

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-67W-22 Wagner 7-22HZ Pad

WAGNER 2C-10HZ

Plan A

Plan: Permit Rev-1

Standard Survey Report

02 February, 2016

Project: WELD-NAD83-UTMFT13N
Site: 1N-67W-22 Wagner 7-22HZ Pad
Well: WAGNER 2C-10HZ
Wellbore: Plan A
Design: Permit Rev-1

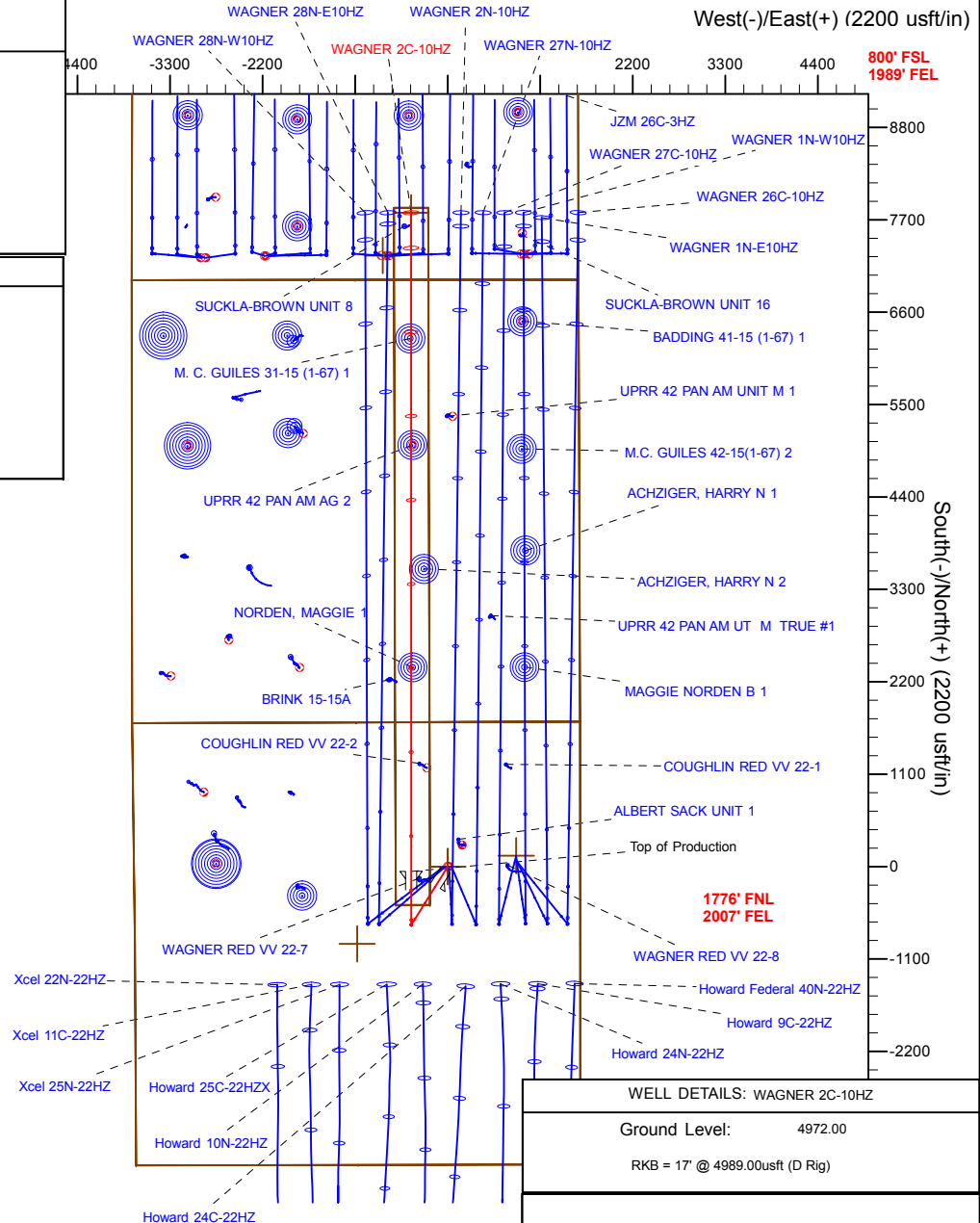
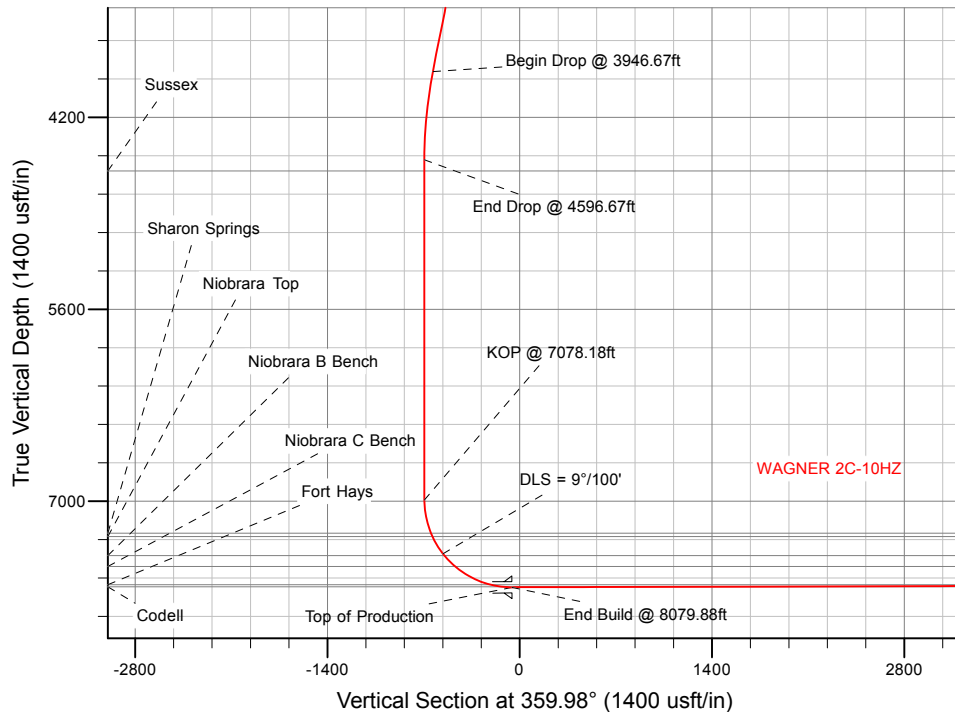
US ROCKIES WATTENBERG PLANNING

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	1066.67	13.00	212.00	1059.25	-83.02	-51.88	1.50	212.00	-83.01	
4	3946.67	13.00	212.00	3865.44	-632.44	-395.19	0.00	0.00	-632.30	
5	4596.67	0.00	0.00	4509.87	-694.71	-434.10	2.00	180.00	-694.55	
6	7078.18	0.00	0.00	6991.38	-694.71	-434.10	0.00	0.00	-694.55	
7	8079.88	90.15	359.98	7628.00	-56.38	-434.27	9.00	359.98	-56.23	
8	15920.96	90.15	359.98	7607.00	7784.67	-436.33	0.00	0.00	7784.82	WAGNER 2C-10HZ_Toe

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
WAGNER 2C-10HZ_SHL	0.00	0.00	0.00	40.039096	-104.872899	Point
WAGNER 2C-10HZ_Toe	7607.00	7784.67	-436.33	40.060474	-104.874458	Point



WELL DETAILS: WAGNER 2C-10HZ

Ground Level: 4972.00

RKB = 17' @ 4989.00usft (D Rig)

Plan: Permit Rev-1 (WAGNER 2C-10HZ/Plan A)

Created By: Clint Eshelman

Date: 2/3/2016

Reviewed: _____

Date: _____

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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		1N-67W-22 Wagner 7-22HZ Pad			
Site Position:		Northing:	14,540,995.63 usft	Latitude:	40.039097
From:	Lat/Long	Easting:	1,675,946.05 usft	Longitude:	-104.873060
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.08 °

Well		WAGNER 2C-10HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,540,995.34 usft	Latitude:	40.039096
	+E/-W	0.00 usft	Easting:	1,675,991.12 usft	Longitude:	-104.872899
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,972.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/29/2016	8.27	66.58	52,442

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	359.98	

Survey Tool Program	Date	2/2/2016			
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	15,920.96	Permit Rev-1 (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	212.00	299.99	-1.11	-0.69	-1.11	1.50	1.50	0.00	
400.00	3.00	212.00	399.91	-4.44	-2.77	-4.44	1.50	1.50	0.00	
500.00	4.50	212.00	499.69	-9.99	-6.24	-9.98	1.50	1.50	0.00	
600.00	6.00	212.00	599.27	-17.75	-11.09	-17.74	1.50	1.50	0.00	
700.00	7.50	212.00	698.57	-27.71	-17.32	-27.71	1.50	1.50	0.00	
800.00	9.00	212.00	797.54	-39.88	-24.92	-39.87	1.50	1.50	0.00	

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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)
900.00	10.50	212.00	896.09	-54.24	-33.89	-54.23	1.50	1.50	0.00
1,000.00	12.00	212.00	994.16	-70.79	-44.23	-70.77	1.50	1.50	0.00
1,066.67	13.00	212.00	1,059.25	-83.02	-51.88	-83.01	1.50	1.50	0.00
End Nudge @ 1066.67ft									
1,100.00	13.00	212.00	1,091.73	-89.38	-55.85	-89.36	0.00	0.00	0.00
1,200.00	13.00	212.00	1,189.17	-108.46	-67.77	-108.44	0.00	0.00	0.00
1,300.00	13.00	212.00	1,286.60	-127.54	-79.69	-127.51	0.00	0.00	0.00
1,368.14	13.00	212.00	1,353.00	-140.54	-87.82	-140.51	0.00	0.00	0.00
Fox Hills									
1,400.00	13.00	212.00	1,384.04	-146.61	-91.61	-146.58	0.00	0.00	0.00
1,500.00	13.00	212.00	1,481.48	-165.69	-103.53	-165.65	0.00	0.00	0.00
1,600.00	13.00	212.00	1,578.91	-184.77	-115.46	-184.73	0.00	0.00	0.00
1,700.00	13.00	212.00	1,676.35	-203.84	-127.38	-203.80	0.00	0.00	0.00
1,800.00	13.00	212.00	1,773.79	-222.92	-139.30	-222.87	0.00	0.00	0.00
1,826.90	13.00	212.00	1,800.00	-228.05	-142.50	-228.00	0.00	0.00	0.00
9 5/8"									
1,900.00	13.00	212.00	1,871.22	-242.00	-151.22	-241.94	0.00	0.00	0.00
2,000.00	13.00	212.00	1,968.66	-261.07	-163.14	-261.02	0.00	0.00	0.00
2,100.00	13.00	212.00	2,066.10	-280.15	-175.06	-280.09	0.00	0.00	0.00
2,200.00	13.00	212.00	2,163.54	-299.23	-186.98	-299.16	0.00	0.00	0.00
2,300.00	13.00	212.00	2,260.97	-318.31	-198.90	-318.24	0.00	0.00	0.00
2,400.00	13.00	212.00	2,358.41	-337.38	-210.82	-337.31	0.00	0.00	0.00
2,500.00	13.00	212.00	2,455.85	-356.46	-222.74	-356.38	0.00	0.00	0.00
2,600.00	13.00	212.00	2,553.28	-375.54	-234.66	-375.45	0.00	0.00	0.00
2,700.00	13.00	212.00	2,650.72	-394.61	-246.58	-394.53	0.00	0.00	0.00
2,800.00	13.00	212.00	2,748.16	-413.69	-258.50	-413.60	0.00	0.00	0.00
2,900.00	13.00	212.00	2,845.59	-432.77	-270.42	-432.67	0.00	0.00	0.00
3,000.00	13.00	212.00	2,943.03	-451.84	-282.34	-451.75	0.00	0.00	0.00
3,100.00	13.00	212.00	3,040.47	-470.92	-294.26	-470.82	0.00	0.00	0.00
3,200.00	13.00	212.00	3,137.91	-490.00	-306.18	-489.89	0.00	0.00	0.00
3,300.00	13.00	212.00	3,235.34	-509.07	-318.11	-508.96	0.00	0.00	0.00
3,400.00	13.00	212.00	3,332.78	-528.15	-330.03	-528.04	0.00	0.00	0.00
3,500.00	13.00	212.00	3,430.22	-547.23	-341.95	-547.11	0.00	0.00	0.00
3,600.00	13.00	212.00	3,527.65	-566.31	-353.87	-566.18	0.00	0.00	0.00
3,700.00	13.00	212.00	3,625.09	-585.38	-365.79	-585.25	0.00	0.00	0.00
3,800.00	13.00	212.00	3,722.53	-604.46	-377.71	-604.33	0.00	0.00	0.00
3,900.00	13.00	212.00	3,819.97	-623.54	-389.63	-623.40	0.00	0.00	0.00
3,946.67	13.00	212.00	3,865.44	-632.44	-395.19	-632.30	0.00	0.00	0.00
Begin Drop @ 3946.67ft									
4,000.00	11.93	212.00	3,917.51	-642.20	-401.29	-642.06	2.00	-2.00	0.00
4,100.00	9.93	212.00	4,015.69	-658.29	-411.34	-658.14	2.00	-2.00	0.00
4,200.00	7.93	212.00	4,114.47	-671.45	-419.57	-671.31	2.00	-2.00	0.00
4,300.00	5.93	212.00	4,213.74	-681.69	-425.97	-681.54	2.00	-2.00	0.00
4,400.00	3.93	212.00	4,313.36	-688.98	-430.52	-688.83	2.00	-2.00	0.00

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
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Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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)
4,500.00	1.93	212.00	4,413.22	-693.32	-433.24	-693.17	2.00	-2.00	0.00
4,596.67	0.00	0.00	4,509.88	-694.71	-434.10	-694.55	2.00	-2.00	153.10
End Drop @ 4596.67ft									
4,600.00	0.00	0.00	4,513.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
4,676.79	0.00	0.00	4,590.00	-694.71	-434.10	-694.55	0.00	0.00	0.00
Sussex									
4,700.00	0.00	0.00	4,613.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
4,800.00	0.00	0.00	4,713.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
4,900.00	0.00	0.00	4,813.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,000.00	0.00	0.00	4,913.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,100.00	0.00	0.00	5,013.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,200.00	0.00	0.00	5,113.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,300.00	0.00	0.00	5,213.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,400.00	0.00	0.00	5,313.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,500.00	0.00	0.00	5,413.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,600.00	0.00	0.00	5,513.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,700.00	0.00	0.00	5,613.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,800.00	0.00	0.00	5,713.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
5,900.00	0.00	0.00	5,813.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,000.00	0.00	0.00	5,913.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,100.00	0.00	0.00	6,013.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,200.00	0.00	0.00	6,113.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,300.00	0.00	0.00	6,213.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,400.00	0.00	0.00	6,313.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,500.00	0.00	0.00	6,413.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,600.00	0.00	0.00	6,513.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,700.00	0.00	0.00	6,613.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,800.00	0.00	0.00	6,713.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
6,900.00	0.00	0.00	6,813.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
7,000.00	0.00	0.00	6,913.21	-694.71	-434.10	-694.55	0.00	0.00	0.00
7,078.18	0.00	0.00	6,991.39	-694.71	-434.10	-694.55	0.00	0.00	0.00
KOP @ 7078.18ft									
7,100.00	1.96	359.98	7,013.20	-694.33	-434.10	-694.18	9.00	9.00	-0.07
7,200.00	10.96	359.98	7,112.46	-683.09	-434.10	-682.93	9.00	9.00	0.00
7,300.00	19.96	359.98	7,208.74	-656.45	-434.11	-656.30	9.00	9.00	0.00
7,327.30	22.42	359.98	7,234.20	-646.58	-434.11	-646.43	9.00	9.00	0.00
Sharon Springs									
7,352.40	24.68	359.98	7,257.20	-636.56	-434.12	-636.40	9.00	9.00	0.00
Niobrara Top									
7,400.00	28.96	359.98	7,299.67	-615.08	-434.12	-614.93	9.00	9.00	0.00
7,500.00	37.96	359.98	7,383.01	-560.00	-434.14	-559.84	9.00	9.00	0.00
DLS = 9°/100'									
7,517.17	39.51	359.98	7,396.40	-549.25	-434.14	-549.10	9.00	9.00	0.00
Niobrara B Bench									

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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)
7,600.00	46.96	359.98	7,456.71	-492.55	-434.15	-492.40	9.00	9.00	0.00
7,628.37	49.52	359.98	7,475.60	-471.39	-434.16	-471.24	9.00	9.00	0.00
Niobrara C Bench									
7,700.00	55.96	359.98	7,518.94	-414.41	-434.17	-414.26	9.00	9.00	0.00
7,800.00	64.96	359.98	7,568.19	-327.50	-434.20	-327.34	9.00	9.00	0.00
7,900.00	73.96	359.98	7,603.23	-233.95	-434.22	-233.79	9.00	9.00	0.00
7,924.73	76.19	359.98	7,609.60	-210.05	-434.23	-209.90	9.00	9.00	0.00
Fort Hays									
8,000.00	82.96	359.98	7,623.21	-136.07	-434.25	-135.92	9.00	9.00	0.00
8,010.42	83.90	359.98	7,624.40	-125.72	-434.25	-125.57	9.00	9.00	0.00
Codell									
8,079.88	90.15	359.98	7,628.00	-56.38	-434.27	-56.23	9.00	9.00	0.00
End Build @ 8079.88ft - Top of Production									
8,100.00	90.15	359.98	7,627.95	-36.26	-434.27	-36.11	0.00	0.00	0.00
8,200.00	90.15	359.98	7,627.68	63.74	-434.30	63.89	0.00	0.00	0.00
8,300.00	90.15	359.98	7,627.41	163.74	-434.33	163.89	0.00	0.00	0.00
8,400.00	90.15	359.98	7,627.14	263.74	-434.35	263.89	0.00	0.00	0.00
8,500.00	90.15	359.98	7,626.88	363.74	-434.38	363.89	0.00	0.00	0.00
8,600.00	90.15	359.98	7,626.61	463.74	-434.41	463.89	0.00	0.00	0.00
8,700.00	90.15	359.98	7,626.34	563.73	-434.43	563.89	0.00	0.00	0.00
8,800.00	90.15	359.98	7,626.07	663.73	-434.46	663.89	0.00	0.00	0.00
8,900.00	90.15	359.98	7,625.80	763.73	-434.48	763.89	0.00	0.00	0.00
9,000.00	90.15	359.98	7,625.54	863.73	-434.51	863.89	0.00	0.00	0.00
9,100.00	90.15	359.98	7,625.27	963.73	-434.54	963.88	0.00	0.00	0.00
9,200.00	90.15	359.98	7,625.00	1,063.73	-434.56	1,063.88	0.00	0.00	0.00
9,300.00	90.15	359.98	7,624.73	1,163.73	-434.59	1,163.88	0.00	0.00	0.00
9,400.00	90.15	359.98	7,624.46	1,263.73	-434.62	1,263.88	0.00	0.00	0.00
9,500.00	90.15	359.98	7,624.20	1,363.73	-434.64	1,363.88	0.00	0.00	0.00
9,600.00	90.15	359.98	7,623.93	1,463.73	-434.67	1,463.88	0.00	0.00	0.00
9,700.00	90.15	359.98	7,623.66	1,563.73	-434.69	1,563.88	0.00	0.00	0.00
9,800.00	90.15	359.98	7,623.39	1,663.73	-434.72	1,663.88	0.00	0.00	0.00
9,900.00	90.15	359.98	7,623.13	1,763.73	-434.75	1,763.88	0.00	0.00	0.00
10,000.00	90.15	359.98	7,622.86	1,863.73	-434.77	1,863.88	0.00	0.00	0.00
10,100.00	90.15	359.98	7,622.59	1,963.73	-434.80	1,963.88	0.00	0.00	0.00
10,200.00	90.15	359.98	7,622.32	2,063.73	-434.83	2,063.88	0.00	0.00	0.00
10,300.00	90.15	359.98	7,622.05	2,163.73	-434.85	2,163.88	0.00	0.00	0.00
10,400.00	90.15	359.98	7,621.79	2,263.73	-434.88	2,263.88	0.00	0.00	0.00
10,500.00	90.15	359.98	7,621.52	2,363.73	-434.90	2,363.88	0.00	0.00	0.00
10,600.00	90.15	359.98	7,621.25	2,463.73	-434.93	2,463.88	0.00	0.00	0.00
10,700.00	90.15	359.98	7,620.98	2,563.73	-434.96	2,563.88	0.00	0.00	0.00
10,800.00	90.15	359.98	7,620.72	2,663.73	-434.98	2,663.88	0.00	0.00	0.00
10,900.00	90.15	359.98	7,620.45	2,763.73	-435.01	2,763.88	0.00	0.00	0.00
11,000.00	90.15	359.98	7,620.18	2,863.73	-435.04	2,863.88	0.00	0.00	0.00
11,100.00	90.15	359.98	7,619.91	2,963.73	-435.06	2,963.88	0.00	0.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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)
11,200.00	90.15	359.98	7,619.64	3,063.73	-435.09	3,063.88	0.00	0.00	0.00
11,300.00	90.15	359.98	7,619.38	3,163.73	-435.12	3,163.88	0.00	0.00	0.00
11,400.00	90.15	359.98	7,619.11	3,263.72	-435.14	3,263.88	0.00	0.00	0.00
11,500.00	90.15	359.98	7,618.84	3,363.72	-435.17	3,363.88	0.00	0.00	0.00
11,600.00	90.15	359.98	7,618.57	3,463.72	-435.19	3,463.88	0.00	0.00	0.00
11,700.00	90.15	359.98	7,618.30	3,563.72	-435.22	3,563.88	0.00	0.00	0.00
11,800.00	90.15	359.98	7,618.04	3,663.72	-435.25	3,663.88	0.00	0.00	0.00
11,900.00	90.15	359.98	7,617.77	3,763.72	-435.27	3,763.87	0.00	0.00	0.00
12,000.00	90.15	359.98	7,617.50	3,863.72	-435.30	3,863.87	0.00	0.00	0.00
12,100.00	90.15	359.98	7,617.23	3,963.72	-435.33	3,963.87	0.00	0.00	0.00
12,200.00	90.15	359.98	7,616.97	4,063.72	-435.35	4,063.87	0.00	0.00	0.00
12,300.00	90.15	359.98	7,616.70	4,163.72	-435.38	4,163.87	0.00	0.00	0.00
12,400.00	90.15	359.98	7,616.43	4,263.72	-435.40	4,263.87	0.00	0.00	0.00
12,500.00	90.15	359.98	7,616.16	4,363.72	-435.43	4,363.87	0.00	0.00	0.00
12,600.00	90.15	359.98	7,615.89	4,463.72	-435.46	4,463.87	0.00	0.00	0.00
12,700.00	90.15	359.98	7,615.63	4,563.72	-435.48	4,563.87	0.00	0.00	0.00
12,800.00	90.15	359.98	7,615.36	4,663.72	-435.51	4,663.87	0.00	0.00	0.00
12,900.00	90.15	359.98	7,615.09	4,763.72	-435.54	4,763.87	0.00	0.00	0.00
13,000.00	90.15	359.98	7,614.82	4,863.72	-435.56	4,863.87	0.00	0.00	0.00
13,100.00	90.15	359.98	7,614.56	4,963.72	-435.59	4,963.87	0.00	0.00	0.00
13,200.00	90.15	359.98	7,614.29	5,063.72	-435.61	5,063.87	0.00	0.00	0.00
13,300.00	90.15	359.98	7,614.02	5,163.72	-435.64	5,163.87	0.00	0.00	0.00
13,400.00	90.15	359.98	7,613.75	5,263.72	-435.67	5,263.87	0.00	0.00	0.00
13,500.00	90.15	359.98	7,613.48	5,363.72	-435.69	5,363.87	0.00	0.00	0.00
13,600.00	90.15	359.98	7,613.22	5,463.72	-435.72	5,463.87	0.00	0.00	0.00
13,700.00	90.15	359.98	7,612.95	5,563.72	-435.75	5,563.87	0.00	0.00	0.00
13,800.00	90.15	359.98	7,612.68	5,663.72	-435.77	5,663.87	0.00	0.00	0.00
13,900.00	90.15	359.98	7,612.41	5,763.72	-435.80	5,763.87	0.00	0.00	0.00
14,000.00	90.15	359.98	7,612.14	5,863.72	-435.82	5,863.87	0.00	0.00	0.00
14,100.00	90.15	359.98	7,611.88	5,963.72	-435.85	5,963.87	0.00	0.00	0.00
14,200.00	90.15	359.98	7,611.61	6,063.71	-435.88	6,063.87	0.00	0.00	0.00
14,300.00	90.15	359.98	7,611.34	6,163.71	-435.90	6,163.87	0.00	0.00	0.00
14,400.00	90.15	359.98	7,611.07	6,263.71	-435.93	6,263.87	0.00	0.00	0.00
14,500.00	90.15	359.98	7,610.81	6,363.71	-435.96	6,363.87	0.00	0.00	0.00
14,600.00	90.15	359.98	7,610.54	6,463.71	-435.98	6,463.87	0.00	0.00	0.00
14,700.00	90.15	359.98	7,610.27	6,563.71	-436.01	6,563.86	0.00	0.00	0.00
14,800.00	90.15	359.98	7,610.00	6,663.71	-436.04	6,663.86	0.00	0.00	0.00
14,900.00	90.15	359.98	7,609.73	6,763.71	-436.06	6,763.86	0.00	0.00	0.00
15,000.00	90.15	359.98	7,609.47	6,863.71	-436.09	6,863.86	0.00	0.00	0.00
15,100.00	90.15	359.98	7,609.20	6,963.71	-436.11	6,963.86	0.00	0.00	0.00
15,200.00	90.15	359.98	7,608.93	7,063.71	-436.14	7,063.86	0.00	0.00	0.00
15,300.00	90.15	359.98	7,608.66	7,163.71	-436.17	7,163.86	0.00	0.00	0.00
15,400.00	90.15	359.98	7,608.40	7,263.71	-436.19	7,263.86	0.00	0.00	0.00
15,500.00	90.15	359.98	7,608.13	7,363.71	-436.22	7,363.86	0.00	0.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	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)
15,600.00	90.15	359.98	7,607.86	7,463.71	-436.25	7,463.86	0.00	0.00	0.00
15,700.00	90.15	359.98	7,607.59	7,563.71	-436.27	7,563.86	0.00	0.00	0.00
15,800.00	90.15	359.98	7,607.32	7,663.71	-436.30	7,663.86	0.00	0.00	0.00
15,900.00	90.15	359.98	7,607.06	7,763.71	-436.32	7,763.86	0.00	0.00	0.00
15,920.96	90.15	359.98	7,607.00	7,784.67	-436.33	7,784.82	0.00	0.00	0.00
TD Well @ 15920.96ft									

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	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
WAGNER 2C-10HZ_SH - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,540,995.34	1,675,991.12	40.039096	-104.872899
WAGNER 2C-10HZ_Ha - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,540,995.34	1,675,991.12	40.039096	-104.872899
Point 1		0.00	7,843.40	-231.83		14,548,838.40	1,675,748.10		
Point 2		0.00	6,982.70	-230.35		14,547,977.70	1,675,750.80		
Point 3		0.00	5,669.29	-226.93		14,546,664.30	1,675,756.10		
Point 4		0.00	4,355.98	-223.80		14,545,351.00	1,675,761.10		
Point 5		0.00	3,035.08	-220.59		14,544,030.10	1,675,766.20		
Point 6		0.00	1,718.27	-215.47		14,542,713.30	1,675,773.20		
Point 7		0.00	401.26	-212.65		14,541,396.30	1,675,777.90		
Point 8		0.00	-915.84	-209.83		14,540,079.20	1,675,782.60		
Point 9		0.00	-1,773.65	-207.05		14,539,221.40	1,675,786.60		
Point 10		0.00	-1,774.87	-609.65		14,539,219.60	1,675,384.00		
Point 11		0.00	-917.37	-613.73		14,540,077.10	1,675,378.70		
Point 12		0.00	399.75	-620.05		14,541,394.20	1,675,370.50		
Point 13		0.00	1,717.46	-626.27		14,542,711.90	1,675,362.40		
Point 14		0.00	3,033.66	-629.19		14,544,028.10	1,675,357.60		
Point 15		0.00	4,352.57	-632.11		14,545,347.00	1,675,352.80		
Point 16		0.00	5,667.47	-634.63		14,546,661.90	1,675,348.40		
Point 17		0.00	6,982.58	-637.65		14,547,977.00	1,675,343.50		
Point 18		0.00	7,843.18	-638.33		14,548,837.60	1,675,341.60		
Point 19		0.00	7,843.40	-231.83		14,548,838.40	1,675,748.10		
WAGNER 2C-10HZ_He - plan misses target center by 346.80usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-46.24	-343.71	14,540,948.60	1,675,647.48	40.038969	-104.874127
1N-R67W-Sec. 22_Secti - plan misses target center by 1415.54usft at 4.00usft MD (4.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	4.00	-919.02	-1,076.64	14,540,074.78	1,674,915.79	40.036572	-104.876746
Point 1		4.00	2,627.78	-2,674.22		14,542,698.74	1,672,237.82		
Point 2		4.00	2,636.63	-12.49		14,542,711.39	1,674,899.54		
Point 3		4.00	2,645.60	2,649.28		14,542,724.16	1,677,561.29		
Point 4		4.00	9.73	2,650.67		14,540,088.29	1,677,566.44		
Point 5		4.00	-2,626.39	2,652.38		14,537,452.18	1,677,571.92		
Point 6		4.00	-2,631.96	12.48		14,537,442.84	1,674,932.03		
Point 7		4.00	-2,637.68	-2,626.99		14,537,433.35	1,672,292.57		
Point 8		4.00	-9.70	-2,642.90		14,540,061.31	1,672,272.91		
1N-R67W-Sec. 15_Secti - plan misses target center by 823.53usft at 4.00usft MD (4.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	4.00	130.74	813.08	14,541,127.24	1,676,804.01	40.039455	-104.869994
Point 1		4.00	6,851.58	-4,568.26		14,547,972.29	1,672,225.98		
Point 2		4.00	6,853.93	-1,913.35		14,547,978.43	1,674,880.88		
Point 3		4.00	6,855.16	741.27		14,547,983.45	1,677,535.50		
Point 4		4.00	4,225.46	750.46		14,545,353.77	1,677,548.44		
Point 5		4.00	1,595.89	759.53		14,542,724.21	1,677,561.26		
Point 6		4.00	1,586.93	-1,902.25		14,542,711.45	1,674,899.50		
Point 7		4.00	1,578.07	-4,563.97		14,542,698.80	1,672,237.79		
Point 8		4.00	4,213.91	-4,566.57		14,545,334.63	1,672,231.43		
1N-R67W-Sec. 10_Secti - plan misses target center by 7314.57usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-91.00	7,273.06	-772.84	14,548,267.29	1,675,207.90	40.059069	-104.875661
Point 1		-91.00	4,992.86	-2,976.12		14,553,255.90	1,672,224.66		
Point 2		-91.00	4,994.59	-331.69		14,553,261.40	1,674,869.09		
Point 3		-91.00	4,996.25	2,313.07		14,553,266.84	1,677,513.84		

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 2C-10HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Site:	1N-67W-22 Wagner 7-22HZ Pad	MD Reference:	RKB = 17' @ 4989.00usft (D Rig)
Well:	WAGNER 2C-10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

Point 4	-91.00	2,354.63	2,320.05	14,550,625.23	1,677,524.59				
Point 5	-91.00	-287.06	2,326.97	14,547,983.55	1,677,535.28				
Point 6	-91.00	-288.46	-327.65	14,547,978.36	1,674,880.67				
Point 7	-91.00	-290.97	-2,982.55	14,547,972.06	1,672,225.77				
WAGNER 2C-10HZ_Toe	0.00	0.00	7,607.00	7,784.67	-436.33	14,548,779.37	1,675,543.68	40.060474	-104.874459
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")
1,826.90	1,800.00	9 5/8"		9-5/8	13-1/2
8,079.88	7,628.00	Top of Production		5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,368.14	1,353.00	Fox Hills			
4,676.79	4,590.00	Sussex			
7,327.30	7,234.20	Sharon Springs			
7,352.40	7,257.20	Niobrara Top			
7,517.17	7,396.40	Niobrara B Bench			
7,628.37	7,475.60	Niobrara C Bench			
7,924.73	7,609.60	Fort Hays			
8,010.42	7,624.40	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	
1067	1059	-83	-52	End Nudge @ 1066.67ft	
3947	3865	-632	-395	Begin Drop @ 3946.67ft	
4597	4510	-695	-434	End Drop @ 4596.67ft	
7078	6991	-695	-434	KOP @ 7078.18ft	
7500	7383	-560	-434	DLS = 9°/100'	
8080	7628	-56	-434	End Build @ 8079.88ft	
15,921	7607	7785	-436	TD Well @ 15920.96ft	

Checked By: _____ Approved By: _____ Date: _____