

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

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

WAGNER 1N-W10HZ

Plan A

Plan: Permit Rev-1

Standard Survey Report

02 February, 2016

Project: WELD-NAD83-UTMFT13N
Site: 1N-67W-22 Wagner 8-22HZ Pad
Well: WAGNER 1N-W10HZ
Wellbore: Plan A
Design: Permit Rev-1

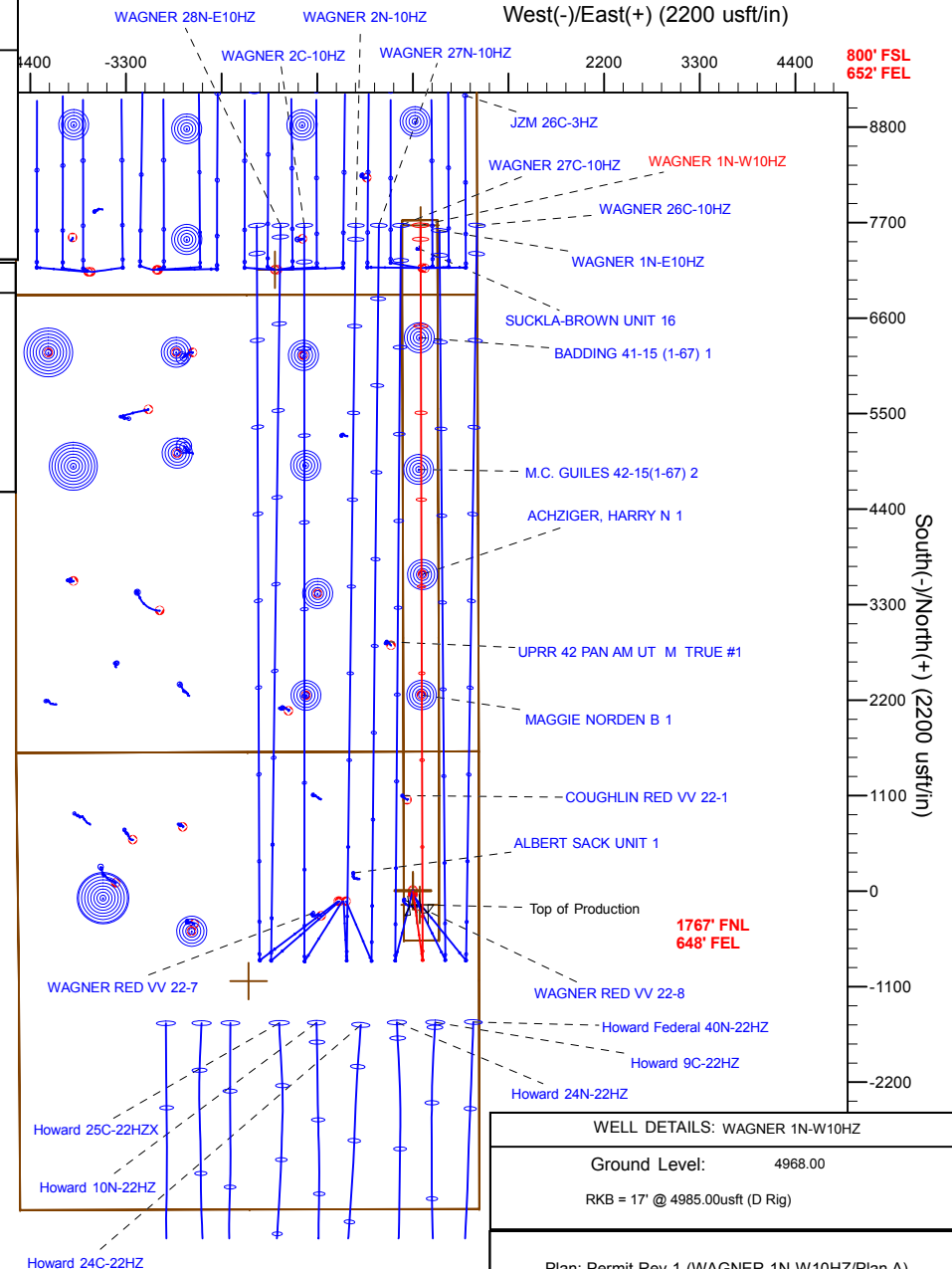
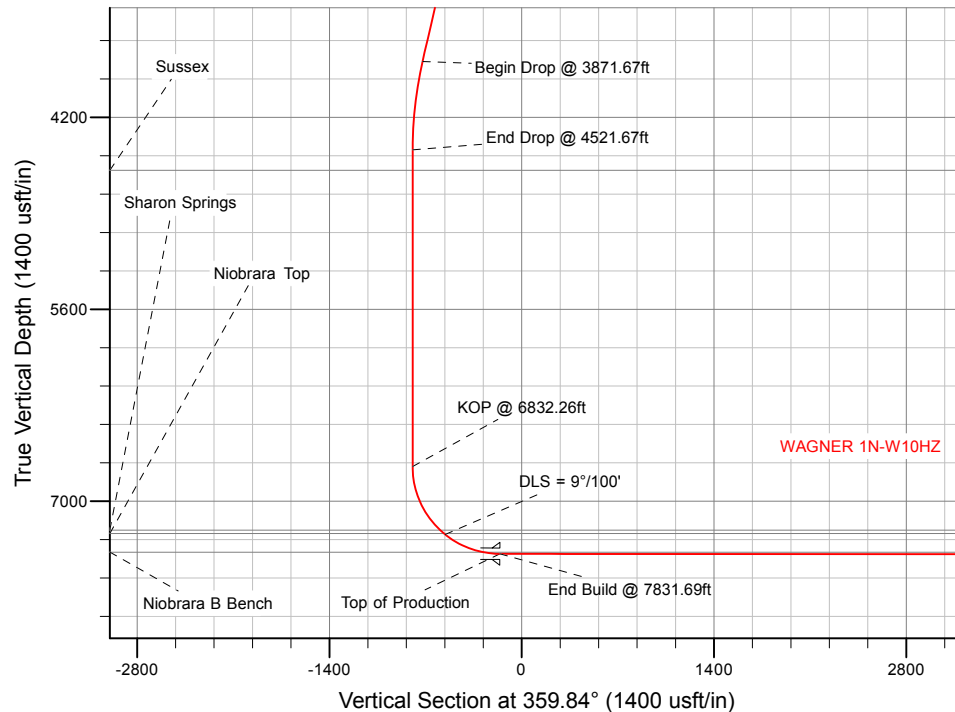
US ROCKIES WATTENBERG PLANNING

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	172.00	1059.25	-96.95	13.62	1.50	172.00	-96.98	
4	3871.67	13.00	172.00	3792.36	-721.79	101.44	0.00	0.00	-722.07	
5	4521.67	0.00	0.00	4436.80	-794.50	111.66	2.00	180.00	-794.81	
6	6832.26	0.00	0.00	6747.39	-794.50	111.66	0.00	0.00	-794.81	
7	7831.69	89.95	359.84	7384.00	-158.45	109.85	9.00	359.84	-158.76	
8	15659.78	89.95	359.84	7391.00	7669.60	87.58	0.00	0.00	7669.33	WAGNER 1N-W10HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
WAGNER 1N-W10HZ_SHL	0.00	0.00	0.00	40.039414	-104.869994	Point
WAGNER 1N-W10HZ_BHL	7391.00	7669.60	87.58	40.060476	-104.869681	Point



WELL DETAILS: WAGNER 1N-W10HZ

Ground Level: 4968.00

RKB = 17' @ 4985.00usft (D Rig)

Plan: Permit Rev-1 (WAGNER 1N-W10HZ/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 1N-W10HZ
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 1N-W10HZ	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 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 1N-W10HZ				
Well Position	+N/-S	0.00 usft	Northing:	14,541,112.31 usft	Latitude:	40.039414
	+E/-W	0.00 usft	Easting:	1,676,804.03 usft	Longitude:	-104.869994
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-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	359.84	

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	15,659.78	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	172.00	299.99	-1.30	0.18	-1.30	1.50	1.50	0.00	
400.00	3.00	172.00	399.91	-5.18	0.73	-5.19	1.50	1.50	0.00	
500.00	4.50	172.00	499.69	-11.66	1.64	-11.66	1.50	1.50	0.00	
600.00	6.00	172.00	599.27	-20.72	2.91	-20.73	1.50	1.50	0.00	
700.00	7.50	172.00	698.57	-32.36	4.55	-32.37	1.50	1.50	0.00	
800.00	9.00	172.00	797.54	-46.57	6.54	-46.59	1.50	1.50	0.00	

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Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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 1N-W10HZ	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	172.00	896.09	-63.34	8.90	-63.36	1.50	1.50	0.00
1,000.00	12.00	172.00	994.16	-82.66	11.62	-82.69	1.50	1.50	0.00
1,066.67	13.00	172.00	1,059.25	-96.95	13.63	-96.98	1.50	1.50	0.00
End Nudge @ 1066.67ft									
1,100.00	13.00	172.00	1,091.73	-104.37	14.67	-104.41	0.00	0.00	0.00
1,200.00	13.00	172.00	1,189.17	-126.65	17.80	-126.70	0.00	0.00	0.00
1,300.00	13.00	172.00	1,286.60	-148.92	20.93	-148.98	0.00	0.00	0.00
1,364.04	13.00	172.00	1,349.00	-163.19	22.93	-163.25	0.00	0.00	0.00
Fox Hills									
1,400.00	13.00	172.00	1,384.04	-171.20	24.06	-171.27	0.00	0.00	0.00
1,500.00	13.00	172.00	1,481.48	-193.48	27.19	-193.55	0.00	0.00	0.00
1,600.00	13.00	172.00	1,578.91	-215.75	30.32	-215.84	0.00	0.00	0.00
1,700.00	13.00	172.00	1,676.35	-238.03	33.45	-238.12	0.00	0.00	0.00
1,800.00	13.00	172.00	1,773.79	-260.31	36.58	-260.41	0.00	0.00	0.00
1,826.90	13.00	172.00	1,800.00	-266.30	37.43	-266.40	0.00	0.00	0.00
9 5/8"									
1,900.00	13.00	172.00	1,871.22	-282.58	39.71	-282.69	0.00	0.00	0.00
2,000.00	13.00	172.00	1,968.66	-304.86	42.84	-304.98	0.00	0.00	0.00
2,100.00	13.00	172.00	2,066.10	-327.13	45.98	-327.26	0.00	0.00	0.00
2,200.00	13.00	172.00	2,163.54	-349.41	49.11	-349.55	0.00	0.00	0.00
2,300.00	13.00	172.00	2,260.97	-371.69	52.24	-371.83	0.00	0.00	0.00
2,400.00	13.00	172.00	2,358.41	-393.96	55.37	-394.12	0.00	0.00	0.00
2,500.00	13.00	172.00	2,455.85	-416.24	58.50	-416.40	0.00	0.00	0.00
2,600.00	13.00	172.00	2,553.28	-438.51	61.63	-438.68	0.00	0.00	0.00
2,700.00	13.00	172.00	2,650.72	-460.79	64.76	-460.97	0.00	0.00	0.00
2,800.00	13.00	172.00	2,748.16	-483.07	67.89	-483.25	0.00	0.00	0.00
2,900.00	13.00	172.00	2,845.59	-505.34	71.02	-505.54	0.00	0.00	0.00
3,000.00	13.00	172.00	2,943.03	-527.62	74.15	-527.82	0.00	0.00	0.00
3,100.00	13.00	172.00	3,040.47	-549.90	77.28	-550.11	0.00	0.00	0.00
3,200.00	13.00	172.00	3,137.91	-572.17	80.41	-572.39	0.00	0.00	0.00
3,300.00	13.00	172.00	3,235.34	-594.45	83.54	-594.68	0.00	0.00	0.00
3,400.00	13.00	172.00	3,332.78	-616.72	86.67	-616.96	0.00	0.00	0.00
3,500.00	13.00	172.00	3,430.22	-639.00	89.81	-639.25	0.00	0.00	0.00
3,600.00	13.00	172.00	3,527.65	-661.28	92.94	-661.53	0.00	0.00	0.00
3,700.00	13.00	172.00	3,625.09	-683.55	96.07	-683.82	0.00	0.00	0.00
3,800.00	13.00	172.00	3,722.53	-705.83	99.20	-706.10	0.00	0.00	0.00
3,871.67	13.00	172.00	3,792.36	-721.79	101.44	-722.07	0.00	0.00	0.00
Begin Drop @ 3871.67ft									
3,900.00	12.43	172.00	3,820.00	-727.97	102.31	-728.25	2.00	-2.00	0.00
4,000.00	10.43	172.00	3,918.01	-747.60	105.07	-747.89	2.00	-2.00	0.00
4,100.00	8.43	172.00	4,016.65	-763.83	107.35	-764.12	2.00	-2.00	0.00
4,200.00	6.43	172.00	4,115.80	-776.64	109.15	-776.94	2.00	-2.00	0.00
4,300.00	4.43	172.00	4,215.35	-786.02	110.47	-786.32	2.00	-2.00	0.00
4,400.00	2.43	172.00	4,315.17	-791.95	111.30	-792.25	2.00	-2.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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Well:	WAGNER 1N-W10HZ	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	0.43	172.00	4,415.13	-794.42	111.65	-794.73	2.00	-2.00	0.00
4,521.67	0.00	0.00	4,436.80	-794.50	111.66	-794.81	2.00	-2.00	0.00
End Drop @ 4521.67ft									
4,600.00	0.00	0.00	4,515.13	-794.50	111.66	-794.81	0.00	0.00	0.00
4,670.87	0.00	0.00	4,586.00	-794.50	111.66	-794.81	0.00	0.00	0.00
Sussex									
4,700.00	0.00	0.00	4,615.13	-794.50	111.66	-794.81	0.00	0.00	0.00
4,800.00	0.00	0.00	4,715.13	-794.50	111.66	-794.81	0.00	0.00	0.00
4,900.00	0.00	0.00	4,815.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,000.00	0.00	0.00	4,915.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,100.00	0.00	0.00	5,015.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,200.00	0.00	0.00	5,115.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,300.00	0.00	0.00	5,215.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,400.00	0.00	0.00	5,315.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,500.00	0.00	0.00	5,415.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,600.00	0.00	0.00	5,515.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,700.00	0.00	0.00	5,615.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,800.00	0.00	0.00	5,715.13	-794.50	111.66	-794.81	0.00	0.00	0.00
5,900.00	0.00	0.00	5,815.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,000.00	0.00	0.00	5,915.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,100.00	0.00	0.00	6,015.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,200.00	0.00	0.00	6,115.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,300.00	0.00	0.00	6,215.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,400.00	0.00	0.00	6,315.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,500.00	0.00	0.00	6,415.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,600.00	0.00	0.00	6,515.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,700.00	0.00	0.00	6,615.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,800.00	0.00	0.00	6,715.13	-794.50	111.66	-794.81	0.00	0.00	0.00
6,832.26	0.00	0.00	6,747.39	-794.50	111.66	-794.81	0.00	0.00	0.00
KOP @ 6832.26ft									
6,900.00	6.10	359.84	6,815.00	-790.90	111.65	-791.21	9.00	9.00	0.00
7,000.00	15.10	359.84	6,913.19	-772.53	111.60	-772.84	9.00	9.00	0.00
7,100.00	24.10	359.84	7,007.31	-739.03	111.50	-739.33	9.00	9.00	0.00
7,200.00	33.10	359.84	7,095.02	-691.21	111.37	-691.52	9.00	9.00	0.00
7,300.00	42.10	359.84	7,174.17	-630.26	111.19	-630.57	9.00	9.00	0.00
7,353.04	46.87	359.84	7,212.00	-593.11	111.09	-593.41	9.00	9.00	0.00
Sharon Springs									
7,387.71	49.99	359.84	7,235.00	-567.17	111.01	-567.48	9.00	9.00	0.00
Niobrara Top									
7,400.00	51.10	359.84	7,242.81	-557.68	110.99	-557.99	9.00	9.00	0.00
DLS = 9°/100'									
7,500.00	60.10	359.84	7,299.25	-475.26	110.75	-475.57	9.00	9.00	0.00
7,600.00	69.10	359.84	7,342.11	-385.02	110.50	-385.33	9.00	9.00	0.00
7,700.00	78.10	359.84	7,370.32	-289.19	110.22	-289.50	9.00	9.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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 1N-W10HZ	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)
7,711.04	79.09	359.84	7,372.50	-278.37	110.19	-278.67	9.00	9.00	0.00
Niobrara B Bench									
7,800.00	87.10	359.84	7,383.19	-190.13	109.94	-190.43	9.00	9.00	0.00
7,831.69	89.95	359.84	7,384.00	-158.45	109.85	-158.76	9.00	9.00	0.00
End Build @ 7831.69ft - Top of Production									
7,900.00	89.95	359.84	7,384.07	-90.14	109.66	-90.45	0.00	0.00	0.00
8,000.00	89.95	359.84	7,384.16	9.86	109.37	9.55	0.00	0.00	0.00
8,100.00	89.95	359.84	7,384.24	109.86	109.09	109.55	0.00	0.00	0.00
8,200.00	89.95	359.84	7,384.33	209.86	108.80	209.55	0.00	0.00	0.00
8,300.00	89.95	359.84	7,384.42	309.86	108.52	309.55	0.00	0.00	0.00
8,400.00	89.95	359.84	7,384.51	409.85	108.23	409.55	0.00	0.00	0.00
8,500.00	89.95	359.84	7,384.60	509.85	107.95	509.55	0.00	0.00	0.00
8,600.00	89.95	359.84	7,384.69	609.85	107.66	609.55	0.00	0.00	0.00
8,700.00	89.95	359.84	7,384.78	709.85	107.38	709.55	0.00	0.00	0.00
8,800.00	89.95	359.84	7,384.87	809.85	107.10	809.55	0.00	0.00	0.00
8,900.00	89.95	359.84	7,384.96	909.85	106.81	909.55	0.00	0.00	0.00
9,000.00	89.95	359.84	7,385.05	1,009.85	106.53	1,009.55	0.00	0.00	0.00
9,100.00	89.95	359.84	7,385.14	1,109.85	106.24	1,109.55	0.00	0.00	0.00
9,200.00	89.95	359.84	7,385.23	1,209.85	105.96	1,209.55	0.00	0.00	0.00
9,300.00	89.95	359.84	7,385.32	1,309.85	105.67	1,309.55	0.00	0.00	0.00
9,400.00	89.95	359.84	7,385.41	1,409.85	105.39	1,409.55	0.00	0.00	0.00
9,500.00	89.95	359.84	7,385.50	1,509.85	105.10	1,509.55	0.00	0.00	0.00
9,600.00	89.95	359.84	7,385.58	1,609.85	104.82	1,609.55	0.00	0.00	0.00
9,700.00	89.95	359.84	7,385.67	1,709.85	104.53	1,709.55	0.00	0.00	0.00
9,800.00	89.95	359.84	7,385.76	1,809.85	104.25	1,809.55	0.00	0.00	0.00
9,900.00	89.95	359.84	7,385.85	1,909.85	103.97	1,909.55	0.00	0.00	0.00
10,000.00	89.95	359.84	7,385.94	2,009.85	103.68	2,009.55	0.00	0.00	0.00
10,100.00	89.95	359.84	7,386.03	2,109.85	103.40	2,109.55	0.00	0.00	0.00
10,200.00	89.95	359.84	7,386.12	2,209.85	103.11	2,209.55	0.00	0.00	0.00
10,300.00	89.95	359.84	7,386.21	2,309.85	102.83	2,309.55	0.00	0.00	0.00
10,400.00	89.95	359.84	7,386.30	2,409.85	102.54	2,409.55	0.00	0.00	0.00
10,500.00	89.95	359.84	7,386.39	2,509.85	102.26	2,509.55	0.00	0.00	0.00
10,600.00	89.95	359.84	7,386.48	2,609.85	101.97	2,609.55	0.00	0.00	0.00
10,700.00	89.95	359.84	7,386.57	2,709.84	101.69	2,709.55	0.00	0.00	0.00
10,800.00	89.95	359.84	7,386.66	2,809.84	101.40	2,809.55	0.00	0.00	0.00
10,900.00	89.95	359.84	7,386.75	2,909.84	101.12	2,909.55	0.00	0.00	0.00
11,000.00	89.95	359.84	7,386.84	3,009.84	100.84	3,009.55	0.00	0.00	0.00
11,100.00	89.95	359.84	7,386.93	3,109.84	100.55	3,109.55	0.00	0.00	0.00
11,200.00	89.95	359.84	7,387.01	3,209.84	100.27	3,209.55	0.00	0.00	0.00
11,300.00	89.95	359.84	7,387.10	3,309.84	99.98	3,309.55	0.00	0.00	0.00
11,400.00	89.95	359.84	7,387.19	3,409.84	99.70	3,409.55	0.00	0.00	0.00
11,500.00	89.95	359.84	7,387.28	3,509.84	99.41	3,509.55	0.00	0.00	0.00
11,600.00	89.95	359.84	7,387.37	3,609.84	99.13	3,609.55	0.00	0.00	0.00
11,700.00	89.95	359.84	7,387.46	3,709.84	98.84	3,709.55	0.00	0.00	0.00

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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 1N-W10HZ	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)
11,800.00	89.95	359.84	7,387.55	3,809.84	98.56	3,809.55	0.00	0.00	0.00
11,900.00	89.95	359.84	7,387.64	3,909.84	98.27	3,909.55	0.00	0.00	0.00
12,000.00	89.95	359.84	7,387.73	4,009.84	97.99	4,009.55	0.00	0.00	0.00
12,100.00	89.95	359.84	7,387.82	4,109.84	97.71	4,109.55	0.00	0.00	0.00
12,200.00	89.95	359.84	7,387.91	4,209.84	97.42	4,209.55	0.00	0.00	0.00
12,300.00	89.95	359.84	7,388.00	4,309.84	97.14	4,309.55	0.00	0.00	0.00
12,400.00	89.95	359.84	7,388.09	4,409.84	96.85	4,409.55	0.00	0.00	0.00
12,500.00	89.95	359.84	7,388.18	4,509.84	96.57	4,509.55	0.00	0.00	0.00
12,600.00	89.95	359.84	7,388.27	4,609.84	96.28	4,609.55	0.00	0.00	0.00
12,700.00	89.95	359.84	7,388.36	4,709.84	96.00	4,709.55	0.00	0.00	0.00
12,800.00	89.95	359.84	7,388.44	4,809.84	95.71	4,809.55	0.00	0.00	0.00
12,900.00	89.95	359.84	7,388.53	4,909.83	95.43	4,909.55	0.00	0.00	0.00
13,000.00	89.95	359.84	7,388.62	5,009.83	95.14	5,009.55	0.00	0.00	0.00
13,100.00	89.95	359.84	7,388.71	5,109.83	94.86	5,109.55	0.00	0.00	0.00
13,200.00	89.95	359.84	7,388.80	5,209.83	94.58	5,209.55	0.00	0.00	0.00
13,300.00	89.95	359.84	7,388.89	5,309.83	94.29	5,309.55	0.00	0.00	0.00
13,400.00	89.95	359.84	7,388.98	5,409.83	94.01	5,409.55	0.00	0.00	0.00
13,500.00	89.95	359.84	7,389.07	5,509.83	93.72	5,509.55	0.00	0.00	0.00
13,600.00	89.95	359.84	7,389.16	5,609.83	93.44	5,609.55	0.00	0.00	0.00
13,700.00	89.95	359.84	7,389.25	5,709.83	93.15	5,709.55	0.00	0.00	0.00
13,800.00	89.95	359.84	7,389.34	5,809.83	92.87	5,809.55	0.00	0.00	0.00
13,900.00	89.95	359.84	7,389.43	5,909.83	92.58	5,909.55	0.00	0.00	0.00
14,000.00	89.95	359.84	7,389.52	6,009.83	92.30	6,009.55	0.00	0.00	0.00
14,100.00	89.95	359.84	7,389.61	6,109.83	92.02	6,109.55	0.00	0.00	0.00
14,200.00	89.95	359.84	7,389.70	6,209.83	91.73	6,209.55	0.00	0.00	0.00
14,300.00	89.95	359.84	7,389.79	6,309.83	91.45	6,309.55	0.00	0.00	0.00
14,400.00	89.95	359.84	7,389.87	6,409.83	91.16	6,409.55	0.00	0.00	0.00
14,500.00	89.95	359.84	7,389.96	6,509.83	90.88	6,509.55	0.00	0.00	0.00
14,600.00	89.95	359.84	7,390.05	6,609.83	90.59	6,609.55	0.00	0.00	0.00
14,700.00	89.95	359.84	7,390.14	6,709.83	90.31	6,709.55	0.00	0.00	0.00
14,800.00	89.95	359.84	7,390.23	6,809.83	90.02	6,809.55	0.00	0.00	0.00
14,900.00	89.95	359.84	7,390.32	6,909.83	89.74	6,909.55	0.00	0.00	0.00
15,000.00	89.95	359.84	7,390.41	7,009.83	89.45	7,009.55	0.00	0.00	0.00
15,100.00	89.95	359.84	7,390.50	7,109.83	89.17	7,109.55	0.00	0.00	0.00
15,200.00	89.95	359.84	7,390.59	7,209.82	88.89	7,209.55	0.00	0.00	0.00
15,300.00	89.95	359.84	7,390.68	7,309.82	88.60	7,309.55	0.00	0.00	0.00
15,400.00	89.95	359.84	7,390.77	7,409.82	88.32	7,409.55	0.00	0.00	0.00
15,500.00	89.95	359.84	7,390.86	7,509.82	88.03	7,509.55	0.00	0.00	0.00
15,600.00	89.95	359.84	7,390.95	7,609.82	87.75	7,609.55	0.00	0.00	0.00
15,659.78	89.95	359.84	7,391.00	7,669.60	87.58	7,669.33	0.00	0.00	0.00

TD Well @ 15659.78ft

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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 1N-W10HZ	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
1N-R67W-Sec. 22_Secti - plan misses target center by 2154.52usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	0.00	-1,034.77	-1,889.76	14,540,074.78	1,674,915.79	40.036572	-104.876746
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		
WAGNER 1N-W10HZ_S - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	14,541,112.31	1,676,804.03	40.039414	-104.869994
1N-R67W-Sec. 15_Secti - plan misses target center by 14.93usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	0.00	14.93	0.00	14,541,127.24	1,676,804.01	40.039455	-104.869994
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 1N-W10HZ_F - plan hits target center - Polygon	0.00	0.00	0.00	0.00	0.00	14,541,112.31	1,676,804.03	40.039414	-104.869994
Point 1		0.00	7,728.39	281.95		14,548,841.10	1,677,074.70		
Point 2		0.00	6,867.58	284.09		14,547,980.30	1,677,078.10		
Point 3		0.00	5,560.17	287.88		14,546,672.90	1,677,083.80		
Point 4		0.00	4,251.37	291.57		14,545,364.10	1,677,089.40		
Point 5		0.00	2,923.96	295.13		14,544,036.70	1,677,094.90		
Point 6		0.00	1,606.95	302.31		14,542,719.70	1,677,104.00		
Point 7		0.00	290.05	301.59		14,541,402.80	1,677,105.20		
Point 8		0.00	-1,026.75	300.97		14,540,086.00	1,677,106.50		
Point 9		0.00	-1,885.55	302.41		14,539,227.20	1,677,109.20		
Point 10		0.00	-1,886.77	-100.19		14,539,225.40	1,676,706.60		
Point 11		0.00	-1,028.26	-102.94		14,540,083.90	1,676,702.60		
Point 12		0.00	288.64	-105.71		14,541,400.80	1,676,697.90		
Point 13		0.00	1,605.55	-108.49		14,542,717.70	1,676,693.20		
Point 14		0.00	2,922.56	-113.57		14,544,034.70	1,676,686.20		
Point 15		0.00	4,247.96	-116.73		14,545,360.10	1,676,681.10		
Point 16		0.00	5,557.57	-119.82		14,546,669.70	1,676,676.10		
Point 17		0.00	6,867.38	-123.21		14,547,979.50	1,676,670.80		
Point 18		0.00	7,728.18	-124.65		14,548,840.30	1,676,668.10		
Point 19		0.00	7,728.39	281.95		14,548,841.10	1,677,074.70		
WAGNER 1N-W10HZ_F - plan misses target center by 176.70usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-157.67	79.77	14,540,954.75	1,676,884.03	40.038981	-104.869709
1N-R67W-Sec. 10_Secti - plan misses target center by 7331.47usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Polygon	0.00	0.00	-95.00	7,157.30	-1,585.68	14,548,267.29	1,675,207.90	40.059069	-104.875661
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		

Anadarko

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well WAGNER 1N-W10HZ
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 1N-W10HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Permit Rev-1	Database:	PLANNING

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 1N-W10HZ_E	0.00	0.00	7,391.00	7,669.60	87.58	14,548,782.03	1,676,880.41	40.060476	-104.869681
- 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	
7,831.69	7,384.00	Top of Production	5-1/2	7-7/8	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,364.04	1,349.00	Fox Hills			
4,670.87	4,586.00	Sussex			
7,353.04	7,212.00	Sharon Springs			
7,387.71	7,235.00	Niobrara Top			
7,711.04	7,372.50	Niobrara B Bench			

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	
1067	1059	-97	14	End Nudge @ 1066.67ft	
3872	3792	-722	101	Begin Drop @ 3871.67ft	
4522	4437	-795	112	End Drop @ 4521.67ft	
6832	6747	-795	112	KOP @ 6832.26ft	
7400	7243	-558	111	DLS = 9°/100'	
7832	7384	-158	110	End Build @ 7831.69ft	
15,660	7391	7670	88	TD Well @ 15659.78ft	

Checked By: _____ Approved By: _____ Date: _____