11	7,055.41	0.00	0.00	0.00	0.00
14,100.00	90.00	359.78	7,061.00	7,153.43	-528.49	7,155.41	0.00	0.00	0.00	0.00
14,200.00	90.00	359.78	7,061.00	7,253.43	-528.87	7,255.41	0.00	0.00	0.00	0.00
14,221.49	90.00	359.78	7,061.00	7,274.92	-528.95	7,276.90	0.00	0.00	0.00	0.00

TD Well @ 14221.49ft - Nio B (Target--Toe) - Gittlein 30N-28HZ_BHL

Plan Report for Gittlein 30N-28HZ - Plan A0 Proposal

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,225.00	1,224.98	4.40	-0.55	Tie-On to Surface Gyros
1,725.00	1,724.96	9.08	-1.10	Begin Nudge @ 1725.00ft
2,228.63	2,226.05	1.58	-44.10	End Nudge @ 2228.63ft
4,678.63	4,638.83	-94.12	-458.64	Begin Drop @ 4678.63ft
5,178.63	5,136.29	-103.91	-501.04	End Drop @ 5178.63ft
6,507.58	6,465.24	-103.91	-501.04	KOP @ 6507.58ft
6,510.00	6,467.66	-103.91	-501.04	DLS = 10/100'
6,995.06	6,896.00	91.25	-501.79	DLS = 6/100'
7,086.65	6,953.00	162.90	-502.07	DLS = 10/100'
7,444.22	7,061.00	497.70	-503.34	End Build @ 7444.22ft
14,221.49	7,061.00	7,274.92	-528.95	TD Well @ 14221.49ft

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (ft)
				+N/-S (ft)	+E/-W (ft)	
User	No Target (Freehand)	359.78	Slot	0.00	0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
25.00	1,225.00	Lightning Wireline Gyros	NS-GYRO-MS
1,225.00	7,444.22	Plan A0 Proposal	MWD+SC
7,444.22	14,221.49	Plan A0 Proposal	MWD+SC

Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
1,313.90	1,313.88	9 5/8"	9-5/8	13-1/2
7,444.22	7,061.00	7"	7	8-3/4

Formation Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
4,999.22	4,957.00	Sussex		0.00	
7,033.88	6,921.00	Sharon Springs		0.00	
7,086.65	6,953.00	Niobrara A		0.00	
7,228.85	7,021.00	Niobrara B		0.00	
7,444.22	7,061.00	Nio B(Target--Heel)		0.00	
14,221.49	7,061.00	Nio B (Target--Toe)		0.00	

Targets associated with this wellbore

Target Name	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Shape
Gittlein 30N-28HZ_BHL	7,061.00	7,274.92	-528.95	Point
Gittlein 30N-28HZ_LD	0.00	-0.36	-29.94	Polygon
Gittlein 30N-28HZ_SHL	0.00	0.00	0.00	Point
Gittlein 30N-28HZ_Sec	0.00	-0.36	-29.94	Polygon

North Reference Sheet for Sec. 33-T2N-R65W - Gittlein 30N-28HZ - 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 = 25' @ 4942.00ft (H&P 308). Northing and Easting are relative to Gittlein 30N-28HZ

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: 0.99996085

Grid Coordinates of Well: 1,276,079.72 ft N, 3,231,075.17 ft E

Geographical Coordinates of Well: 40° 05' 17.79" N, 104° 40' 26.77" W

Grid Convergence at Surface is: 0.53°

Based upon Minimum Curvature type calculations, at a Measured Depth of 14,221.49ft
the Bottom Hole Displacement is 7,294.13ft in the Direction of 355.84° (True).

Magnetic Convergence at surface is: -7.99° (21 August 2013, , BGGM2013)

