

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-67W-22 Wagner 8-22HZ Pad

WAGNER 26C-10HZ

Plan A

Plan: Permit Rev-2

Standard Survey Report

17 March, 2016

Project: WELD-NAD83-UTMFT13N
Site: 1N-67W-22 Wagner 8-22HZ Pad
Well: WAGNER 26C-10HZ
Wellbore: Plan A
Design: Permit Rev-2

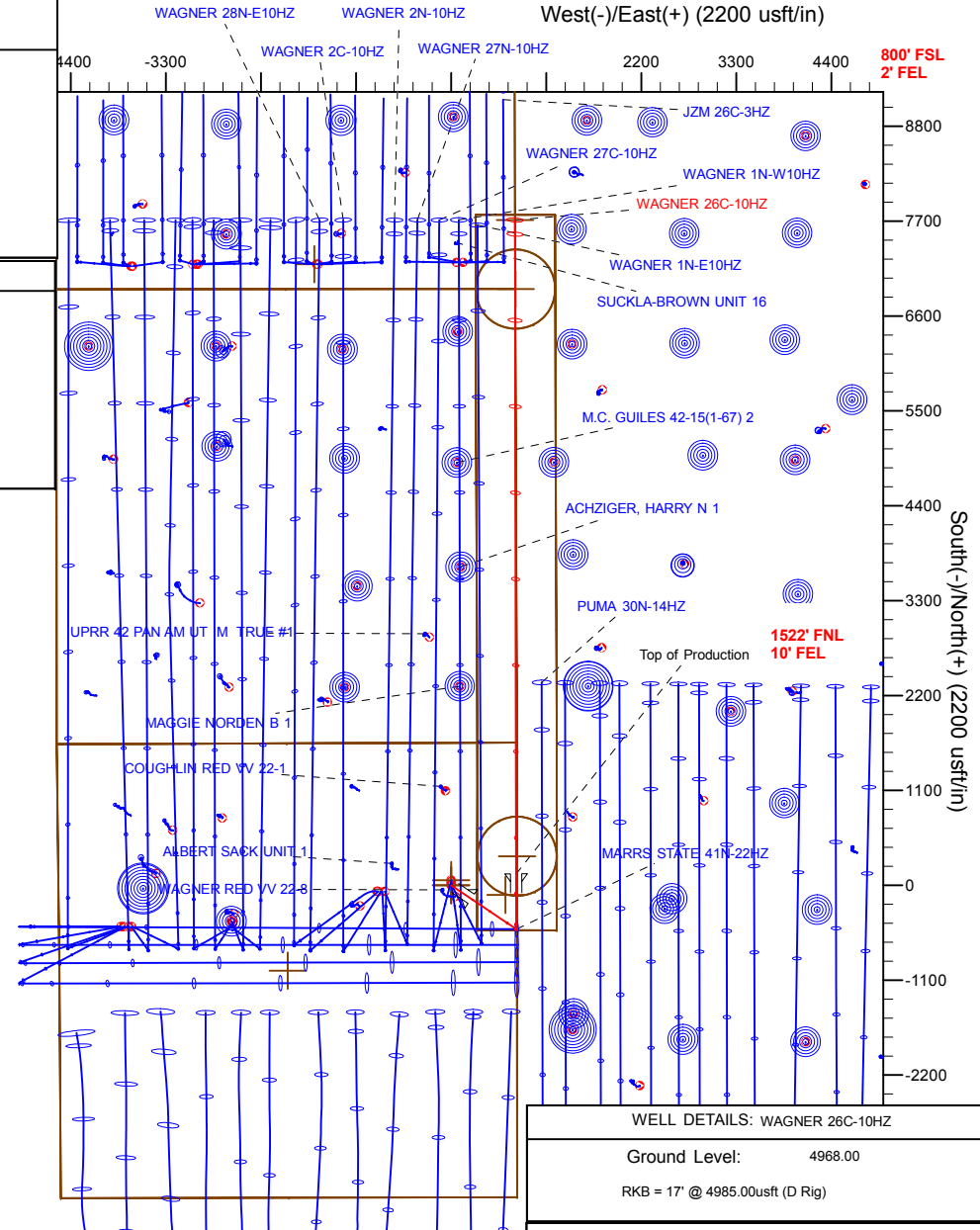
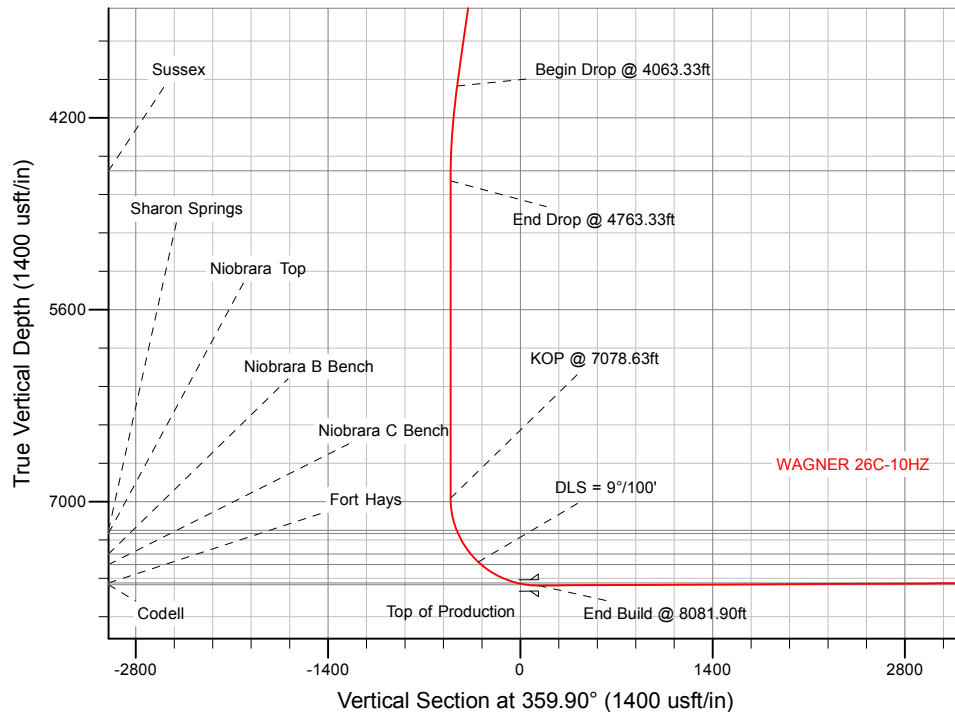
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	1133.33	14.00	124.00	1124.07	-63.45	94.06	1.50	124.00	-63.61	
4	4063.33	14.00	124.00	3967.04	-459.82	681.71	0.00	0.00	-461.01	
5	4763.33	0.00	0.00	4660.10	-507.41	752.26	2.00	180.00	-508.72	
6	7078.63	0.00	0.00	6975.39	-507.41	752.26	0.00	0.00	-508.72	
7	8081.90	90.29	359.90	7612.00	132.49	751.12	9.00	359.90	131.18	
8	15663.93	90.29	359.90	7573.00	7714.40	737.67	0.00	0.00	7713.10	WAGNER 26C-10HZ_Toe

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
WAGNER 26C-10HZ_SHL	0.00	0.00	0.00	40.039291	-104.869995	Point
WAGNER 26C-10HZ_Toe	7573.00	7714.40	737.67	40.060476	-104.867359	Point



WELL DETAILS: WAGNER 26C-10HZ

Ground Level: 4968.00

RKB = 17' @ 4985.00usft (D Rig)

Plan: Permit Rev-2 (WAGNER 26C-10HZ/Plan A)

Created By: Clint Eshelman Date: 3/18/2016
Reviewed: _____ Date: _____

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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		1N-67W-22 Wagner 8-22HZ Pad						
Site Position:		Northing:	14,541,127.24	usft	Latitude:	40.039455		
From:	Lat/Long	Easting:	1,676,804.01	usft	Longitude:	-104.869994		
Position Uncertainty:	0.00	usft	Slot Radius:	13-3/16	"	Grid Convergence:	0.08	°

Well		WAGNER 26C-10HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,541,067.52 usft	Latitude:	40.039291
	+E/-W	0.00 usft	Easting:	1,676,803.82 usft	Longitude:	-104.869995
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,968.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/29/2016	8.27	66.58	52,443

Design	Permit Rev-2				
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	359.90	

Survey Tool Program	Date	3/17/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	1,800.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,800.00	15,663.93	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+	Fixed:v2:Rockies, crustal dec + 3-axis correction	

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	124.00	299.99	-0.73	1.09	-0.73	1.50	1.50	0.00	
400.00	3.00	124.00	399.91	-2.93	4.34	-2.93	1.50	1.50	0.00	
500.00	4.50	124.00	499.69	-6.58	9.76	-6.60	1.50	1.50	0.00	
600.00	6.00	124.00	599.27	-11.70	17.35	-11.73	1.50	1.50	0.00	
700.00	7.50	124.00	698.57	-18.27	27.09	-18.32	1.50	1.50	0.00	
800.00	9.00	124.00	797.54	-26.30	38.99	-26.37	1.50	1.50	0.00	

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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)
900.00	10.50	124.00	896.09	-35.77	53.03	-35.86	1.50	1.50	0.00
1,000.00	12.00	124.00	994.16	-46.68	69.20	-46.80	1.50	1.50	0.00
1,100.00	13.50	124.00	1,091.70	-59.02	87.50	-59.17	1.50	1.50	0.00
1,133.33	14.00	124.00	1,124.07	-63.45	94.06	-63.61	1.50	1.50	0.00
End Nudge @ 1133.33ft									
1,200.00	14.00	124.00	1,188.76	-72.47	107.44	-72.65	0.00	0.00	0.00
1,300.00	14.00	124.00	1,285.79	-85.99	127.49	-86.22	0.00	0.00	0.00
1,365.15	14.00	124.00	1,349.00	-94.81	140.56	-95.05	0.00	0.00	0.00
Fox Hills									
1,400.00	14.00	124.00	1,382.82	-99.52	147.55	-99.78	0.00	0.00	0.00
1,500.00	14.00	124.00	1,479.85	-113.05	167.60	-113.34	0.00	0.00	0.00
1,600.00	14.00	124.00	1,576.88	-126.58	187.66	-126.91	0.00	0.00	0.00
1,700.00	14.00	124.00	1,673.91	-140.11	207.72	-140.47	0.00	0.00	0.00
1,800.00	14.00	124.00	1,770.94	-153.63	227.77	-154.03	0.00	0.00	0.00
1,829.95	14.00	124.00	1,800.00	-157.69	233.78	-158.09	0.00	0.00	0.00
9 5/8"									
1,900.00	14.00	124.00	1,867.97	-167.16	247.83	-167.59	0.00	0.00	0.00
2,000.00	14.00	124.00	1,965.00	-180.69	267.88	-181.16	0.00	0.00	0.00
2,100.00	14.00	124.00	2,062.03	-194.22	287.94	-194.72	0.00	0.00	0.00
2,200.00	14.00	124.00	2,159.06	-207.75	308.00	-208.28	0.00	0.00	0.00
2,300.00	14.00	124.00	2,256.09	-221.27	328.05	-221.85	0.00	0.00	0.00
2,400.00	14.00	124.00	2,353.11	-234.80	348.11	-235.41	0.00	0.00	0.00
2,500.00	14.00	124.00	2,450.14	-248.33	368.17	-248.97	0.00	0.00	0.00
2,600.00	14.00	124.00	2,547.17	-261.86	388.22	-262.54	0.00	0.00	0.00
2,700.00	14.00	124.00	2,644.20	-275.39	408.28	-276.10	0.00	0.00	0.00
2,800.00	14.00	124.00	2,741.23	-288.92	428.33	-289.66	0.00	0.00	0.00
2,900.00	14.00	124.00	2,838.26	-302.44	448.39	-303.23	0.00	0.00	0.00
3,000.00	14.00	124.00	2,935.29	-315.97	468.45	-316.79	0.00	0.00	0.00
3,100.00	14.00	124.00	3,032.32	-329.50	488.50	-330.35	0.00	0.00	0.00
3,200.00	14.00	124.00	3,129.35	-343.03	508.56	-343.91	0.00	0.00	0.00
3,300.00	14.00	124.00	3,226.38	-356.56	528.62	-357.48	0.00	0.00	0.00
3,400.00	14.00	124.00	3,323.41	-370.08	548.67	-371.04	0.00	0.00	0.00
3,500.00	14.00	124.00	3,420.44	-383.61	568.73	-384.60	0.00	0.00	0.00
3,600.00	14.00	124.00	3,517.47	-397.14	588.78	-398.17	0.00	0.00	0.00
3,700.00	14.00	124.00	3,614.50	-410.67	608.84	-411.73	0.00	0.00	0.00
3,800.00	14.00	124.00	3,711.53	-424.20	628.90	-425.29	0.00	0.00	0.00
3,900.00	14.00	124.00	3,808.56	-437.72	648.95	-438.86	0.00	0.00	0.00
4,000.00	14.00	124.00	3,905.59	-451.25	669.01	-452.42	0.00	0.00	0.00
4,063.33	14.00	124.00	3,967.04	-459.82	681.71	-461.01	0.00	0.00	0.00
Begin Drop @ 4063.33ft									
4,100.00	13.27	124.00	4,002.67	-464.65	688.88	-465.85	2.00	-2.00	0.00
4,200.00	11.27	124.00	4,100.39	-476.53	706.49	-477.77	2.00	-2.00	0.00
4,300.00	9.27	124.00	4,198.78	-486.50	721.27	-487.76	2.00	-2.00	0.00
4,400.00	7.27	124.00	4,297.74	-494.54	733.18	-495.82	2.00	-2.00	0.00

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
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Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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)
4,500.00	5.27	124.00	4,397.13	-500.64	742.23	-501.94	2.00	-2.00	0.00
4,600.00	3.27	124.00	4,496.85	-504.80	748.40	-506.11	2.00	-2.00	0.00
4,689.23	1.48	124.00	4,586.00	-506.87	751.47	-508.18	2.00	-2.00	0.00
Sussex									
4,700.00	1.27	124.00	4,596.77	-507.01	751.68	-508.33	2.00	-2.00	0.00
4,763.33	0.00	0.00	4,660.09	-507.41	752.26	-508.72	2.00	-2.00	-195.80
End Drop @ 4763.33ft									
4,800.00	0.00	0.00	4,696.76	-507.41	752.26	-508.72	0.00	0.00	0.00
4,900.00	0.00	0.00	4,796.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,000.00	0.00	0.00	4,896.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,100.00	0.00	0.00	4,996.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,200.00	0.00	0.00	5,096.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,300.00	0.00	0.00	5,196.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,400.00	0.00	0.00	5,296.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,500.00	0.00	0.00	5,396.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,600.00	0.00	0.00	5,496.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,700.00	0.00	0.00	5,596.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,800.00	0.00	0.00	5,696.76	-507.41	752.26	-508.72	0.00	0.00	0.00
5,900.00	0.00	0.00	5,796.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,000.00	0.00	0.00	5,896.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,100.00	0.00	0.00	5,996.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,200.00	0.00	0.00	6,096.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,300.00	0.00	0.00	6,196.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,400.00	0.00	0.00	6,296.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,500.00	0.00	0.00	6,396.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,600.00	0.00	0.00	6,496.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,700.00	0.00	0.00	6,596.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,800.00	0.00	0.00	6,696.76	-507.41	752.26	-508.72	0.00	0.00	0.00
6,900.00	0.00	0.00	6,796.76	-507.41	752.26	-508.72	0.00	0.00	0.00
7,000.00	0.00	0.00	6,896.76	-507.41	752.26	-508.72	0.00	0.00	0.00
7,078.63	0.00	0.00	6,975.39	-507.41	752.26	-508.72	0.00	0.00	0.00
KOP @ 7078.63ft									
7,100.00	1.92	359.90	6,996.76	-507.05	752.26	-508.36	9.00	9.00	0.00
7,200.00	10.92	359.90	7,096.03	-495.87	752.24	-497.18	9.00	9.00	0.00
7,300.00	19.92	359.90	7,192.33	-469.30	752.19	-470.62	9.00	9.00	0.00
7,318.58	21.60	359.90	7,209.70	-462.72	752.18	-464.03	9.00	9.00	0.00
Sharon Springs									
7,343.52	23.84	359.90	7,232.70	-453.09	752.16	-454.40	9.00	9.00	0.00
Niobrara Top									
7,400.00	28.92	359.90	7,283.29	-428.00	752.12	-429.31	9.00	9.00	0.00
7,500.00	37.92	359.90	7,366.66	-372.97	752.02	-374.29	9.00	9.00	0.00
7,520.59	39.78	359.90	7,382.70	-360.06	752.00	-361.37	9.00	9.00	0.00
Niobrara B Bench									
7,600.00	46.92	359.90	7,440.40	-305.58	751.90	-306.89	9.00	9.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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)
DLS = 9°/100'									
7,628.04	49.45	359.90	7,459.10	-284.68	751.86	-286.00	9.00	9.00	0.00
Niobrara C Bench									
7,700.00	55.92	359.90	7,502.70	-227.49	751.76	-228.80	9.00	9.00	0.00
7,800.00	64.92	359.90	7,552.00	-140.61	751.61	-141.92	9.00	9.00	0.00
7,900.00	73.92	359.90	7,587.11	-47.08	751.44	-48.39	9.00	9.00	0.00
7,923.07	76.00	359.90	7,593.10	-24.80	751.40	-26.12	9.00	9.00	0.00
Fort Hays									
7,997.90	82.73	359.90	7,606.90	48.70	751.27	47.39	9.00	9.00	0.00
Codell									
8,000.00	82.92	359.90	7,607.16	50.78	751.27	49.47	9.00	9.00	0.00
8,081.90	90.29	359.90	7,612.00	132.48	751.12	131.17	9.00	9.00	0.00
End Build @ 8081.90ft - Top of Production									
8,100.00	90.29	359.90	7,611.91	150.58	751.09	149.27	0.00	0.00	0.00
8,200.00	90.29	359.90	7,611.40	250.58	750.91	249.27	0.00	0.00	0.00
8,300.00	90.29	359.90	7,610.88	350.58	750.74	349.27	0.00	0.00	0.00
8,400.00	90.29	359.90	7,610.37	450.58	750.56	449.27	0.00	0.00	0.00
8,500.00	90.29	359.90	7,609.85	550.58	750.38	549.27	0.00	0.00	0.00
8,600.00	90.29	359.90	7,609.34	650.58	750.21	649.26	0.00	0.00	0.00
8,700.00	90.29	359.90	7,608.82	750.57	750.03	749.26	0.00	0.00	0.00
8,800.00	90.29	359.90	7,608.31	850.57	749.85	849.26	0.00	0.00	0.00
8,900.00	90.29	359.90	7,607.79	950.57	749.67	949.26	0.00	0.00	0.00
9,000.00	90.29	359.90	7,607.28	1,050.57	749.50	1,049.26	0.00	0.00	0.00
9,100.00	90.29	359.90	7,606.77	1,150.57	749.32	1,149.26	0.00	0.00	0.00
9,200.00	90.29	359.90	7,606.25	1,250.57	749.14	1,249.26	0.00	0.00	0.00
9,300.00	90.29	359.90	7,605.74	1,350.56	748.96	1,349.26	0.00	0.00	0.00
9,400.00	90.29	359.90	7,605.22	1,450.56	748.79	1,449.25	0.00	0.00	0.00
9,500.00	90.29	359.90	7,604.71	1,550.56	748.61	1,549.25	0.00	0.00	0.00
9,600.00	90.29	359.90	7,604.19	1,650.56	748.43	1,649.25	0.00	0.00	0.00
9,700.00	90.29	359.90	7,603.68	1,750.56	748.25	1,749.25	0.00	0.00	0.00
9,800.00	90.29	359.90	7,603.17	1,850.56	748.08	1,849.25	0.00	0.00	0.00
9,900.00	90.29	359.90	7,602.65	1,950.56	747.90	1,949.25	0.00	0.00	0.00
10,000.00	90.29	359.90	7,602.14	2,050.55	747.72	2,049.25	0.00	0.00	0.00
10,100.00	90.29	359.90	7,601.62	2,150.55	747.54	2,149.25	0.00	0.00	0.00
10,200.00	90.29	359.90	7,601.11	2,250.55	747.37	2,249.24	0.00	0.00	0.00
10,300.00	90.29	359.90	7,600.59	2,350.55	747.19	2,349.24	0.00	0.00	0.00
10,400.00	90.29	359.90	7,600.08	2,450.55	747.01	2,449.24	0.00	0.00	0.00
10,500.00	90.29	359.90	7,599.56	2,550.55	746.83	2,549.24	0.00	0.00	0.00
10,600.00	90.29	359.90	7,599.05	2,650.55	746.66	2,649.24	0.00	0.00	0.00
10,700.00	90.29	359.90	7,598.54	2,750.54	746.48	2,749.24	0.00	0.00	0.00
10,800.00	90.29	359.90	7,598.02	2,850.54	746.30	2,849.24	0.00	0.00	0.00
10,900.00	90.29	359.90	7,597.51	2,950.54	746.12	2,949.23	0.00	0.00	0.00
11,000.00	90.29	359.90	7,596.99	3,050.54	745.95	3,049.23	0.00	0.00	0.00
11,100.00	90.29	359.90	7,596.48	3,150.54	745.77	3,149.23	0.00	0.00	0.00

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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)
11,200.00	90.29	359.90	7,595.96	3,250.54	745.59	3,249.23	0.00	0.00	0.00
11,300.00	90.29	359.90	7,595.45	3,350.54	745.41	3,349.23	0.00	0.00	0.00
11,400.00	90.29	359.90	7,594.93	3,450.53	745.24	3,449.23	0.00	0.00	0.00
11,500.00	90.29	359.90	7,594.42	3,550.53	745.06	3,549.23	0.00	0.00	0.00
11,600.00	90.29	359.90	7,593.91	3,650.53	744.88	3,649.23	0.00	0.00	0.00
11,700.00	90.29	359.90	7,593.39	3,750.53	744.70	3,749.22	0.00	0.00	0.00
11,800.00	90.29	359.90	7,592.88	3,850.53	744.53	3,849.22	0.00	0.00	0.00
11,900.00	90.29	359.90	7,592.36	3,950.53	744.35	3,949.22	0.00	0.00	0.00
12,000.00	90.29	359.90	7,591.85	4,050.53	744.17	4,049.22	0.00	0.00	0.00
12,100.00	90.29	359.90	7,591.33	4,150.52	743.99	4,149.22	0.00	0.00	0.00
12,200.00	90.29	359.90	7,590.82	4,250.52	743.82	4,249.22	0.00	0.00	0.00
12,300.00	90.29	359.90	7,590.30	4,350.52	743.64	4,349.22	0.00	0.00	0.00
12,400.00	90.29	359.90	7,589.79	4,450.52	743.46	4,449.21	0.00	0.00	0.00
12,500.00	90.29	359.90	7,589.28	4,550.52	743.28	4,549.21	0.00	0.00	0.00
12,600.00	90.29	359.90	7,588.76	4,650.52	743.11	4,649.21	0.00	0.00	0.00
12,700.00	90.29	359.90	7,588.25	4,750.51	742.93	4,749.21	0.00	0.00	0.00
12,800.00	90.29	359.90	7,587.73	4,850.51	742.75	4,849.21	0.00	0.00	0.00
12,900.00	90.29	359.90	7,587.22	4,950.51	742.57	4,949.21	0.00	0.00	0.00
13,000.00	90.29	359.90	7,586.70	5,050.51	742.40	5,049.21	0.00	0.00	0.00
13,100.00	90.29	359.90	7,586.19	5,150.51	742.22	5,149.21	0.00	0.00	0.00
13,200.00	90.29	359.90	7,585.68	5,250.51	742.04	5,249.20	0.00	0.00	0.00
13,300.00	90.29	359.90	7,585.16	5,350.51	741.86	5,349.20	0.00	0.00	0.00
13,400.00	90.29	359.90	7,584.65	5,450.50	741.69	5,449.20	0.00	0.00	0.00
13,500.00	90.29	359.90	7,584.13	5,550.50	741.51	5,549.20	0.00	0.00	0.00
13,600.00	90.29	359.90	7,583.62	5,650.50	741.33	5,649.20	0.00	0.00	0.00
13,700.00	90.29	359.90	7,583.10	5,750.50	741.16	5,749.20	0.00	0.00	0.00
13,800.00	90.29	359.90	7,582.59	5,850.50	740.98	5,849.20	0.00	0.00	0.00
13,900.00	90.29	359.90	7,582.07	5,950.50	740.80	5,949.19	0.00	0.00	0.00
14,000.00	90.29	359.90	7,581.56	6,050.50	740.62	6,049.19	0.00	0.00	0.00
14,100.00	90.29	359.90	7,581.05	6,150.49	740.45	6,149.19	0.00	0.00	0.00
14,200.00	90.29	359.90	7,580.53	6,250.49	740.27	6,249.19	0.00	0.00	0.00
14,300.00	90.29	359.90	7,580.02	6,350.49	740.09	6,349.19	0.00	0.00	0.00
14,400.00	90.29	359.90	7,579.50	6,450.49	739.91	6,449.19	0.00	0.00	0.00
14,500.00	90.29	359.90	7,578.99	6,550.49	739.74	6,549.19	0.00	0.00	0.00
14,600.00	90.29	359.90	7,578.47	6,650.49	739.56	6,649.19	0.00	0.00	0.00
14,700.00	90.29	359.90	7,577.96	6,750.49	739.38	6,749.18	0.00	0.00	0.00
14,800.00	90.29	359.90	7,577.44	6,850.48	739.20	6,849.18	0.00	0.00	0.00
14,900.00	90.29	359.90	7,576.93	6,950.48	739.03	6,949.18	0.00	0.00	0.00
15,000.00	90.29	359.90	7,576.42	7,050.48	738.85	7,049.18	0.00	0.00	0.00
15,100.00	90.29	359.90	7,575.90	7,150.48	738.67	7,149.18	0.00	0.00	0.00
15,200.00	90.29	359.90	7,575.39	7,250.48	738.49	7,249.18	0.00	0.00	0.00
15,300.00	90.29	359.90	7,574.87	7,350.48	738.32	7,349.18	0.00	0.00	0.00
15,400.00	90.29	359.90	7,574.36	7,450.47	738.14	7,449.18	0.00	0.00	0.00
15,500.00	90.29	359.90	7,573.84	7,550.47	737.96	7,549.17	0.00	0.00	0.00

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	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)
15,600.00	90.29	359.90	7,573.33	7,650.47	737.78	7,649.17	0.00	0.00	0.00
15,663.93	90.29	359.90	7,573.00	7,714.40	737.67	7,713.10	0.00	0.00	0.00
TD Well @ 15663.93ft									

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	Database:	PLANNING

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
1N-R67W-Sec. 22_Secti	0.00	0.00	0.00	-989.98	-1,889.48	14,540,074.78	1,674,915.79	40.036572	-104.876746
- plan misses target center by 2133.12usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1		0.00	2,627.78	-2,674.22		14,542,698.65	1,672,237.74		
Point 2		0.00	2,636.63	-12.49		14,542,711.39	1,674,899.45		
Point 3		0.00	2,645.60	2,649.28		14,542,724.24	1,677,561.21		
Point 4		0.00	9.73	2,650.67		14,540,088.38	1,677,566.44		
Point 5		0.00	-2,626.39	2,652.38		14,537,452.26	1,677,572.00		
Point 6		0.00	-2,631.96	12.48		14,537,442.84	1,674,932.11		
Point 7		0.00	-2,637.68	-2,626.99		14,537,433.27	1,672,292.65		
Point 8		0.00	-9.70	-2,642.90		14,540,061.22	1,672,272.91		
1N-R67W-Sec. 15_Secti	0.00	0.00	0.00	59.72	0.28	14,541,127.24	1,676,804.01	40.039455	-104.869994
- plan misses target center by 59.72usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1		0.00	6,851.58	-4,568.26		14,547,972.15	1,672,225.76		
Point 2		0.00	6,853.93	-1,913.35		14,547,978.37	1,674,880.66		
Point 3		0.00	6,855.16	741.27		14,547,983.48	1,677,535.27		
Point 4		0.00	4,225.46	750.46		14,545,353.79	1,677,548.30		
Point 5		0.00	1,595.89	759.53		14,542,724.24	1,677,561.21		
Point 6		0.00	1,586.93	-1,902.25		14,542,711.39	1,674,899.45		
Point 7		0.00	1,578.07	-4,563.97		14,542,698.65	1,672,237.74		
Point 8		0.00	4,213.91	-4,566.57		14,545,334.48	1,672,231.30		
WAGNER 26C-10HZ_4E	0.00	0.00	0.00	6,912.60	744.37	14,547,981.20	1,677,538.10	40.058274	-104.867335
- plan misses target center by 6952.56usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 460.00)									
WAGNER 26C-10HZ_Hi	0.00	0.00	0.00	0.00	0.00	14,541,067.52	1,676,803.82	40.039291	-104.869995
- plan hits target center									
- Polygon									
Point 1		0.00	7,773.23	1,202.23		14,548,842.50	1,677,994.70		
Point 2		0.00	6,912.73	1,204.37		14,547,982.00	1,677,998.10		
Point 3		0.00	5,606.02	1,208.17		14,546,675.30	1,678,003.80		
Point 4		0.00	4,297.21	1,211.85		14,545,366.50	1,678,009.40		
Point 5		0.00	2,967.21	1,215.41		14,544,036.50	1,678,014.90		
Point 6		0.00	1,647.60	1,222.59		14,542,716.90	1,678,024.00		
Point 7		0.00	333.70	1,221.87		14,541,403.00	1,678,025.20		
Point 8		0.00	-523.00	1,221.42		14,540,546.30	1,678,026.00		
Point 9		0.00	-520.33	761.42		14,540,548.30	1,677,566.00		
Point 10		0.00	-521.96	301.42		14,540,546.00	1,677,106.00		
Point 11		0.00	334.84	301.87		14,541,402.80	1,677,105.20		
Point 12		0.00	1,651.74	302.59		14,542,719.70	1,677,104.00		
Point 13		0.00	2,968.75	295.41		14,544,036.70	1,677,094.90		
Point 14		0.00	4,296.16	291.85		14,545,364.10	1,677,089.40		
Point 15		0.00	5,604.16	288.16		14,546,672.10	1,677,083.80		
Point 16		0.00	6,912.37	284.37		14,547,980.30	1,677,078.10		
Point 17		0.00	7,773.18	282.23		14,548,841.10	1,677,074.70		
Point 18		0.00	7,773.40	742.23		14,548,842.00	1,677,534.70		
Point 19		0.00	7,773.23	1,202.23		14,548,842.50	1,677,994.70		
WAGNER 26C-10HZ_4E	0.00	0.00	0.00	336.47	761.87	14,541,405.10	1,677,565.20	40.040215	-104.867273
- plan misses target center by 832.86usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 460.00)									
WAGNER 26C-10HZ_SI	0.00	0.00	0.00	0.00	0.00	14,541,067.52	1,676,803.82	40.039291	-104.869995
- plan hits target center									
- Point									
WAGNER 26C-10HZ_Hi	0.00	0.00	0.00	-111.06	629.76	14,540,957.38	1,677,433.74	40.038986	-104.867745
- plan misses target center by 639.47usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 26C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Site:	1N-67W-22 Wagner 8-22HZ Pad	MD Reference:	RKB = 17' @ 4985.00usft (D Rig)
Well:	WAGNER 26C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-2	Database:	PLANNING

- Point									
1N-R67W-Sec. 10_Secti	0.00	0.00	-95.00	7,202.09	-1,585.40	14,548,267.29	1,675,207.90	40.059069	-104.875661
- plan misses target center by 7375.14usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Polygon									
Point 1		-95.00	4,992.86	-2,976.12	14,553,255.80	1,672,224.50			
Point 2		-95.00	4,994.59	-331.69	14,553,261.39	1,674,868.92			
Point 3		-95.00	4,996.25	2,313.07	14,553,266.91	1,677,513.68			
Point 4		-95.00	2,354.63	2,320.05	14,550,625.30	1,677,524.51			
Point 5		-95.00	-287.06	2,326.97	14,547,983.63	1,677,535.29			
Point 6		-95.00	-288.46	-327.65	14,547,978.35	1,674,880.67			
Point 7		-95.00	-290.97	-2,982.55	14,547,971.97	1,672,225.78			
WAGNER 26C-10HZ_Tc	0.00	0.00	7,573.00	7,714.40	737.67	14,548,782.98	1,677,530.22	40.060476	-104.867359
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,829.95	1,800.00	9 5/8"	9-5/8	13-1/2	
8,081.90	7,612.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,365.15	1,349.00	Fox Hills				
4,689.23	4,586.00	Sussex				
7,318.58	7,209.70	Sharon Springs				
7,343.52	7,232.70	Niobrara Top				
7,520.59	7,382.70	Niobrara B Bench				
7,628.04	7,459.10	Niobrara C Bench				
7,923.07	7,593.10	Fort Hays				
7,997.90	7,606.90	Codell				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
200	200	0	0	Begin Nudge @ 200.00ft	
1133	1124	-63	94	End Nudge @ 1133.33ft	
4063	3967	-460	682	Begin Drop @ 4063.33ft	
4763	4660	-507	752	End Drop @ 4763.33ft	
7079	6975	-507	752	KOP @ 7078.63ft	
7600	7440	-306	752	DLS = 9°/100'	
8082	7612	132	751	End Build @ 8081.90ft	
15,664	7573	7714	738	TD Well @ 15663.93ft	

Checked By: _____	Approved By: _____	Date: _____
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