

# Anadarko Petroleum Corp.

Weld County, CO (NAD 83)

Sec. 22-T3N-R66W

Roberts 13N-22HZ

Plan A

Plan: Rev A0 Permit

## Sperry Drilling Services

### Proposal Report

16 October, 2013

Well Coordinates: 1,322,507.37 N, 3,203,496.76 E (40° 12' 58.99" N, 104° 46' 16.69" W)

Ground Level: 4,885.00 usft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Geodetic Scale Factor Applied

Version: 5000.1 Build: 70

Centered on Well Roberts 13N-22HZ

RKB = 17' @ 4902.00usft (Drilling Rig)

N

True

Dec-Deg - API - US Survey Feet - Custom

**HALLIBURTON**

Project: Weld County, CO (NAD 83)  
Site: Sec. 22-T3N-R66W  
Well: Roberts 13N-22HZ  
Wellbore: Plan A  
Design: Rev A0 Permit

# Anadarko Petroleum Corp.

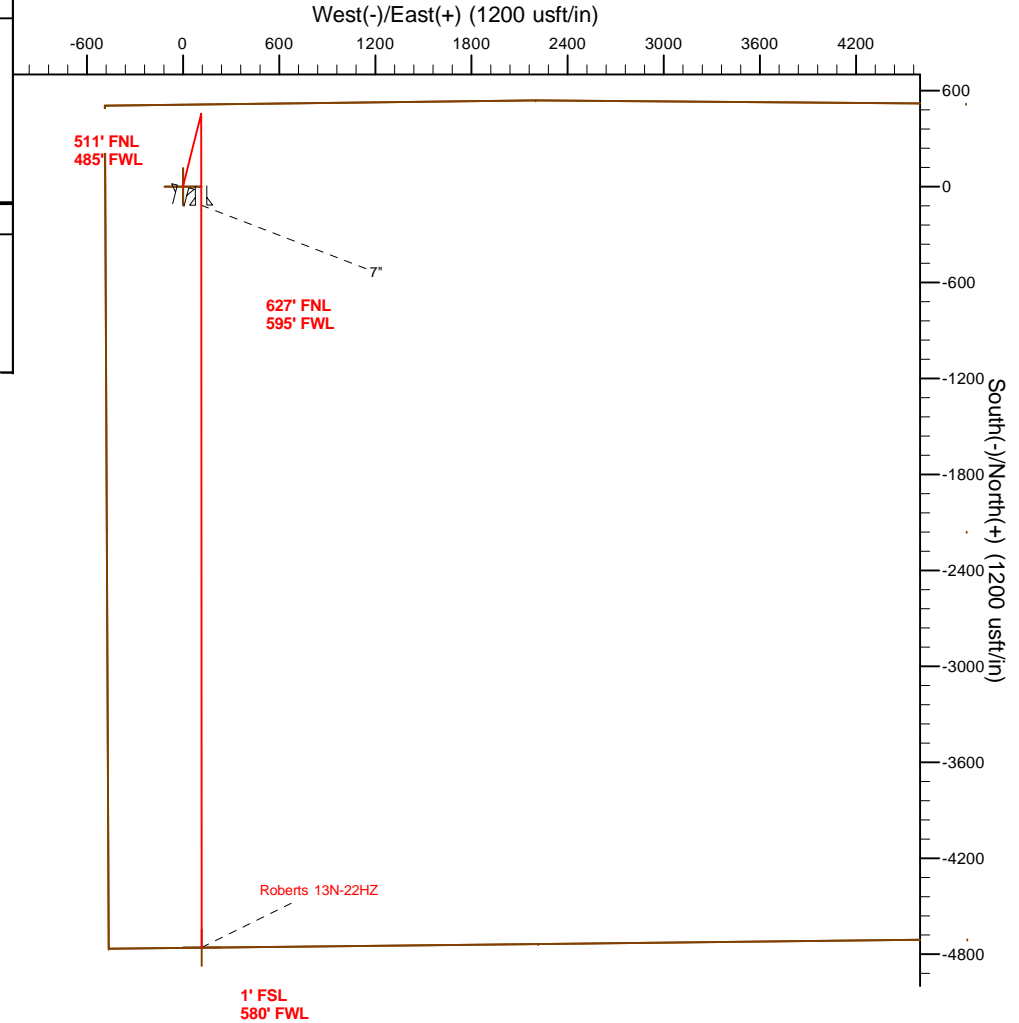
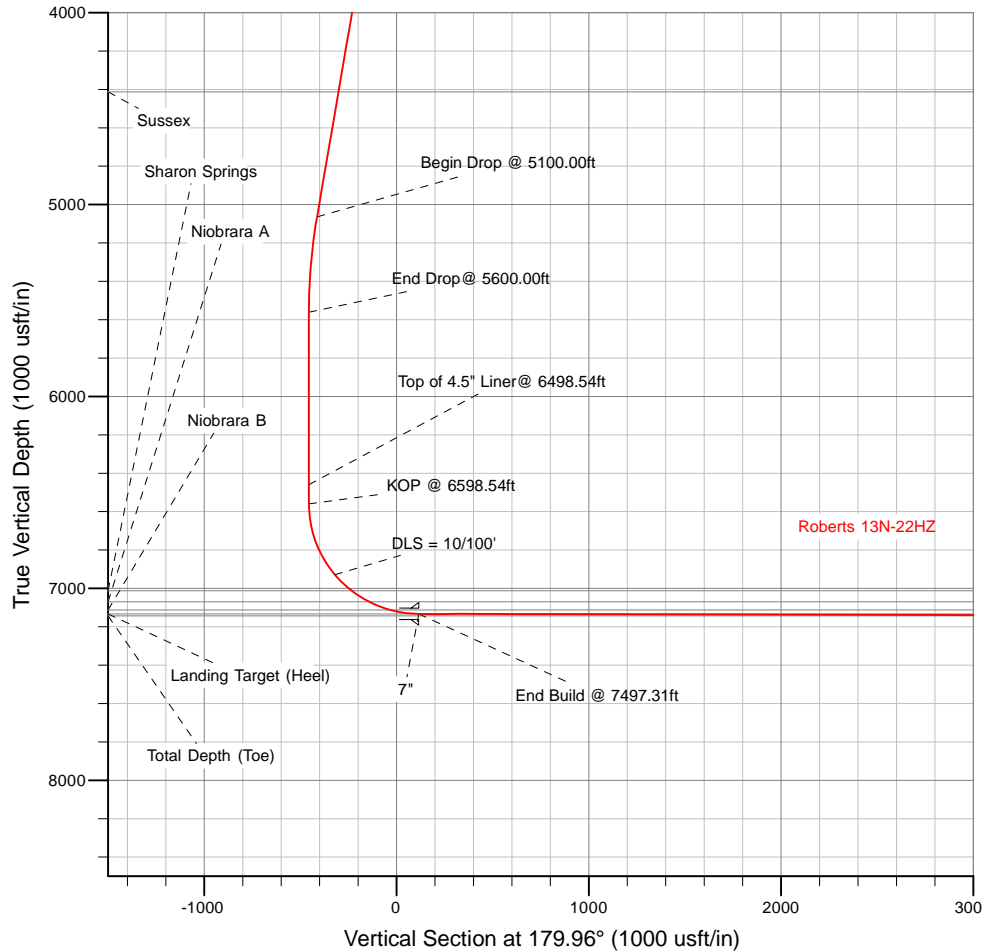
**HALLIBURTON**  
Sperry Drilling

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	
2	2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	
3	2900.00	10.00	14.00	2897.47	42.23	10.53	2.00	14.00	-42.22	
4	5100.00	10.00	14.00	5064.04	412.91	102.95	0.00	0.00	-412.84	
5	5600.00	0.00	0.00	5561.51	455.14	113.48	2.00	180.00	-455.06	
6	6598.54	0.00	0.00	6560.05	455.14	113.48	0.00	0.00	-455.06	
7	7497.31	89.88	179.96	7133.00	-116.59	113.87	10.00	179.96	116.67	
8	12138.84	89.88	179.96	7143.00	-4758.11	117.04	0.00	0.00	4758.19	Roberts 13N-22HZ_BHL

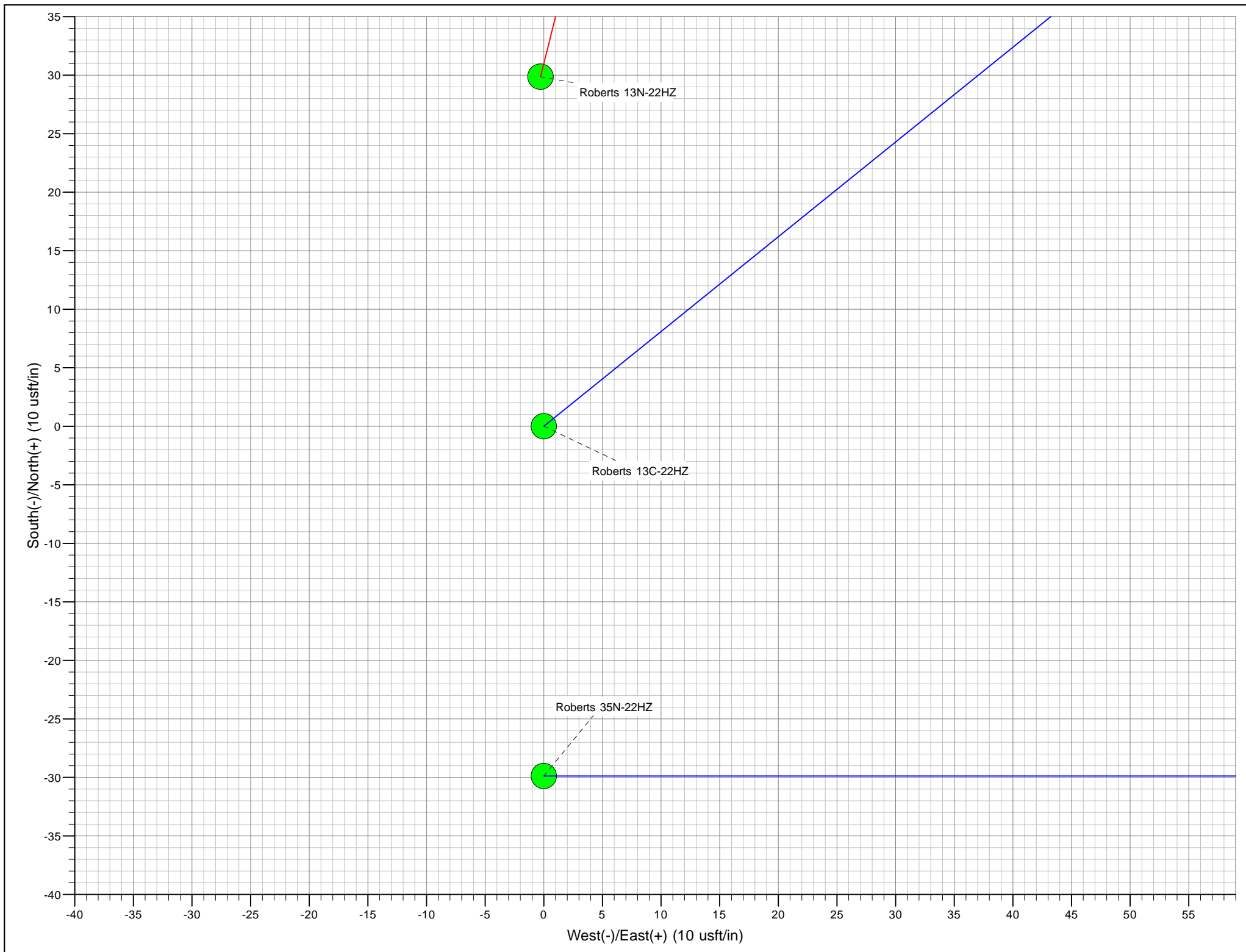
## WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
Roberts 13N-22HZ_SEC	0.00	0.00	0.00	40.216385	-104.771304
Roberts 13N-22HZ_SHL	0.00	0.00	0.00	40.216385	-104.771304
Roberts 13N-22HZ_BHL	7143.00	-4758.11	117.04	40.203324	-104.770885



WELL DETAILS: Roberts 13N-22HZ		
Ground Level: 4885.00 RKB = 17" @ 4902.00usft (Drilling Rig)		
Plan: Rev A0 Permit (Roberts 13N-22HZ/Plan A)		
Created By: Clint Eshelman		Date: 10/16/2013
Reviewed: _____		Date: _____

TVD	MD	
6460.05	6498.54	Top of 4.5" Liner @ 6498.54ft
6560.05	6598.54	KOP @ 6598.54ft



## Plan Report for Roberts 13N-22HZ - Rev A0 Permit

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)	Toolface Azimuth (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Roberts 13N-22HZ_SEC - Roberts 13N-22HZ_SHL</b>										
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
887.00	0.00	0.00	887.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Fox Hills Base</b>										
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
937.00	0.00	0.00	937.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>9 5/8"</b>										
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
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
<b>Begin Nudge @ 2400.00ft</b>										
2,500.00	2.00	14.00	2,499.98	1.69	0.42	-1.69	2.00	2.00	0.00	14.00
2,600.00	4.00	14.00	2,599.84	6.77	1.69	-6.77	2.00	2.00	0.00	0.00
2,700.00	6.00	14.00	2,699.45	15.23	3.80	-15.22	2.00	2.00	0.00	0.00
2,800.00	8.00	14.00	2,798.70	27.05	6.74	-27.05	2.00	2.00	0.00	0.00
2,900.00	10.00	14.00	2,897.47	42.23	10.53	-42.22	2.00	2.00	0.00	0.00
<b>End Nudge @ 2900.00ft</b>										
3,000.00	10.00	14.00	2,995.95	59.08	14.73	-59.07	0.00	0.00	0.00	0.00
3,100.00	10.00	14.00	3,094.43	75.93	18.93	-75.91	0.00	0.00	0.00	0.00
3,200.00	10.00	14.00	3,192.91	92.78	23.13	-92.76	0.00	0.00	0.00	0.00
3,300.00	10.00	14.00	3,291.39	109.63	27.33	-109.61	0.00	0.00	0.00	0.00
3,400.00	10.00	14.00	3,389.87	126.47	31.53	-126.45	0.00	0.00	0.00	0.00
3,500.00	10.00	14.00	3,488.35	143.32	35.73	-143.30	0.00	0.00	0.00	0.00
3,600.00	10.00	14.00	3,586.83	160.17	39.94	-160.14	0.00	0.00	0.00	0.00
3,700.00	10.00	14.00	3,685.31	177.02	44.14	-176.99	0.00	0.00	0.00	0.00
3,800.00	10.00	14.00	3,783.79	193.87	48.34	-193.84	0.00	0.00	0.00	0.00
3,882.46	10.00	14.00	3,865.00	207.76	51.80	-207.73	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,900.00	10.00	14.00	3,882.27	210.72	52.54	-210.68	0.00	0.00	0.00	0.00
4,000.00	10.00	14.00	3,980.75	227.57	56.74	-227.53	0.00	0.00	0.00	0.00
4,100.00	10.00	14.00	4,079.23	244.42	60.94	-244.38	0.00	0.00	0.00	0.00
4,200.00	10.00	14.00	4,177.72	261.27	65.14	-261.22	0.00	0.00	0.00	0.00
4,300.00	10.00	14.00	4,276.20	278.12	69.34	-278.07	0.00	0.00	0.00	0.00
4,400.00	10.00	14.00	4,374.68	294.96	73.54	-294.91	0.00	0.00	0.00	0.00
4,438.91	10.00	14.00	4,413.00	301.52	75.18	-301.47	0.00	0.00	0.00	0.00
<b>Sussex</b>										
4,500.00	10.00	14.00	4,473.16	311.81	77.74	-311.76	0.00	0.00	0.00	0.00

**Plan Report for Roberts 13N-22HZ - Rev A0 Permit**

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)	Toolface Azimuth (°)
4,600.00	10.00	14.00	4,571.64	328.66	81.94	-328.61	0.00	0.00	0.00	0.00
4,700.00	10.00	14.00	4,670.12	345.51	86.15	-345.45	0.00	0.00	0.00	0.00
4,800.00	10.00	14.00	4,768.60	362.36	90.35	-362.30	0.00	0.00	0.00	0.00
4,900.00	10.00	14.00	4,867.08	379.21	94.55	-379.14	0.00	0.00	0.00	0.00
5,000.00	10.00	14.00	4,965.56	396.06	98.75	-395.99	0.00	0.00	0.00	0.00
5,100.00	10.00	14.00	5,064.04	412.91	102.95	-412.84	0.00	0.00	0.00	0.00
<b>Begin Drop @ 5100.00ft</b>										
5,200.00	8.00	14.00	5,162.81	428.09	106.73	-428.01	2.00	-2.00	0.00	180.00
5,300.00	6.00	14.00	5,262.06	439.91	109.68	-439.83	2.00	-2.00	0.00	180.00
5,400.00	4.00	14.00	5,361.67	448.37	111.79	-448.29	2.00	-2.00	0.00	180.00
5,500.00	2.00	14.00	5,461.53	453.44	113.06	-453.37	2.00	-2.00	0.00	180.00
5,600.00	0.00	0.00	5,561.51	455.14	113.48	-455.06	2.00	-2.00	0.00	-180.00
<b>End Drop@ 5600.00ft</b>										
5,700.00	0.00	0.00	5,661.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,761.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,861.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,961.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,061.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,161.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,261.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,361.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,498.54	0.00	0.00	6,460.05	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
<b>Top of 4.5" Liner@ 6498.54ft</b>										
6,500.00	0.00	0.00	6,461.51	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
6,598.54	0.00	0.00	6,560.05	455.14	113.48	-455.06	0.00	0.00	0.00	0.00
<b>KOP @ 6598.54ft</b>										
6,600.00	0.15	179.96	6,561.51	455.14	113.48	-455.06	10.00	10.00	0.00	179.96
6,700.00	10.15	179.96	6,660.98	446.18	113.48	-446.10	10.00	10.00	0.00	0.00
6,800.00	20.15	179.96	6,757.38	420.08	113.50	-420.00	10.00	10.00	0.00	0.00
6,900.00	30.15	179.96	6,847.79	377.64	113.53	-377.57	10.00	10.00	0.00	0.00
7,000.00	40.15	179.96	6,929.46	320.15	113.57	-320.07	10.00	10.00	0.00	0.00
<b>DLS = 10/100'</b>										
7,100.00	50.15	179.96	6,999.90	249.35	113.62	-249.27	10.00	10.00	0.00	0.00
7,119.28	52.07	179.96	7,012.00	234.34	113.63	-234.27	10.00	10.00	0.00	0.00
<b>Sharon Springs</b>										
7,200.00	60.15	179.96	7,056.97	167.39	113.68	-167.31	10.00	10.00	0.00	0.00
7,227.32	62.88	179.96	7,070.00	143.39	113.69	-143.31	10.00	10.00	0.00	0.00
<b>Niobrara A</b>										
7,300.00	70.15	179.96	7,098.95	76.77	113.74	-76.69	10.00	10.00	0.00	0.00
7,342.91	74.44	179.96	7,112.00	35.90	113.76	-35.82	10.00	10.00	0.00	0.00
<b>Niobrara B</b>										
7,400.00	80.15	179.96	7,124.55	-19.77	113.80	19.84	10.00	10.00	0.00	0.00
7,497.31	89.88	179.96	7,133.00	-116.59	113.87	116.67	10.00	10.00	0.00	0.00
<b>End Build @ 7497.31ft - Landing Target (Heel) - 7"</b>										
7,500.00	89.88	179.96	7,133.01	-119.28	113.87	119.36	0.00	0.00	0.00	0.00
7,600.00	89.88	179.96	7,133.23	-219.28	113.94	219.36	0.00	0.00	0.00	0.00
7,700.00	89.88	179.96	7,133.44	-319.28	114.01	319.36	0.00	0.00	0.00	0.00
7,800.00	89.88	179.96	7,133.66	-419.28	114.08	419.36	0.00	0.00	0.00	0.00
7,900.00	89.88	179.96	7,133.87	-519.28	114.14	519.36	0.00	0.00	0.00	0.00
8,000.00	89.88	179.96	7,134.09	-619.28	114.21	619.36	0.00	0.00	0.00	0.00
8,100.00	89.88	179.96	7,134.30	-719.28	114.28	719.36	0.00	0.00	0.00	0.00
8,200.00	89.88	179.96	7,134.52	-819.28	114.35	819.36	0.00	0.00	0.00	0.00
8,300.00	89.88	179.96	7,134.73	-919.28	114.42	919.36	0.00	0.00	0.00	0.00
8,400.00	89.88	179.96	7,134.95	-1,019.28	114.49	1,019.36	0.00	0.00	0.00	0.00
8,500.00	89.88	179.96	7,135.16	-1,119.28	114.55	1,119.36	0.00	0.00	0.00	0.00
8,600.00	89.88	179.96	7,135.38	-1,219.28	114.62	1,219.36	0.00	0.00	0.00	0.00
8,700.00	89.88	179.96	7,135.59	-1,319.28	114.69	1,319.36	0.00	0.00	0.00	0.00
8,800.00	89.88	179.96	7,135.81	-1,419.28	114.76	1,419.36	0.00	0.00	0.00	0.00
8,900.00	89.88	179.96	7,136.03	-1,519.28	114.83	1,519.36	0.00	0.00	0.00	0.00

**Plan Report for Roberts 13N-22HZ - Rev A0 Permit**

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)	Toolface Azimuth (°)
9,000.00	89.88	179.96	7,136.24	-1,619.28	114.90	1,619.36	0.00	0.00	0.00	0.00
9,100.00	89.88	179.96	7,136.46	-1,719.28	114.96	1,719.36	0.00	0.00	0.00	0.00
9,200.00	89.88	179.96	7,136.67	-1,819.28	115.03	1,819.36	0.00	0.00	0.00	0.00
9,300.00	89.88	179.96	7,136.89	-1,919.28	115.10	1,919.36	0.00	0.00	0.00	0.00
9,400.00	89.88	179.96	7,137.10	-2,019.28	115.17	2,019.35	0.00	0.00	0.00	0.00
9,500.00	89.88	179.96	7,137.32	-2,119.27	115.24	2,119.35	0.00	0.00	0.00	0.00
9,600.00	89.88	179.96	7,137.53	-2,219.27	115.31	2,219.35	0.00	0.00	0.00	0.00
9,700.00	89.88	179.96	7,137.75	-2,319.27	115.37	2,319.35	0.00	0.00	0.00	0.00
9,800.00	89.88	179.96	7,137.96	-2,419.27	115.44	2,419.35	0.00	0.00	0.00	0.00
9,900.00	89.88	179.96	7,138.18	-2,519.27	115.51	2,519.35	0.00	0.00	0.00	0.00
10,000.00	89.88	179.96	7,138.39	-2,619.27	115.58	2,619.35	0.00	0.00	0.00	0.00
10,100.00	89.88	179.96	7,138.61	-2,719.27	115.65	2,719.35	0.00	0.00	0.00	0.00
10,200.00	89.88	179.96	7,138.82	-2,819.27	115.72	2,819.35	0.00	0.00	0.00	0.00
10,300.00	89.88	179.96	7,139.04	-2,919.27	115.78	2,919.35	0.00	0.00	0.00	0.00
10,400.00	89.88	179.96	7,139.26	-3,019.27	115.85	3,019.35	0.00	0.00	0.00	0.00
10,500.00	89.88	179.96	7,139.47	-3,119.27	115.92	3,119.35	0.00	0.00	0.00	0.00
10,600.00	89.88	179.96	7,139.69	-3,219.27	115.99	3,219.35	0.00	0.00	0.00	0.00
10,700.00	89.88	179.96	7,139.90	-3,319.27	116.06	3,319.35	0.00	0.00	0.00	0.00
10,800.00	89.88	179.96	7,140.12	-3,419.27	116.12	3,419.35	0.00	0.00	0.00	0.00
10,900.00	89.88	179.96	7,140.33	-3,519.27	116.19	3,519.35	0.00	0.00	0.00	0.00
11,000.00	89.88	179.96	7,140.55	-3,619.27	116.26	3,619.35	0.00	0.00	0.00	0.00
11,100.00	89.88	179.96	7,140.76	-3,719.27	116.33	3,719.35	0.00	0.00	0.00	0.00
11,200.00	89.88	179.96	7,140.98	-3,819.27	116.40	3,819.35	0.00	0.00	0.00	0.00
11,300.00	89.88	179.96	7,141.19	-3,919.27	116.47	3,919.35	0.00	0.00	0.00	0.00
11,400.00	89.88	179.96	7,141.41	-4,019.27	116.53	4,019.35	0.00	0.00	0.00	0.00
11,500.00	89.88	179.96	7,141.62	-4,119.27	116.60	4,119.35	0.00	0.00	0.00	0.00
11,600.00	89.88	179.96	7,141.84	-4,219.27	116.67	4,219.35	0.00	0.00	0.00	0.00
11,700.00	89.88	179.96	7,142.05	-4,319.27	116.74	4,319.35	0.00	0.00	0.00	0.00
11,800.00	89.88	179.96	7,142.27	-4,419.27	116.81	4,419.35	0.00	0.00	0.00	0.00
11,900.00	89.88	179.96	7,142.49	-4,519.27	116.88	4,519.35	0.00	0.00	0.00	0.00
12,000.00	89.88	179.96	7,142.70	-4,619.27	116.94	4,619.35	0.00	0.00	0.00	0.00
12,100.00	89.88	179.96	7,142.92	-4,719.27	117.01	4,719.35	0.00	0.00	0.00	0.00
12,138.84	89.88	179.96	7,143.00	-4,758.11	117.04	4,758.19	0.00	0.00	0.00	0.00

TD Well@ 12138.84ft - Total Depth (Toe) - Roberts 13N-22HZ\_BHL

**Plan Annotations**

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,400.00	2,400.00	0.00	0.00	Begin Nudge @ 2400.00ft
2,900.00	2,897.47	42.23	10.53	End Nudge @ 2900.00ft
5,100.00	5,064.04	412.91	102.95	Begin Drop @ 5100.00ft
5,600.00	5,561.51	455.14	113.48	End Drop@ 5600.00ft
6,498.54	6,460.05	455.14	113.48	Top of 4.5" Liner@ 6498.54ft
6,598.54	6,560.05	455.14	113.48	KOP @ 6598.54ft
7,000.00	6,929.46	320.15	113.57	DLS = 10/100'
7,497.31	7,133.00	-116.59	113.87	End Build @ 7497.31ft
12,138.84	7,143.00	-4,758.11	117.04	TD Well@ 12138.84ft

**Vertical Section Information**

Angle Type	Target	Azimuth (°)	Origin Type	Origin		Start TVD (usft)
				+N/_S (usft)	+E/-W (usft)	
User	No Target (Freehand)	179.96	Slot	0.00	0.00	0.00

## Plan Report for Roberts 13N-22HZ - Rev A0 Permit

**Survey tool program**

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	7,497.31	Rev A0 Permit	MWD
7,497.31	12,138.84	Rev A0 Permit	MWD

**Casing Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
937.00	937.00	9 5/8"	9-5/8	13-1/2
7,497.31	7,133.00	7"	7	8-3/4

**Formation Details**

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
887.00	887.00	Fox Hills Base		0.00	
3,882.46	3,865.00	Parkman		0.00	
4,438.91	4,413.00	Sussex		0.00	
7,119.28	7,012.00	Sharon Springs		0.00	
7,227.32	7,070.00	Niobrara A		0.00	
7,342.91	7,112.00	Niobrara B		0.00	
7,497.31	7,133.00	Landing Target (Heel)		0.00	
12,138.84	7,143.00	Total Depth (Toe)		0.00	

**Targets associated with this wellbore**

Target Name	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Shape
Roberts 13N-22HZ_SEC	0.00	0.00	0.00	Polygon
Roberts 13N-22HZ_SHL	0.00	0.00	0.00	Point
Roberts 13N-22HZ_BHL	7,143.00	-4,758.11	117.04	Point

**Directional Difficulty Index**

Average Dogleg over Survey:	0.91 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 7,497.31 usft
Net Tortousity applicable to Plans:	0.91 °/100usft	Directional Difficulty Index:	6.192

**Audit Info**

**North Reference Sheet for Sec. 22-T3N-R66W - Roberts 13N-22HZ - 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 = 17' @ 4902.00usft (Drilling Rig). Northing and Easting are relative to Roberts 13N-22HZ  
 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: 3,000,000.00usft, False Northing: 1,000,000.00usft, Scale Reduction: 0.99995702

Grid Coordinates of Well: 1,322,507.37 usft N, 3,203,496.76 usft E  
 Geographical Coordinates of Well: 40° 12' 58.99" N, 104° 46' 16.69" W  
 Grid Convergence at Surface is: 0.47°

Based upon Minimum Curvature type calculations, at a Measured Depth of 12,138.84usft  
 the Bottom Hole Displacement is 4,759.55usft in the Direction of 178.59° ( True).  
 Magnetic Convergence at surface is: -8.10° (16 October 2013, , BGGM2013)

