

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

3N-68W-33 Newby 27N-33HZ Pad

NEWBY STATE 26N-33HZ

Plan A

Plan: Permit Rev-1

Standard Survey Report

18 January, 2016

0-1800' MD

APC_ISCWSA REV 2 MWD

1800-12678.07' MD

APC_ISCWSA REV 2 MWD+IFR

Project: WELD-NAD83-UTMFT13N
Site: 3N-68W-33 Newby 27N-33HZ Pad
Well: NEWBY STATE 26N-33HZ
Wellbore: Plan A
Design: Permit Rev-1

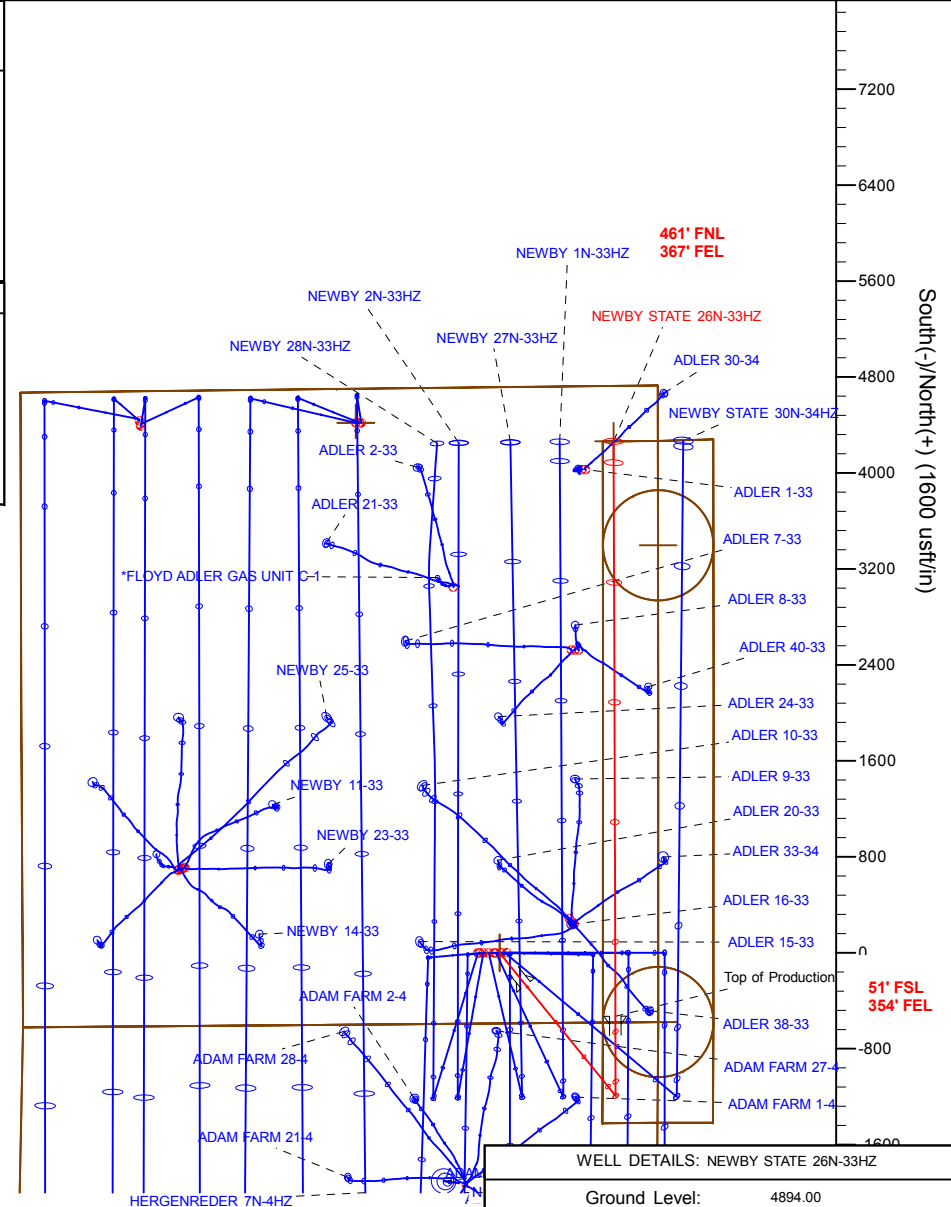
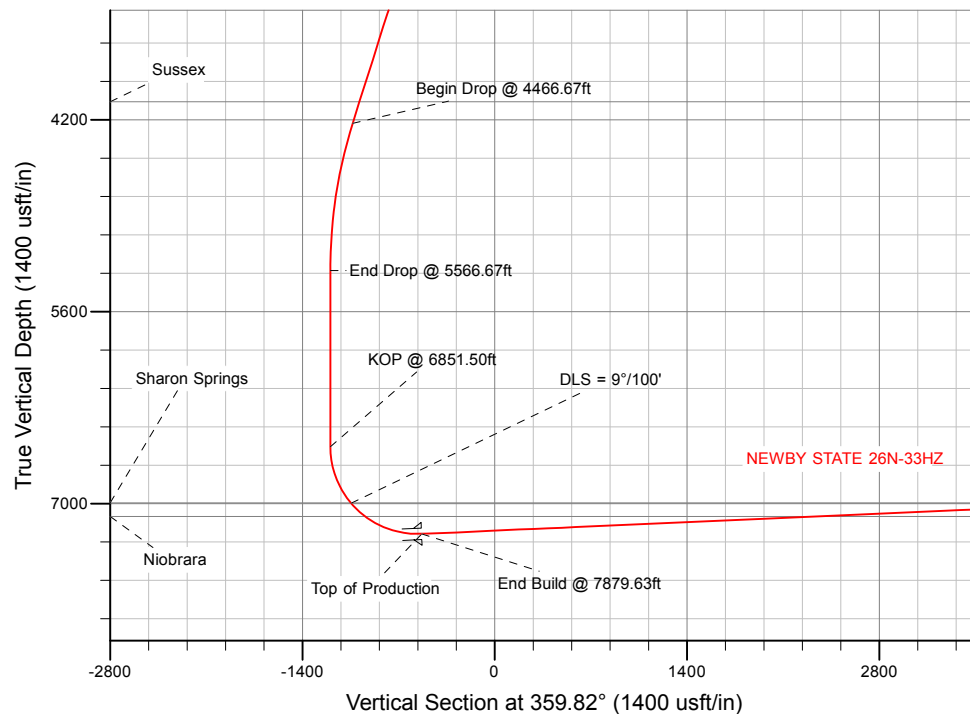
US ROCKIES WATTENBERG PLANNING

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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1666.67	22.00	141.00	1630.89	-216.15	175.04	1.50	141.00	-216.70	
4	4466.67	22.00	141.00	4227.01	-1031.30	835.13	0.00	0.00	-1033.92	
5	5566.67	0.00	0.00	5300.18	-1193.42	966.41	2.00	180.00	-1196.45	
6	6851.50	0.00	0.00	6585.01	-1193.42	966.41	0.00	0.00	-1196.45	
7	7879.63	92.53	359.82	7221.00	-528.67	964.36	9.00	359.82	-531.70	
8	12678.07	92.53	359.82	7009.00	4265.06	949.55	0.00	0.00	4262.06	NEWBY STATE 26N-33HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NEWBY STATE 26N-33HZ_SHL	0.00	0.00	0.00	40.176579	-105.003074	Point
NEWBY STATE 26N-33HZ_BHL	7009.00	4265.06	949.55	40.188291	-104.999674	Point



WELL DETAILS: NEWBY STATE 26N-33HZ

Ground Level: 4894.00

RKB = 20' @ 4914.00usft (D Rig)

Plan: Permit Rev-1 (NEWBY STATE 26N-33HZ/Plan A)

Created By: Clint Eshelman Date: 1/18/2016

Reviewed: Date:

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	3N-68W-33 Newby 27N-33HZ Pad				
Site Position:		Northing:	14,591,032.57 usft	Latitude:	40.176575
From:	Lat/Long	Easting:	1,639,378.12 usft	Longitude:	-105.003718
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.00 °

Well	NEWBY STATE 26N-33HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,591,034.02 usft	Latitude:	40.176579
	+E/-W	0.00 usft	Easting:	1,639,558.01 usft	Longitude:	-105.003074
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,894.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/14/2016	8.36	66.67	52,506

Design	Permit Rev-1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.82	

Survey Tool Program	Date	1/18/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,800.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,800.00	12,678.07	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

Planned Survey										
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)	
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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
Begin Nudge @ 200.00ft										
300.00	1.50	141.00	299.99	-1.02	0.82	-1.02	1.50	1.50	0.00	
400.00	3.00	141.00	399.91	-4.07	3.29	-4.08	1.50	1.50	0.00	
500.00	4.50	141.00	499.69	-9.15	7.41	-9.17	1.50	1.50	0.00	
600.00	6.00	141.00	599.27	-16.26	13.17	-16.30	1.50	1.50	0.00	
700.00	7.50	141.00	698.57	-25.40	20.57	-25.46	1.50	1.50	0.00	
800.00	9.00	141.00	797.54	-36.55	29.60	-36.64	1.50	1.50	0.00	

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Planned Survey

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)
821.74	9.33	141.00	819.00	-39.24	31.77	-39.34	1.50	1.50	0.00
Fox Hills									
900.00	10.50	141.00	896.09	-49.71	40.25	-49.83	1.50	1.50	0.00
1,000.00	12.00	141.00	994.16	-64.87	52.53	-65.03	1.50	1.50	0.00
1,100.00	13.50	141.00	1,091.70	-82.02	66.42	-82.23	1.50	1.50	0.00
1,200.00	15.00	141.00	1,188.62	-101.15	81.91	-101.41	1.50	1.50	0.00
1,300.00	16.50	141.00	1,284.86	-122.24	98.99	-122.55	1.50	1.50	0.00
1,400.00	18.00	141.00	1,380.36	-145.29	117.65	-145.66	1.50	1.50	0.00
1,500.00	19.50	141.00	1,475.05	-170.27	137.88	-170.70	1.50	1.50	0.00
1,600.00	21.00	141.00	1,568.86	-197.17	159.66	-197.67	1.50	1.50	0.00
1,666.67	22.00	141.00	1,630.89	-216.15	175.04	-216.70	1.50	1.50	0.00
End Nudge @ 1666.67ft									
1,700.00	22.00	141.00	1,661.80	-225.86	182.90	-226.43	0.00	0.00	0.00
1,800.00	22.00	141.00	1,754.52	-254.97	206.47	-255.62	0.00	0.00	0.00
1,849.06	22.00	141.00	1,800.00	-269.25	218.04	-269.93	0.00	0.00	0.00
9 5/8"									
1,900.00	22.00	141.00	1,847.23	-284.08	230.05	-284.80	0.00	0.00	0.00
2,000.00	22.00	141.00	1,939.95	-313.19	253.62	-313.99	0.00	0.00	0.00
2,100.00	22.00	141.00	2,032.67	-342.31	277.19	-343.18	0.00	0.00	0.00
2,200.00	22.00	141.00	2,125.39	-371.42	300.77	-372.36	0.00	0.00	0.00
2,300.00	22.00	141.00	2,218.11	-400.53	324.34	-401.55	0.00	0.00	0.00
2,400.00	22.00	141.00	2,310.83	-429.64	347.92	-430.74	0.00	0.00	0.00
2,500.00	22.00	141.00	2,403.55	-458.76	371.49	-459.92	0.00	0.00	0.00
2,600.00	22.00	141.00	2,496.26	-487.87	395.07	-489.11	0.00	0.00	0.00
2,700.00	22.00	141.00	2,588.98	-516.98	418.64	-518.29	0.00	0.00	0.00
2,800.00	22.00	141.00	2,681.70	-546.09	442.22	-547.48	0.00	0.00	0.00
2,900.00	22.00	141.00	2,774.42	-575.21	465.79	-576.67	0.00	0.00	0.00
3,000.00	22.00	141.00	2,867.14	-604.32	489.37	-605.85	0.00	0.00	0.00
3,100.00	22.00	141.00	2,959.86	-633.43	512.94	-635.04	0.00	0.00	0.00
3,200.00	22.00	141.00	3,052.57	-662.54	536.52	-664.23	0.00	0.00	0.00
3,300.00	22.00	141.00	3,145.29	-691.66	560.09	-693.41	0.00	0.00	0.00
3,400.00	22.00	141.00	3,238.01	-720.77	583.67	-722.60	0.00	0.00	0.00
3,500.00	22.00	141.00	3,330.73	-749.88	607.24	-751.78	0.00	0.00	0.00
3,600.00	22.00	141.00	3,423.45	-778.99	630.82	-780.97	0.00	0.00	0.00
3,700.00	22.00	141.00	3,516.17	-808.11	654.39	-810.16	0.00	0.00	0.00
3,800.00	22.00	141.00	3,608.88	-837.22	677.97	-839.34	0.00	0.00	0.00
3,900.00	22.00	141.00	3,701.60	-866.33	701.54	-868.53	0.00	0.00	0.00
4,000.00	22.00	141.00	3,794.32	-895.44	725.12	-897.72	0.00	0.00	0.00
4,100.00	22.00	141.00	3,887.04	-924.55	748.69	-926.90	0.00	0.00	0.00
4,200.00	22.00	141.00	3,979.76	-953.67	772.26	-956.09	0.00	0.00	0.00
4,295.17	22.00	141.00	4,068.00	-981.37	794.70	-983.87	0.00	0.00	0.00
Sussex									
4,300.00	22.00	141.00	4,072.48	-982.78	795.84	-985.28	0.00	0.00	0.00
4,400.00	22.00	141.00	4,165.19	-1,011.89	819.41	-1,014.46	0.00	0.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Planned Survey

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)
4,466.67	22.00	141.00	4,227.01	-1,031.30	835.13	-1,033.92	0.00	0.00	0.00
Begin Drop @ 4466.67ft									
4,500.00	21.33	141.00	4,257.98	-1,040.86	842.88	-1,043.51	2.00	-2.00	0.00
4,600.00	19.33	141.00	4,351.75	-1,067.87	864.74	-1,070.58	2.00	-2.00	0.00
4,700.00	17.33	141.00	4,446.67	-1,092.31	884.54	-1,095.08	2.00	-2.00	0.00
4,800.00	15.33	141.00	4,542.63	-1,114.17	902.23	-1,116.99	2.00	-2.00	0.00
4,900.00	13.33	141.00	4,639.51	-1,133.40	917.81	-1,136.28	2.00	-2.00	0.00
5,000.00	11.33	141.00	4,737.20	-1,150.00	931.25	-1,152.92	2.00	-2.00	0.00
5,100.00	9.33	141.00	4,835.57	-1,163.94	942.54	-1,166.90	2.00	-2.00	0.00
5,200.00	7.33	141.00	4,934.51	-1,175.20	951.66	-1,178.19	2.00	-2.00	0.00
5,300.00	5.33	141.00	5,033.89	-1,183.78	958.60	-1,186.78	2.00	-2.00	0.00
5,400.00	3.33	141.00	5,133.60	-1,189.65	963.36	-1,192.67	2.00	-2.00	0.00
5,500.00	1.33	141.00	5,233.51	-1,192.81	965.92	-1,195.84	2.00	-2.00	0.00
5,566.67	0.00	0.00	5,300.18	-1,193.42	966.41	-1,196.45	2.00	-2.00	0.00
End Drop @ 5566.67ft									
5,600.00	0.00	0.00	5,333.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
5,700.00	0.00	0.00	5,433.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
5,800.00	0.00	0.00	5,533.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
5,900.00	0.00	0.00	5,633.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,000.00	0.00	0.00	5,733.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,100.00	0.00	0.00	5,833.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,200.00	0.00	0.00	5,933.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,300.00	0.00	0.00	6,033.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,400.00	0.00	0.00	6,133.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,500.00	0.00	0.00	6,233.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,600.00	0.00	0.00	6,333.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,700.00	0.00	0.00	6,433.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,800.00	0.00	0.00	6,533.51	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
6,851.50	0.00	0.00	6,585.01	-1,193.42	966.41	-1,196.45	0.00	0.00	0.00
KOP @ 6851.50ft									
6,900.00	4.37	359.82	6,633.46	-1,191.57	966.40	-1,194.60	9.00	9.00	0.00
7,000.00	13.37	359.82	6,732.17	-1,176.17	966.36	-1,179.20	9.00	9.00	0.00
7,100.00	22.37	359.82	6,827.25	-1,145.53	966.26	-1,148.56	9.00	9.00	0.00
7,200.00	31.37	359.82	6,916.36	-1,100.38	966.12	-1,103.41	9.00	9.00	0.00
7,295.66	39.97	359.82	6,994.00	-1,044.66	965.95	-1,047.69	9.00	9.00	0.00
Sharon Springs									
7,300.00	40.37	359.82	6,997.32	-1,041.86	965.94	-1,044.89	9.00	9.00	0.00
DLS = 9°/100'									
7,400.00	49.37	359.82	7,068.12	-971.38	965.72	-974.41	9.00	9.00	0.00
7,441.33	53.08	359.82	7,094.00	-939.17	965.62	-942.20	9.00	9.00	0.00
Niobrara									
7,500.00	58.37	359.82	7,127.03	-890.71	965.47	-893.73	9.00	9.00	0.00
7,600.00	67.37	359.82	7,172.59	-801.80	965.20	-804.83	9.00	9.00	0.00
7,700.00	76.37	359.82	7,203.68	-706.87	964.91	-709.90	9.00	9.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Planned Survey

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)
7,800.00	85.37	359.82	7,219.54	-608.24	964.60	-611.27	9.00	9.00	0.00
7,879.63	92.53	359.82	7,221.00	-528.67	964.36	-531.70	9.00	9.00	0.00
End Build @ 7879.63ft - Top of Production									
7,900.00	92.53	359.82	7,220.10	-508.32	964.29	-511.35	0.00	0.00	0.00
8,000.00	92.53	359.82	7,215.69	-408.42	963.98	-411.45	0.00	0.00	0.00
8,100.00	92.53	359.82	7,211.27	-308.52	963.68	-311.55	0.00	0.00	0.00
8,200.00	92.53	359.82	7,206.85	-208.62	963.37	-211.64	0.00	0.00	0.00
8,300.00	92.53	359.82	7,202.43	-108.72	963.06	-111.74	0.00	0.00	0.00
8,400.00	92.53	359.82	7,198.01	-8.82	962.75	-11.84	0.00	0.00	0.00
8,500.00	92.53	359.82	7,193.59	91.09	962.44	88.06	0.00	0.00	0.00
8,600.00	92.53	359.82	7,189.18	190.99	962.13	187.97	0.00	0.00	0.00
8,700.00	92.53	359.82	7,184.76	290.89	961.83	287.87	0.00	0.00	0.00
8,800.00	92.53	359.82	7,180.34	390.79	961.52	387.77	0.00	0.00	0.00
8,900.00	92.53	359.82	7,175.92	490.69	961.21	487.67	0.00	0.00	0.00
9,000.00	92.53	359.82	7,171.50	590.60	960.90	587.57	0.00	0.00	0.00
9,100.00	92.53	359.82	7,167.09	690.50	960.59	687.48	0.00	0.00	0.00
9,200.00	92.53	359.82	7,162.67	790.40	960.28	787.38	0.00	0.00	0.00
9,300.00	92.53	359.82	7,158.25	890.30	959.97	887.28	0.00	0.00	0.00
9,400.00	92.53	359.82	7,153.83	990.20	959.67	987.18	0.00	0.00	0.00
9,500.00	92.53	359.82	7,149.41	1,090.11	959.36	1,087.09	0.00	0.00	0.00
9,600.00	92.53	359.82	7,144.99	1,190.01	959.05	1,186.99	0.00	0.00	0.00
9,700.00	92.53	359.82	7,140.58	1,289.91	958.74	1,286.89	0.00	0.00	0.00
9,800.00	92.53	359.82	7,136.16	1,389.81	958.43	1,386.79	0.00	0.00	0.00
9,900.00	92.53	359.82	7,131.74	1,489.71	958.12	1,486.70	0.00	0.00	0.00
10,000.00	92.53	359.82	7,127.32	1,589.61	957.81	1,586.60	0.00	0.00	0.00
10,100.00	92.53	359.82	7,122.90	1,689.52	957.51	1,686.50	0.00	0.00	0.00
10,200.00	92.53	359.82	7,118.49	1,789.42	957.20	1,786.40	0.00	0.00	0.00
10,300.00	92.53	359.82	7,114.07	1,889.32	956.89	1,886.31	0.00	0.00	0.00
10,400.00	92.53	359.82	7,109.65	1,989.22	956.58	1,986.21	0.00	0.00	0.00
10,500.00	92.53	359.82	7,105.23	2,089.12	956.27	2,086.11	0.00	0.00	0.00
10,600.00	92.53	359.82	7,100.81	2,189.03	955.96	2,186.01	0.00	0.00	0.00
10,700.00	92.53	359.82	7,096.39	2,288.93	955.66	2,285.91	0.00	0.00	0.00
10,800.00	92.53	359.82	7,091.98	2,388.83	955.35	2,385.82	0.00	0.00	0.00
10,900.00	92.53	359.82	7,087.56	2,488.73	955.04	2,485.72	0.00	0.00	0.00
11,000.00	92.53	359.82	7,083.14	2,588.63	954.73	2,585.62	0.00	0.00	0.00
11,100.00	92.53	359.82	7,078.72	2,688.54	954.42	2,685.52	0.00	0.00	0.00
11,200.00	92.53	359.82	7,074.30	2,788.44	954.11	2,785.43	0.00	0.00	0.00
11,300.00	92.53	359.82	7,069.89	2,888.34	953.80	2,885.33	0.00	0.00	0.00
11,400.00	92.53	359.82	7,065.47	2,988.24	953.50	2,985.23	0.00	0.00	0.00
11,500.00	92.53	359.82	7,061.05	3,088.14	953.19	3,085.13	0.00	0.00	0.00
11,600.00	92.53	359.82	7,056.63	3,188.04	952.88	3,185.04	0.00	0.00	0.00
11,700.00	92.53	359.82	7,052.21	3,287.95	952.57	3,284.94	0.00	0.00	0.00
11,800.00	92.53	359.82	7,047.79	3,387.85	952.26	3,384.84	0.00	0.00	0.00
11,900.00	92.53	359.82	7,043.38	3,487.75	951.95	3,484.74	0.00	0.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Planned Survey									
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)
12,000.00	92.53	359.82	7,038.96	3,587.65	951.64	3,584.65	0.00	0.00	0.00
12,100.00	92.53	359.82	7,034.54	3,687.55	951.34	3,684.55	0.00	0.00	0.00
12,200.00	92.53	359.82	7,030.12	3,787.46	951.03	3,784.45	0.00	0.00	0.00
12,300.00	92.53	359.82	7,025.70	3,887.36	950.72	3,884.35	0.00	0.00	0.00
12,400.00	92.53	359.82	7,021.29	3,987.26	950.41	3,984.25	0.00	0.00	0.00
12,500.00	92.53	359.82	7,016.87	4,087.16	950.10	4,084.16	0.00	0.00	0.00
12,600.00	92.53	359.82	7,012.45	4,187.06	949.79	4,184.06	0.00	0.00	0.00
12,678.07	92.53	359.82	7,009.00	4,265.06	949.55	4,262.05	0.00	0.00	0.00
TD Well @ 12678.07ft									

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
NEWBY STATE 26N-33H - plan misses target center by 3645.02usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	3,397.62	1,319.97	14,594,431.60	1,640,878.10	40.185909	-104.998348
NEWBY STATE 26N-33H - plan misses target center by 1440.76usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Circle (radius 460.00)	0.00	0.00	0.00	-577.38	1,320.01	14,590,456.60	1,640,878.00	40.174993	-104.998349
NEWBY STATE 26N-33H - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,591,034.02	1,639,558.01	40.176579	-105.003074
Point 1		0.00	4,262.61	859.14	14,595,296.60	1,640,417.30			
Point 2		0.00	4,267.42	1,319.14	14,595,301.40	1,640,877.30			
Point 3		0.00	4,280.74	1,779.14	14,595,314.70	1,641,337.30			
Point 4		0.00	3,398.04	1,779.97	14,594,432.00	1,641,338.10			
Point 5		0.00	2,067.84	1,781.32	14,593,101.80	1,641,339.40			
Point 6		0.00	744.94	1,780.66	14,591,778.90	1,641,338.70			
Point 7		0.00	-581.06	1,780.01	14,590,452.90	1,641,338.00			
Point 8		0.00	-1,417.36	1,774.94	14,589,616.60	1,641,332.90			
Point 9		0.00	-1,416.38	1,307.34	14,589,617.60	1,640,865.30			
Point 10		0.00	-1,421.09	854.84	14,589,612.90	1,640,412.80			
Point 11		0.00	-581.59	859.91	14,590,452.40	1,640,417.90			
Point 12		0.00	741.11	860.66	14,591,775.10	1,640,418.70			
Point 13		0.00	2,063.81	861.32	14,593,097.80	1,640,419.40			
Point 14		0.00	3,393.21	859.97	14,594,427.20	1,640,418.10			
Point 15		0.00	4,262.61	859.14	14,595,296.60	1,640,417.30			
NEWBY STATE 26N-33H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,591,034.02	1,639,558.01	40.176579	-105.003074
3N-R68W-Sec. 33_Secti - plan misses target center by 4577.92usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-15.00	4,419.01	-1,195.59	14,595,453.07	1,638,362.57	40.188714	-105.007355
Point 1		-15.00	251.45	-2,791.30	14,595,704.62	1,635,571.28			
Point 2		-15.00	282.36	-157.69	14,595,735.44	1,638,204.89			
Point 3		-15.00	310.96	2,511.36	14,595,763.95	1,640,873.94			
Point 4		-15.00	-2,346.36	2,515.74	14,593,106.63	1,640,878.23			
Point 5		-15.00	-4,995.84	2,515.63	14,590,457.15	1,640,878.03			
Point 6		-15.00	-5,018.95	-136.58	14,590,434.13	1,638,225.82			
Point 7		-15.00	-5,040.96	-2,769.50	14,590,412.21	1,635,592.90			
Point 8		-15.00	-2,394.09	-2,784.98	14,593,059.08	1,635,577.51			
2N-R68W-Sec. 4_Sectio - plan misses target center by 4577.92usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-15.00	4,419.01	-1,195.59	14,595,453.07	1,638,362.57	40.188714	-105.007355
Point 1		-15.00	-5,040.96	-2,769.50	14,590,412.21	1,635,592.90			
Point 2		-15.00	-5,018.95	-136.58	14,590,434.13	1,638,225.82			
Point 3		-15.00	-4,995.84	2,515.63	14,590,457.15	1,640,878.03			
Point 4		-15.00	-7,591.82	2,497.44	14,587,861.17	1,640,859.75			
Point 5		-15.00	-10,216.42	2,462.98	14,585,236.57	1,640,825.20			
Point 6		-15.00	-10,271.92	-193.52	14,585,181.16	1,638,168.70			
Point 7		-15.00	-10,321.42	-2,870.28	14,585,131.76	1,635,491.94			
Point 8		-15.00	-7,652.28	-2,819.20	14,587,800.89	1,635,543.11			
NEWBY STATE 26N-33H - plan hits target center - Point	0.00	0.00	7,009.00	4,265.06	949.55	14,595,299.05	1,640,507.71	40.188291	-104.999674

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well NEWBY STATE 26N-33HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Site:	3N-68W-33 Newby 27N-33HZ Pad	MD Reference:	RKB = 20' @ 4914.00usft (D Rig)
Well:	NEWBY STATE 26N-33HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,849.06	1,800.00	9 5/8"	9-5/8	13-1/2	
7,879.63	7,221.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
821.74	819.00	Fox Hills			
4,295.17	4,068.00	Sussex			
7,295.66	6,994.00	Sharon Springs			
7,441.33	7,094.00	Niobrara			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200	200	0	0	Begin Nudge @ 200.00ft	
1667	1631	-216	175	End Nudge @ 1666.67ft	
4467	4227	-1031	835	Begin Drop @ 4466.67ft	
5567	5300	-1193	966	End Drop @ 5566.67ft	
6852	6585	-1193	966	KOP @ 6851.50ft	
7300	6997	-1042	966	DLS = 9°/100'	
7880	7221	-529	964	End Build @ 7879.63ft	
12,678	7009	4265	950	TD Well @ 12678.07ft	

Checked By: _____ Approved By: _____ Date: _____