



Archer

PDC Energy, Inc.
Project: Weld Co., CO
Site: Sec.13-T4N-R67W
Well: Stroh 13G-323
Wellbore: Wellbore #1
Design: Design #2
Lat: 40° 18' 39.708 N
Long: 104° 50' 35.088 W
Pad GL: 4805.00 KB:
Well @ 4818.00usft

PROJECT DETAILS: Weld Co., CO

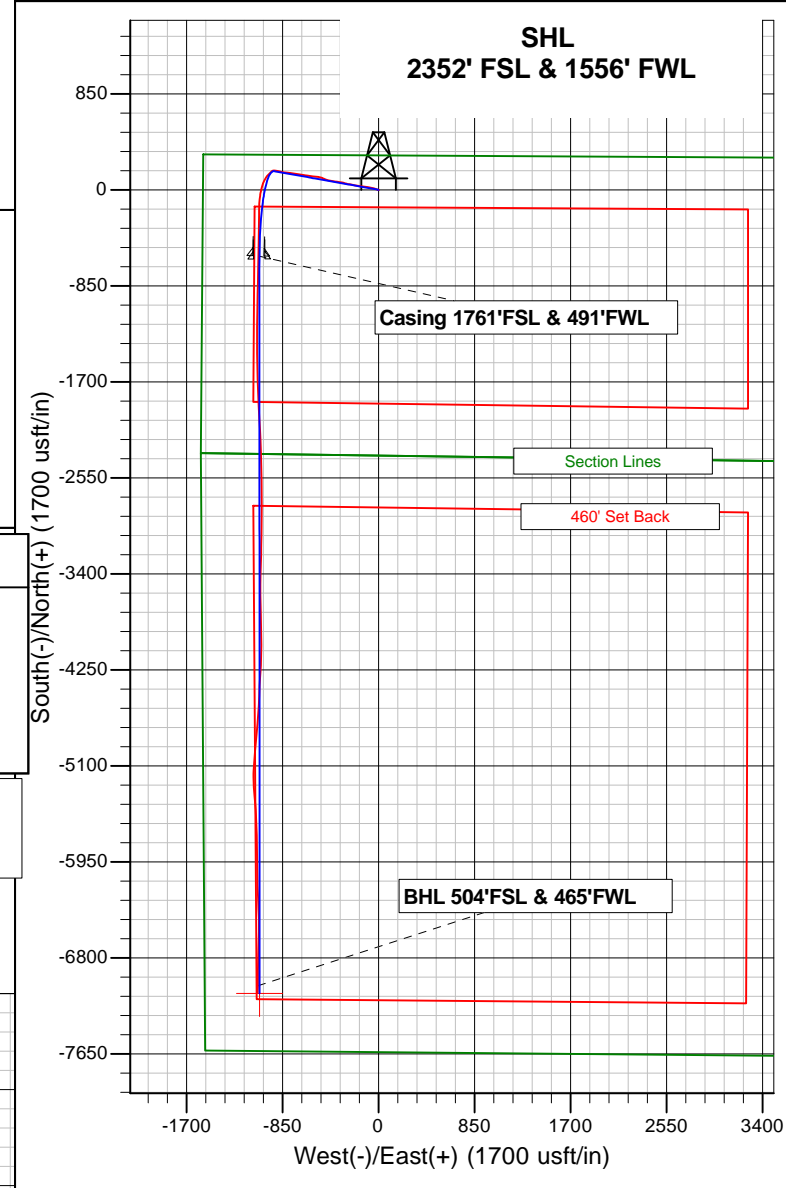
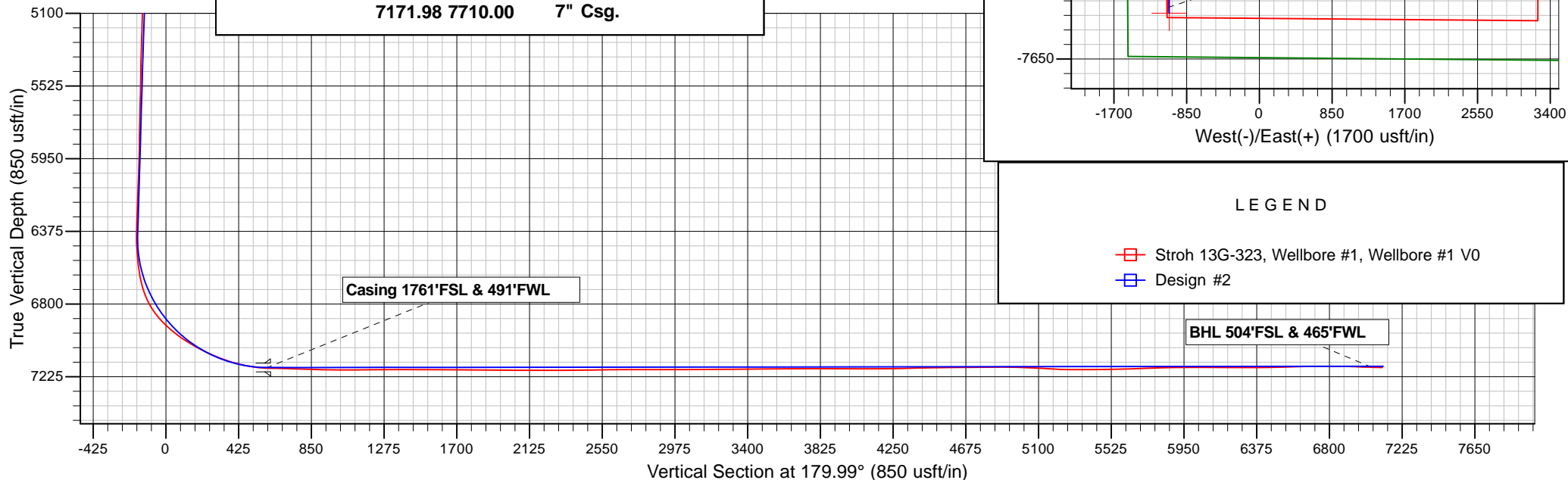
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level

Projected Bottom Hole Location
14240.00'MD 7171.96'TVD 7109.67'S & 1069.81'W OF SHL
88.10 degree Incl @ 180.30 degree AZM

CASING DETAILS

TVD	MD	Name
7171.98	7710.00	7" Csg.



LEGEND

- Stroh 13G-323, Wellbore #1, Wellbore #1 V0
- Design #2



PDC Energy, Inc.

**Weld Co., CO
Sec.13-T4N-R67W
Stroh 13G-323**

Wellbore #1

Survey: Survey #1

Standard Survey Report

18 April, 2015

Archer

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Stroh 13G-323
Project:	Weld Co., CO	TVD Reference:	Well @ 4818.00usft
Site:	Sec.13-T4N-R67W	MD Reference:	Well @ 4818.00usft
Well:	Stroh 13G-323	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

Project	Weld Co., CO		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec.13-T4N-R67W			
Site Position:		Northing:	1,356,827.557 usft	Latitude:	40° 18' 39.708 N
From:	Lat/Long	Easting:	3,183,166.781 usft	Longitude:	104° 50' 35.484 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.42 °

Well	Stroh 13G-323					
Well Position	+N/-S	0.00 usft	Northing:	1,356,827.780 usft	Latitude:	40° 18' 39.708 N
	+E/-W	0.00 usft	Easting:	3,183,197.460 usft	Longitude:	104° 50' 35.088 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,805.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	03/10/15	8.40	66.84	52,683

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.00	

Survey Program	Date	04/18/15			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
76.00	14,240.00	Survey #1 (Wellbore #1)	MWD	MWD v3:standard declination	

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	
First Archer Survey										
76.00	0.40	356.50	76.00	0.26	-0.02	-0.26	0.53	0.53	0.00	
170.00	0.30	7.20	170.00	0.84	-0.01	-0.84	0.13	-0.11	11.38	
263.00	0.30	131.40	263.00	0.92	0.21	-0.92	0.57	0.00	133.55	
356.00	0.40	183.40	356.00	0.43	0.37	-0.43	0.34	0.11	55.91	
449.00	0.60	220.60	448.99	-0.26	0.04	0.26	0.40	0.22	40.00	
542.00	1.20	257.60	541.98	-0.84	-1.23	0.84	0.87	0.65	39.78	
635.00	2.20	284.70	634.94	-0.60	-3.91	0.60	1.35	1.08	29.14	
729.00	3.30	291.80	728.83	0.87	-8.17	-0.87	1.22	1.17	7.55	
822.00	4.60	292.80	821.61	3.31	-14.09	-3.31	1.40	1.40	1.08	
879.00	4.50	292.60	878.43	5.05	-18.26	-5.05	0.18	-0.18	-0.35	
1,008.00	4.80	292.90	1,007.00	9.10	-27.91	-9.10	0.23	0.23	0.23	

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Stroh 13G-323
Project:	Weld Co., CO	TVD Reference:	Well @ 4818.00usft
Site:	Sec.13-T4N-R67W	MD Reference:	Well @ 4818.00usft
Well:	Stroh 13G-323	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

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)	
1,101.00	6.70	284.00	1,099.53	11.92	-36.76	-11.92	2.25	2.04	-9.57	
1,194.00	8.50	280.20	1,191.71	14.45	-48.79	-14.45	2.01	1.94	-4.09	
1,288.00	9.10	282.40	1,284.61	17.28	-62.88	-17.28	0.73	0.64	2.34	
1,381.00	10.70	282.60	1,376.22	20.74	-78.49	-20.74	1.72	1.72	0.22	
1,474.00	9.30	273.50	1,467.81	23.08	-94.42	-23.08	2.27	-1.51	-9.78	
1,567.00	9.80	280.20	1,559.52	24.94	-109.71	-24.94	1.31	0.54	7.20	
1,660.00	10.50	277.90	1,651.07	27.51	-125.89	-27.51	0.87	0.75	-2.47	
1,753.00	10.30	273.90	1,742.54	29.24	-142.58	-29.24	0.81	-0.22	-4.30	
1,847.00	9.70	278.10	1,835.11	30.93	-158.81	-30.93	1.00	-0.64	4.47	
1,940.00	10.20	281.50	1,926.71	33.67	-174.63	-33.67	0.83	0.54	3.66	
2,030.00	10.80	284.10	2,015.21	37.32	-190.62	-37.32	0.85	0.67	2.89	
2,119.00	10.50	279.40	2,102.68	40.67	-206.71	-40.67	1.03	-0.34	-5.28	
2,209.00	9.90	274.70	2,191.26	42.65	-222.51	-42.65	1.14	-0.67	-5.22	
2,299.00	10.40	284.90	2,279.85	45.37	-238.07	-45.37	2.07	0.56	11.33	
2,389.00	9.70	279.20	2,368.47	48.67	-253.41	-48.67	1.35	-0.78	-6.33	
2,479.00	9.20	274.40	2,457.25	50.43	-268.07	-50.43	1.04	-0.56	-5.33	
2,569.00	9.50	288.10	2,546.07	53.29	-282.30	-53.29	2.49	0.33	15.22	
2,659.00	9.90	286.00	2,634.78	57.73	-296.80	-57.73	0.59	0.44	-2.33	
2,749.00	9.90	284.00	2,723.44	61.74	-311.74	-61.74	0.38	0.00	-2.22	
2,839.00	9.70	281.20	2,812.13	65.08	-326.69	-65.08	0.57	-0.22	-3.11	
2,928.00	9.10	278.50	2,899.93	67.58	-341.00	-67.58	0.84	-0.67	-3.03	
3,018.00	8.60	276.50	2,988.86	69.39	-354.73	-69.39	0.65	-0.56	-2.22	
3,108.00	9.50	279.40	3,077.74	71.37	-368.74	-71.37	1.12	1.00	3.22	
3,198.00	8.00	275.80	3,166.69	73.21	-382.30	-73.21	1.77	-1.67	-4.00	
3,288.00	8.90	283.50	3,255.72	75.47	-395.30	-75.47	1.60	1.00	8.56	
3,378.00	8.50	273.80	3,344.69	77.54	-408.71	-77.54	1.69	-0.44	-10.78	
3,468.00	9.90	279.40	3,433.53	79.24	-422.98	-79.24	1.84	1.56	6.22	
3,558.00	10.00	283.90	3,522.18	82.38	-438.20	-82.38	0.87	0.11	5.00	
3,648.00	10.70	283.30	3,610.71	86.18	-453.92	-86.18	0.79	0.78	-0.67	
3,738.00	10.20	295.20	3,699.23	91.50	-469.26	-91.50	2.46	-0.56	13.22	
3,828.00	10.80	294.20	3,787.72	98.35	-484.16	-98.35	0.70	0.67	-1.11	
3,918.00	10.70	288.40	3,876.15	104.44	-499.78	-104.44	1.21	-0.11	-6.44	
4,008.00	10.90	286.60	3,964.55	109.51	-515.86	-109.51	0.44	0.22	-2.00	
4,098.00	10.20	277.70	4,053.04	113.01	-531.91	-113.01	1.97	-0.78	-9.89	
4,188.00	9.10	275.00	4,141.76	114.70	-546.90	-114.70	1.32	-1.22	-3.00	
4,278.00	9.70	279.40	4,230.55	116.56	-561.47	-116.56	1.04	0.67	4.89	
4,368.00	9.10	278.00	4,319.34	118.79	-576.00	-118.79	0.71	-0.67	-1.56	
4,458.00	10.10	276.20	4,408.08	120.63	-590.89	-120.63	1.16	1.11	-2.00	
4,548.00	9.80	274.10	4,496.73	122.03	-606.38	-122.03	0.52	-0.33	-2.33	
4,638.00	9.00	283.80	4,585.53	124.25	-620.86	-124.25	1.97	-0.89	10.78	
4,727.00	9.20	278.90	4,673.41	127.02	-634.65	-127.02	0.90	0.22	-5.51	
4,817.00	10.10	277.00	4,762.13	129.09	-649.59	-129.09	1.06	1.00	-2.11	
4,907.00	9.30	276.10	4,850.85	130.83	-664.65	-130.83	0.90	-0.89	-1.00	
4,997.00	9.80	280.90	4,939.60	133.05	-679.40	-133.05	1.04	0.56	5.33	
5,087.00	8.50	278.40	5,028.45	135.47	-693.51	-135.47	1.51	-1.44	-2.78	
5,177.00	9.20	279.20	5,117.38	137.59	-707.19	-137.59	0.79	0.78	0.89	
5,267.00	10.60	280.00	5,206.04	140.18	-722.44	-140.18	1.56	1.56	0.89	
5,357.00	9.50	277.70	5,294.66	142.61	-737.96	-142.61	1.30	-1.22	-2.56	
5,447.00	10.30	277.80	5,383.32	144.70	-753.29	-144.70	0.89	0.89	0.11	
5,537.00	9.10	274.70	5,472.03	146.37	-768.35	-146.37	1.45	-1.33	-3.44	
5,627.00	10.10	280.20	5,560.77	148.35	-783.21	-148.35	1.51	1.11	6.11	
5,717.00	8.70	277.60	5,649.56	150.65	-797.73	-150.65	1.63	-1.56	-2.89	
5,807.00	9.20	276.80	5,738.46	152.40	-811.62	-152.40	0.57	0.56	-0.89	
5,897.00	9.80	278.40	5,827.23	154.37	-826.34	-154.37	0.73	0.67	1.78	

Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Stroh 13G-323
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Site:	Sec.13-T4N-R67W	MD Reference:	Well @ 4818.00usft
Well:	Stroh 13G-323	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

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)
5,987.00	10.10	274.40	5,915.87	156.10	-841.79	-156.10	0.84	0.33	-4.44
6,077.00	9.80	275.50	6,004.52	157.44	-857.28	-157.44	0.39	-0.33	1.22
6,167.00	9.50	287.20	6,093.26	160.37	-872.00	-160.37	2.20	-0.33	13.00
6,257.00	9.80	287.20	6,181.98	164.83	-886.41	-164.83	0.33	0.33	0.00
6,347.00	9.60	279.60	6,270.70	168.35	-901.13	-168.35	1.44	-0.22	-8.44
6,432.00	10.30	278.80	6,354.42	170.69	-915.63	-170.69	0.84	0.82	-0.94
6,477.00	9.70	271.60	6,398.74	171.41	-923.39	-171.41	3.08	-1.33	-16.00
6,521.00	9.10	260.00	6,442.15	170.91	-930.53	-170.91	4.51	-1.36	-26.36
6,566.00	8.40	248.00	6,486.63	169.06	-937.08	-169.06	4.33	-1.56	-26.67
6,611.00	9.60	235.60	6,531.08	165.71	-943.22	-165.71	5.05	2.67	-27.56
6,656.00	11.30	231.00	6,575.33	160.81	-949.75	-160.81	4.21	3.78	-10.22
6,701.00	13.50	228.10	6,619.28	154.53	-957.08	-154.53	5.08	4.89	-6.44
6,746.00	17.20	222.10	6,662.67	146.08	-965.46	-146.08	8.94	8.22	-13.33
6,791.00	20.90	220.50	6,705.20	135.04	-975.13	-135.04	8.30	8.22	-3.56
6,836.00	25.70	217.20	6,746.52	121.16	-986.25	-121.16	11.05	10.67	-7.33
6,881.00	30.20	213.40	6,786.26	103.92	-998.39	-103.92	10.75	10.00	-8.44
6,926.00	35.00	208.30	6,824.17	83.10	-1,010.75	-83.10	12.28	10.67	-11.33
6,971.00	39.00	202.30	6,860.11	58.61	-1,022.25	-58.61	11.97	8.89	-13.33
7,016.00	44.30	195.30	6,893.74	30.32	-1,031.78	-30.32	15.66	11.78	-15.56
7,061.00	47.80	192.60	6,924.97	-1.12	-1,039.56	1.12	8.90	7.78	-6.00
7,106.00	50.20	189.90	6,954.50	-34.42	-1,046.17	34.42	7.00	5.33	-6.00
7,151.00	53.10	187.30	6,982.42	-69.31	-1,051.43	69.31	7.88	6.44	-5.78
7,196.00	56.30	184.30	7,008.42	-105.84	-1,055.13	105.84	8.95	7.11	-6.67
7,241.00	59.10	181.70	7,032.47	-143.81	-1,057.10	143.81	7.91	6.22	-5.78
7,286.00	61.50	180.80	7,054.76	-182.89	-1,057.95	182.89	5.61	5.33	-2.00
7,331.00	63.70	180.60	7,075.47	-222.83	-1,058.44	222.83	4.90	4.89	-0.44
7,376.00	66.20	180.50	7,094.52	-263.60	-1,058.83	263.60	5.56	5.56	-0.22
7,421.00	68.50	181.30	7,111.85	-305.12	-1,059.48	305.12	5.37	5.11	1.78
7,466.00	71.20	181.10	7,127.35	-347.35	-1,060.37	347.35	6.01	6.00	-0.44
7,510.00	72.90	180.30	7,140.91	-389.20	-1,060.88	389.20	4.23	3.86	-1.82
7,555.00	75.80	180.10	7,153.05	-432.53	-1,061.03	432.53	6.46	6.44	-0.44
7,600.00	79.30	180.60	7,162.75	-476.46	-1,061.30	476.46	7.85	7.78	1.11
7,645.00	83.10	180.60	7,169.63	-520.92	-1,061.76	520.92	8.44	8.44	0.00
7,668.00	86.00	181.10	7,171.82	-543.81	-1,062.10	543.81	12.79	12.61	2.17
7,764.00	88.60	181.70	7,176.34	-639.67	-1,064.45	639.67	2.78	2.71	0.62
7,854.00	88.30	181.50	7,178.77	-729.60	-1,066.96	729.60	0.40	-0.33	-0.22
7,944.00	88.10	180.90	7,181.60	-819.54	-1,068.84	819.54	0.70	-0.22	-0.67
8,038.00	88.70	180.80	7,184.22	-913.49	-1,070.24	913.49	0.65	0.64	-0.11
8,131.00	89.30	181.40	7,185.85	-1,006.46	-1,072.02	1,006.46	0.91	0.65	0.65
8,224.00	90.90	180.80	7,185.68	-1,099.44	-1,073.81	1,099.44	1.84	1.72	-0.65
8,318.00	90.50	180.40	7,184.54	-1,193.42	-1,074.79	1,193.42	0.60	-0.43	-0.43
8,411.00	90.20	180.70	7,183.97	-1,286.42	-1,075.68	1,286.42	0.46	-0.32	0.32
8,505.00	90.20	180.20	7,183.64	-1,380.41	-1,076.42	1,380.41	0.53	0.00	-0.53
8,599.00	90.20	179.30	7,183.31	-1,474.41	-1,076.01	1,474.41	0.96	0.00	-0.96
8,692.00	89.10	177.90	7,183.88	-1,567.38	-1,073.74	1,567.38	1.91	-1.18	-1.51
8,786.00	89.20	178.20	7,185.27	-1,661.31	-1,070.54	1,661.31	0.34	0.11	0.32
8,879.00	89.80	178.60	7,186.09	-1,754.27	-1,067.95	1,754.27	0.78	0.65	0.43
8,972.00	89.60	177.30	7,186.57	-1,847.21	-1,064.62	1,847.21	1.41	-0.22	-1.40
9,066.00	90.20	177.20	7,186.74	-1,941.10	-1,060.11	1,941.10	0.65	0.64	-0.11
9,160.00	89.40	176.40	7,187.07	-2,034.95	-1,054.86	2,034.95	1.20	-0.85	-0.85
9,253.00	89.90	177.20	7,187.63	-2,127.81	-1,049.67	2,127.81	1.01	0.54	0.86
9,346.00	89.80	177.70	7,187.88	-2,220.71	-1,045.53	2,220.71	0.55	-0.11	0.54
9,440.00	90.20	178.40	7,187.88	-2,314.66	-1,042.34	2,314.66	0.86	0.43	0.74
9,534.00	90.30	178.60	7,187.47	-2,408.62	-1,039.87	2,408.62	0.24	0.11	0.21

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Project:	Weld Co., CO	TVD Reference:	Well @ 4818.00usft
Site:	Sec.13-T4N-R67W	MD Reference:	Well @ 4818.00usft
Well:	Stroh 13G-323	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

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)
9,627.00	91.40	178.60	7,186.09	-2,501.59	-1,037.60	2,501.59	1.18	1.18	0.00
9,721.00	90.70	179.50	7,184.36	-2,595.55	-1,036.04	2,595.55	1.21	-0.74	0.96
9,814.00	90.20	179.00	7,183.63	-2,688.54	-1,034.83	2,688.54	0.76	-0.54	-0.54
9,904.00	90.00	180.30	7,183.48	-2,778.54	-1,034.28	2,778.54	1.46	-0.22	1.44
9,994.00	89.70	180.60	7,183.71	-2,868.54	-1,034.98	2,868.54	0.47	-0.33	0.33
10,084.00	89.90	181.50	7,184.03	-2,958.52	-1,036.63	2,958.52	1.02	0.22	1.00
10,174.00	90.90	180.80	7,183.40	-3,048.50	-1,038.44	3,048.50	1.36	1.11	-0.78
10,263.00	89.90	179.90	7,182.78	-3,137.49	-1,038.98	3,137.49	1.51	-1.12	-1.01
10,353.00	90.80	182.10	7,182.23	-3,227.47	-1,040.55	3,227.47	2.64	1.00	2.44
10,442.00	90.00	181.50	7,181.61	-3,316.42	-1,043.35	3,316.42	1.12	-0.90	-0.67
10,532.00	90.50	181.20	7,181.21	-3,406.40	-1,045.47	3,406.40	0.65	0.56	-0.33
10,621.00	90.80	180.40	7,180.20	-3,495.38	-1,046.71	3,495.38	0.96	0.34	-0.90
10,710.00	90.50	180.30	7,179.19	-3,584.37	-1,047.26	3,584.37	0.36	-0.34	-0.11
10,800.00	90.20	178.30	7,178.64	-3,674.36	-1,046.16	3,674.36	2.25	-0.33	-2.22
10,889.00	89.90	177.70	7,178.57	-3,763.31	-1,043.05	3,763.31	0.75	-0.34	-0.67
10,979.00	90.10	178.70	7,178.57	-3,853.26	-1,040.22	3,853.26	1.13	0.22	1.11
11,069.00	89.50	179.20	7,178.88	-3,943.24	-1,038.57	3,943.24	0.87	-0.67	0.56
11,159.00	90.30	181.00	7,179.04	-4,033.24	-1,038.73	4,033.24	2.19	0.89	2.00
11,249.00	89.60	180.70	7,179.12	-4,123.23	-1,040.07	4,123.23	0.85	-0.78	-0.33
11,338.00	90.80	182.70	7,178.81	-4,212.18	-1,042.71	4,212.18	2.62	1.35	2.25
11,428.00	91.50	183.50	7,177.00	-4,302.03	-1,047.57	4,302.03	1.18	0.78	0.89
11,518.00	91.50	183.00	7,174.64	-4,391.86	-1,052.67	4,391.86	0.56	0.00	-0.56
11,608.00	90.80	182.80	7,172.84	-4,481.72	-1,057.23	4,481.72	0.81	-0.78	-0.22
11,698.00	90.60	182.80	7,171.74	-4,571.61	-1,061.62	4,571.61	0.22	-0.22	0.00
11,788.00	90.40	183.80	7,170.95	-4,661.45	-1,066.80	4,661.45	1.13	-0.22	1.11
11,878.00	90.40	184.60	7,170.32	-4,751.21	-1,073.39	4,751.21	0.89	0.00	0.89
11,968.00	90.50	185.40	7,169.62	-4,840.86	-1,081.24	4,840.86	0.90	0.11	0.89
12,058.00	89.40	185.90	7,169.70	-4,930.42	-1,090.10	4,930.42	1.34	-1.22	0.56
12,148.00	87.60	184.40	7,172.05	-5,020.02	-1,098.17	5,020.02	2.60	-2.00	-1.67
12,238.00	87.20	183.40	7,176.13	-5,109.72	-1,104.29	5,109.72	1.20	-0.44	-1.11
12,326.00	86.60	181.20	7,180.89	-5,197.52	-1,107.82	5,197.52	2.59	-0.68	-2.50
12,416.00	89.60	174.60	7,183.88	-5,287.35	-1,104.52	5,287.35	8.05	3.33	-7.33
12,505.00	90.30	175.70	7,183.96	-5,376.03	-1,096.99	5,376.03	1.46	0.79	1.24
12,595.00	91.30	176.80	7,182.70	-5,465.82	-1,091.11	5,465.82	1.65	1.11	1.22
12,685.00	90.90	176.80	7,180.97	-5,555.66	-1,086.08	5,555.66	0.44	-0.44	0.00
12,776.00	91.10	176.50	7,179.39	-5,646.50	-1,080.77	5,646.50	0.40	0.22	-0.33
12,866.00	92.70	179.30	7,176.40	-5,736.37	-1,077.47	5,736.37	3.58	1.78	3.11
12,955.00	91.70	180.60	7,172.98	-5,825.30	-1,077.39	5,825.30	1.84	-1.12	1.46
13,045.00	90.30	179.30	7,171.41	-5,915.29	-1,077.31	5,915.29	2.12	-1.56	-1.44
13,135.00	90.40	178.30	7,170.86	-6,005.26	-1,075.43	6,005.26	1.12	0.11	-1.11
13,225.00	89.50	178.20	7,170.94	-6,095.22	-1,072.68	6,095.22	1.01	-1.00	-0.11
13,315.00	89.80	177.90	7,171.49	-6,185.17	-1,069.62	6,185.17	0.47	0.33	-0.33
13,405.00	89.50	177.90	7,172.04	-6,275.11	-1,066.32	6,275.11	0.33	-0.33	0.00
13,495.00	90.60	178.20	7,171.96	-6,365.05	-1,063.26	6,365.05	1.27	1.22	0.33
13,585.00	90.50	178.60	7,171.10	-6,455.01	-1,060.75	6,455.01	0.46	-0.11	0.44
13,675.00	92.80	180.30	7,168.51	-6,544.96	-1,059.88	6,544.96	3.18	2.56	1.89
13,764.00	91.00	181.40	7,165.56	-6,633.90	-1,061.20	6,633.90	2.37	-2.02	1.24
13,854.00	90.20	182.00	7,164.62	-6,723.85	-1,063.87	6,723.85	1.11	-0.89	0.67
13,899.00	89.50	181.10	7,164.73	-6,768.83	-1,065.09	6,768.83	2.53	-1.56	-2.00
13,944.00	89.80	181.30	7,165.01	-6,813.82	-1,066.03	6,813.82	0.80	0.67	0.44
13,989.00	90.50	182.10	7,164.89	-6,858.80	-1,067.37	6,858.80	2.36	1.56	1.78
14,034.00	88.30	180.50	7,165.36	-6,903.78	-1,068.39	6,903.78	6.04	-4.89	-3.56
14,079.00	88.30	180.80	7,166.70	-6,948.76	-1,068.90	6,948.76	0.67	0.00	0.67
14,123.00	88.10	180.20	7,168.08	-6,992.74	-1,069.28	6,992.74	1.44	-0.45	-1.36



Company:	PDC Energy, Inc.	Local Co-ordinate Reference:	Well Stroh 13G-323
Project:	Weld Co., CO	TVD Reference:	Well @ 4818.00usft
Site:	Sec.13-T4N-R67W	MD Reference:	Well @ 4818.00usft
Well:	Stroh 13G-323	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDMDBBW

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)
PTB									
14,140.00	88.10	180.20	7,168.64	-7,009.73	-1,069.34	7,009.73	0.00	0.00	0.00
14,168.00	88.10	180.20	7,169.57	-7,037.71	-1,069.44	7,037.71	0.00	0.00	0.00
Last Archer Survey									
14,178.00	88.10	180.30	7,169.90	-7,047.71	-1,069.48	7,047.71	1.00	0.00	1.00
Stroh 13G-323 tgt									
14,240.00	88.10	180.30	7,171.96	-7,109.67	-1,069.81	7,109.67	0.00	0.00	0.00

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
76.00	76.00	0.26	-0.02	First Archer Survey
14,140.00	7,168.64	-7,009.73	-1,069.34	Last Archer Survey
14,178.00	7,169.90	-7,047.71	1,069.48	PTB

Date: