

30-025-43640



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

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Provide signature page for
directional survey

REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

REPORT SETUP INFORMATION

Projection System	NAD27 / TM New Mexico SP, Eastern Zone (3001), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Tranlam
Scale	0.999959	Report Generated	6/21/2017 at 2:13:12 PM
Convergence at slot	0.36° East	Database/Source file	WA_Midland/SD_WE_15_Federal_P9_No_5H_awp_263_-13942_Proj_13995_.xml

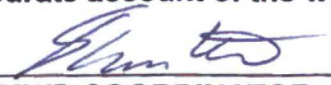
WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W
Facility Reference Pt			709124.00	377296.00	32°02'07.819"N	103°39'30.510"W
Field Reference Pt			152400.30	0.00	30°59'42.846"N	105°26'33.659"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig: Nabors X30 (KB) to Facility Vertical Datum	3189.60ft
Horizontal Reference Pt	Slot	Rig: Nabors X30 (KB) to Mean Sea Level	3189.60ft
Vertical Reference Pt	Rig: Nabors X30 (KB)	Rig: Nabors X30 (KB) to Ground Level at Slot (SD WE 15 Fed P9 No. 5H)	32.60ft
MD Reference Pt	Rig: Nabors X30 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.84°

We hereby certify that the surveys contained herein, are to the best of our knowledge a true and accurate account of the well.


MWD COORDINATOR



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SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

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Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00†	0.000	271.000	0.00	0.00	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W	0.00	
32.60	0.000	271.000	32.60	0.00	0.00	0.00	709124.00	377296.00	32°02'07.819"N	103°39'30.510"W	0.00	
263.00	1.000	271.000	262.99	0.04	0.04	-2.01	709121.99	377296.04	32°02'07.820"N	103°39'30.533"W	0.43	
358.00	1.300	278.000	357.97	0.21	0.20	-3.91	709120.09	377296.20	32°02'07.821"N	103°39'30.555"W	0.35	
449.00	1.300	294.000	448.95	0.78	0.76	-5.87	709118.13	377296.76	32°02'07.827"N	103°39'30.578"W	0.40	
540.00	1.200	301.000	539.92	1.70	1.67	-7.63	709116.37	377297.67	32°02'07.836"N	103°39'30.598"W	0.20	
632.00	1.300	295.000	631.90	2.64	2.61	-9.40	709114.60	377298.61	32°02'07.846"N	103°39'30.619"W	0.18	
672.00	1.500	299.000	671.89	3.09	3.06	-10.27	709113.73	377299.06	32°02'07.850"N	103°39'30.629"W	0.56	
710.00	1.340	296.000	709.88	3.52	3.49	-11.11	709112.89	377299.49	32°02'07.854"N	103°39'30.638"W	0.46	
802.00	1.440	305.550	801.85	4.67	4.64	-13.01	709110.99	377300.64	32°02'07.866"N	103°39'30.660"W	0.27	
893.00	1.510	306.450	892.82	6.05	6.01	-14.91	709109.09	377302.01	32°02'07.880"N	103°39'30.682"W	0.08	
984.00	0.570	317.270	983.81	7.10	7.06	-16.18	709107.82	377303.06	32°02'07.890"N	103°39'30.697"W	1.05	
1074.00	0.220	355.530	1073.80	7.61	7.56	-16.50	709107.50	377303.56	32°02'07.895"N	103°39'30.701"W	0.47	
1164.00	0.220	43.340	1163.80	7.90	7.86	-16.39	709107.61	377303.86	32°02'07.898"N	103°39'30.700"W	0.20	
1252.00	0.130	100.130	1251.80	8.01	7.96	-16.18	709107.82	377303.96	32°02'07.899"N	103°39'30.697"W	0.21	
1341.00	0.200	139.650	1340.80	7.87	7.83	-15.98	709108.02	377303.83	32°02'07.898"N	103°39'30.695"W	0.15	
1429.00	0.250	167.320	1428.80	7.57	7.52	-15.84	709108.16	377303.52	32°02'07.895"N	103°39'30.693"W	0.13	
1518.00	0.380	168.000	1517.80	7.09	7.04	-15.73	709108.27	377303.04	32°02'07.890"N	103°39'30.692"W	0.15	
1606.00	0.330	193.400	1605.80	6.56	6.51	-15.73	709108.27	377302.51	32°02'07.885"N	103°39'30.692"W	0.19	
1696.00	0.310	166.630	1695.80	6.07	6.02	-15.73	709108.27	377302.02	32°02'07.880"N	103°39'30.692"W	0.17	
1784.00	0.630	172.550	1783.79	5.36	5.31	-15.62	709108.38	377301.31	32°02'07.873"N	103°39'30.691"W	0.37	
1873.00	0.760	192.010	1872.79	4.29	4.25	-15.68	709108.32	377300.25	32°02'07.862"N	103°39'30.691"W	0.30	
1961.00	0.800	210.500	1960.78	3.19	3.15	-16.11	709107.89	377299.15	32°02'07.851"N	103°39'30.697"W	0.29	
2050.00	1.270	208.920	2049.77	1.80	1.75	-16.90	709107.10	377297.75	32°02'07.838"N	103°39'30.706"W	0.53	
2138.00	1.440	209.810	2137.74	-0.01	-0.06	-17.92	709106.08	377295.94	32°02'07.820"N	103°39'30.718"W	0.19	
2227.00	1.670	210.140	2226.71	-2.10	-2.15	-19.13	709104.87	377293.85	32°02'07.799"N	103°39'30.732"W	0.26	
2316.00	2.630	231.430	2315.65	-4.49	-4.55	-21.38	709102.62	377291.45	32°02'07.775"N	103°39'30.758"W	1.39	
2405.00	4.790	251.880	2404.46	-6.90	-6.98	-26.51	709097.49	377289.02	32°02'07.752"N	103°39'30.818"W	2.81	
2493.00	6.110	258.950	2492.06	-8.92	-9.02	-34.60	709089.41	377286.98	32°02'07.732"N	103°39'30.912"W	1.68	
2583.00	7.090	264.170	2581.46	-10.38	-10.50	-44.82	709079.18	377285.50	32°02'07.718"N	103°39'31.031"W	1.28	



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Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
2671.00	8.570	273.900	2668.64	-10.45	-10.61	-56.77	709067.23	377285.39	32°02'07.718"N	103°39'31.170"W	2.25	
2761.00	9.250	280.450	2757.56	-8.64	-8.84	-70.57	709053.43	377287.16	32°02'07.736"N	103°39'31.330"W	1.36	
2849.00	8.830	285.260	2844.47	-5.54	-5.78	-84.04	709039.96	377290.22	32°02'07.767"N	103°39'31.486"W	0.98	
2938.00	8.680	286.820	2932.43	-1.77	-2.04	-97.06	709026.94	377293.96	32°02'07.805"N	103°39'31.637"W	0.32	
3027.00	8.880	288.520	3020.39	2.40	2.09	-110.00	709014.00	377298.09	32°02'07.847"N	103°39'31.787"W	0.37	
3115.00	8.610	288.150	3107.36	6.64	6.30	-122.70	709001.30	377302.30	32°02'07.889"N	103°39'31.935"W	0.31	
3205.00	8.400	289.880	3196.37	11.01	10.63	-135.29	708988.72	377306.63	32°02'07.933"N	103°39'32.080"W	0.37	
3294.00	7.520	287.960	3284.52	15.05	14.64	-146.94	708977.07	377310.64	32°02'07.973"N	103°39'32.216"W	1.03	
3382.00	7.010	280.860	3371.81	17.87	17.43	-157.69	708966.31	377313.42	32°02'08.001"N	103°39'32.340"W	1.17	
3471.00	6.640	274.000	3460.18	19.28	18.81	-168.16	708955.85	377314.81	32°02'08.016"N	103°39'32.462"W	1.01	
3560.00	6.460	276.490	3548.60	20.23	19.73	-178.27	708945.74	377315.73	32°02'08.025"N	103°39'32.579"W	0.38	
3649.00	6.530	276.780	3637.03	21.42	20.90	-188.27	708935.74	377316.89	32°02'08.038"N	103°39'32.695"W	0.09	
3737.00	7.090	273.330	3724.41	22.36	21.80	-198.66	708925.35	377317.80	32°02'08.047"N	103°39'32.816"W	0.79	
3826.00	7.350	271.870	3812.70	22.89	22.31	-209.83	708914.18	377318.31	32°02'08.053"N	103°39'32.945"W	0.36	
3914.00	6.880	269.900	3900.02	23.10	22.48	-220.73	708903.28	377318.48	32°02'08.055"N	103°39'33.072"W	0.60	
4003.00	6.660	269.050	3988.40	23.03	22.39	-231.22	708892.79	377318.39	32°02'08.055"N	103°39'33.194"W	0.27	
4091.00	6.670	272.360	4075.81	23.19	22.51	-241.43	708882.58	377318.51	32°02'08.057"N	103°39'33.313"W	0.44	
4180.00	6.260	270.010	4164.24	23.43	22.73	-251.44	708872.57	377318.73	32°02'08.060"N	103°39'33.429"W	0.55	
4268.00	6.530	265.700	4251.70	23.08	22.35	-261.23	708862.78	377318.35	32°02'08.057"N	103°39'33.543"W	0.63	
4357.00	6.660	264.680	4340.11	22.25	21.49	-271.42	708852.59	377317.49	32°02'08.049"N	103°39'33.661"W	0.20	
4446.00	6.790	265.090	4428.50	21.35	20.56	-281.80	708842.21	377316.56	32°02'08.040"N	103°39'33.782"W	0.16	12 1/4 BHI MWD 710' - 4446'
4616.00	6.680	264.200	4597.32	19.55	18.71	-301.65	708822.37	377314.70	32°02'08.023"N	103°39'34.012"W	0.09	
4792.00	9.300	266.760	4771.60	17.78	16.87	-326.03	708797.98	377312.87	32°02'08.006"N	103°39'34.296"W	1.50	
4969.00	9.560	273.350	4946.21	17.91	16.92	-354.99	708769.03	377312.92	32°02'08.009"N	103°39'34.632"W	0.63	
5146.00	9.480	275.150	5120.78	20.16	19.08	-384.18	708739.84	377315.08	32°02'08.032"N	103°39'34.971"W	0.17	
5323.00	9.880	274.000	5295.25	22.61	21.45	-413.84	708710.17	377317.45	32°02'08.057"N	103°39'35.315"W	0.25	
5501.00	8.100	283.810	5471.07	26.74	25.51	-441.26	708682.76	377321.51	32°02'08.099"N	103°39'35.634"W	1.32	
5678.00	7.810	288.100	5646.37	33.52	32.22	-464.80	708659.22	377328.22	32°02'08.167"N	103°39'35.907"W	0.37	
5856.00	7.710	287.990	5822.74	41.03	39.67	-487.65	708636.37	377335.67	32°02'08.242"N	103°39'36.171"W	0.06	
6033.00	8.120	288.310	5998.05	48.69	47.26	-510.81	708613.21	377343.26	32°02'08.318"N	103°39'36.440"W	0.23	



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SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'
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Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
6209.00	8.240	284.060	6172.26	55.73	54.23	-534.85	708589.18	377350.23	32°02'08.389"N	103°39'36.719"W	0.35	
6386.00	7.960	280.470	6347.50	61.10	59.54	-559.20	708564.82	377355.54	32°02'08.443"N	103°39'37.001"W	0.33	
6563.00	7.830	278.790	6522.82	65.24	63.61	-583.17	708540.86	377359.61	32°02'08.485"N	103°39'37.279"W	0.15	
6740.00	7.660	277.180	6698.21	68.62	66.93	-606.79	708517.24	377362.92	32°02'08.519"N	103°39'37.553"W	0.16	
6917.00	7.620	273.070	6873.64	70.79	69.03	-630.21	708493.82	377365.03	32°02'08.541"N	103°39'37.825"W	0.31	
7095.00	7.740	272.170	7050.04	71.94	70.12	-653.97	708470.05	377366.11	32°02'08.553"N	103°39'38.101"W	0.10	
7272.00	7.080	269.870	7225.56	72.43	70.54	-676.79	708447.24	377366.54	32°02'08.559"N	103°39'38.366"W	0.41	
7449.00	6.520	270.340	7401.32	72.53	70.58	-697.75	708426.28	377366.57	32°02'08.561"N	103°39'38.610"W	0.32	
7626.00	5.950	268.800	7577.27	72.45	70.45	-716.97	708407.06	377366.44	32°02'08.561"N	103°39'38.833"W	0.34	
7803.00	5.420	264.240	7753.40	71.47	69.41	-734.46	708389.57	377365.41	32°02'08.551"N	103°39'39.036"W	0.39	
7980.00	4.960	268.220	7929.67	70.43	68.34	-750.43	708373.61	377364.33	32°02'08.542"N	103°39'39.222"W	0.33	
8068.00	3.490	276.960	8017.43	70.66	68.54	-756.89	708367.15	377364.54	32°02'08.544"N	103°39'39.297"W	1.82	
8157.00	2.940	275.080	8106.29	71.20	69.07	-761.85	708362.18	377365.07	32°02'08.550"N	103°39'39.355"W	0.63	
8245.00	2.680	261.820	8194.19	71.12	68.98	-766.13	708357.90	377364.98	32°02'08.549"N	103°39'39.404"W	0.79	
8333.00	2.540	262.080	8282.10	70.57	68.42	-770.10	708353.93	377364.42	32°02'08.544"N	103°39'39.450"W	0.16	
8405.00	2.430	262.620	8354.03	70.16	68.00	-773.20	708350.84	377364.00	32°02'08.540"N	103°39'39.486"W	0.16	
8493.00	1.720	262.730	8441.97	69.77	67.60	-776.36	708347.68	377363.59	32°02'08.536"N	103°39'39.523"W	0.81	
8581.00	6.470	19.370	8529.79	74.28	72.11	-776.02	708348.01	377368.11	32°02'08.581"N	103°39'39.519"W	8.41	
8669.00	13.450	19.170	8616.41	88.63	86.48	-771.01	708353.02	377382.47	32°02'08.722"N	103°39'39.460"W	7.93	
8758.00	19.800	16.350	8701.65	112.87	110.74	-763.36	708360.67	377406.74	32°02'08.962"N	103°39'39.369"W	7.19	
8847.00	22.950	9.310	8784.53	144.45	142.34	-756.31	708367.73	377438.34	32°02'09.274"N	103°39'39.285"W	4.56	
8935.00	29.570	8.690	8863.40	182.88	180.78	-750.24	708373.79	377476.77	32°02'09.654"N	103°39'39.212"W	7.53	
9023.00	39.070	5.400	8936.01	232.05	229.97	-744.34	708379.69	377525.96	32°02'10.141"N	103°39'39.139"W	11.00	
9112.00	51.270	356.400	8998.70	294.92	292.84	-743.88	708380.16	377588.83	32°02'10.763"N	103°39'39.130"W	15.44	
9200.00	65.350	353.250	9044.82	369.29	367.20	-750.77	708373.26	377663.18	32°02'11.499"N	103°39'39.204"W	16.28	
9289.00	80.790	354.970	9070.66	453.76	451.64	-759.43	708364.61	377747.62	32°02'12.335"N	103°39'39.299"W	17.45	
9379.00	90.150	355.600	9077.76	543.09	540.95	-766.79	708357.24	377836.93	32°02'13.220"N	103°39'39.378"W	10.42	
9467.00	91.910	357.580	9076.18	630.93	628.78	-772.02	708352.01	377924.75	32°02'14.089"N	103°39'39.432"W	3.01	
9556.00	92.030	358.300	9073.12	719.83	717.67	-775.22	708348.81	378013.63	32°02'14.969"N	103°39'39.463"W	0.82	
9644.00	93.050	357.980	9069.22	807.70	805.53	-778.07	708345.96	378101.50	32°02'15.838"N	103°39'39.490"W	1.21	



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SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'
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REFERENCE WELLPATH IDENTIFICATION

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Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD (ft)	Inclination [°]	Azimuth [°]	TVD (ft)	Vert Sect (ft)	North (ft)	East (ft)	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
9733.00	91.600	358.970	9065.61	896.60	894.42	-780.44	708343.59	378190.38	32°02'16.718"N	103°39'39.511"W	1.97	
9821.00	90.310	359.360	9064.14	984.58	982.40	-781.72	708342.31	378278.36	32°02'17.589"N	103°39'39.519"W	1.53	
9910.00	91.050	359.170	9063.08	1073.57	1071.38	-782.86	708341.17	378367.34	32°02'18.469"N	103°39'39.526"W	0.86	
9999.00	92.000	359.400	9060.72	1162.53	1160.35	-783.97	708340.06	378456.30	32°02'19.350"N	103°39'39.533"W	1.10	
10087.00	90.490	0.760	9058.80	1250.50	1248.32	-783.85	708340.18	378544.27	32°02'20.220"N	103°39'39.525"W	2.31	
10176.00	87.100	1.640	9060.68	1339.45	1337.27	-781.99	708342.05	378633.21	32°02'21.100"N	103°39'39.497"W	3.94	
10264.00	87.470	2.020	9064.84	1427.29	1425.12	-779.18	708344.85	378721.06	32°02'21.970"N	103°39'39.458"W	0.60	
10352.00	88.520	2.510	9067.92	1515.16	1513.00	-775.70	708348.33	378808.93	32°02'22.839"N	103°39'39.411"W	1.32	
10441.00	89.200	3.170	9069.69	1604.02	1601.87	-771.30	708352.74	378897.80	32°02'23.718"N	103°39'39.353"W	1.06	
10529.00	88.340	1.070	9071.58	1691.92	1689.78	-768.04	708355.99	378985.71	32°02'24.588"N	103°39'39.309"W	2.58	
10618.00	86.540	358.210	9075.56	1780.82	1778.68	-768.60	708355.43	379074.61	32°02'25.468"N	103°39'39.309"W	3.79	
10706.00	88.060	354.870	9079.71	1868.56	1866.41	-773.90	708350.13	379162.33	32°02'26.336"N	103°39'39.365"W	4.17	
10795.00	90.590	356.360	9080.75	1957.30	1955.13	-780.71	708343.33	379251.05	32°02'27.215"N	103°39'39.437"W	3.30	
10883.00	92.560	358.970	9078.33	2045.20	2043.01	-784.29	708339.74	379338.93	32°02'28.084"N	103°39'39.472"W	3.71	
10972.00	93.950	358.780	9073.28	2134.04	2131.85	-786.04	708338.00	379427.76	32°02'28.964"N	103°39'39.486"W	1.58	
11060.00	96.460	358.320	9065.30	2221.64	2219.45	-788.25	708335.78	379515.36	32°02'29.831"N	103°39'39.506"W	2.90	
11149.00	94.850	359.390	9056.53	2310.19	2308.00	-790.02	708334.01	379603.90	32°02'30.707"N	103°39'39.520"W	2.17	
11237.00	88.060	0.040	9054.30	2398.11	2395.92	-790.46	708333.58	379691.81	32°02'31.577"N	103°39'39.519"W	7.75	
11326.00	91.080	5.140	9054.96	2486.97	2484.78	-786.44	708337.60	379780.68	32°02'32.456"N	103°39'39.465"W	6.66	
11415.00	87.780	1.440	9055.85	2575.78	2573.60	-781.33	708342.70	379869.49	32°02'33.335"N	103°39'39.400"W	5.57	
11503.00	87.070	0.420	9059.80	2663.67	2661.50	-779.90	708344.13	379957.39	32°02'34.204"N	103°39'39.377"W	1.41	
11591.00	90.920	2.970	9061.35	2751.59	2749.43	-777.30	708346.73	380045.31	32°02'35.074"N	103°39'39.340"W	5.25	
11680.00	91.690	3.040	9059.32	2840.43	2838.28	-772.64	708351.40	380134.16	32°02'35.953"N	103°39'39.280"W	0.87	
11768.00	90.180	1.000	9057.88	2928.34	2926.21	-769.54	708354.50	380222.08	32°02'36.823"N	103°39'39.237"W	2.88	
11856.00	89.780	1.160	9057.91	3016.32	3014.19	-767.88	708356.16	380310.06	32°02'37.694"N	103°39'39.212"W	0.49	
11945.00	90.400	358.910	9057.77	3105.32	3103.18	-767.82	708356.21	380399.05	32°02'38.574"N	103°39'39.204"W	2.62	
12034.00	91.230	357.730	9056.51	3194.27	3192.13	-770.43	708353.60	380488.00	32°02'39.455"N	103°39'39.228"W	1.62	
12122.00	89.260	358.080	9056.13	3282.22	3280.07	-773.65	708350.39	380575.93	32°02'40.325"N	103°39'39.259"W	2.27	
12210.00	88.330	358.060	9057.98	3370.16	3368.00	-776.61	708347.42	380663.86	32°02'41.195"N	103°39'39.287"W	1.06	
12298.00	88.860	1.640	9060.14	3458.11	3455.96	-776.84	708347.19	380751.81	32°02'42.066"N	103°39'39.284"W	4.11	



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

WELLPATH DATA (140 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	DLS [°/100ft]	Comments
12387.00	91.420	2.400	9059.92	3547.04	3544.90	-773.70	708350.33	380840.74	32°02'42.946"N	103°39'39.241"W	3.00	
12475.00	90.220	1.700	9058.66	3634.97	3632.83	-770.56	708353.48	380928.87	32°02'43.816"N	103°39'39.198"W	1.58	
12564.00	89.140	0.330	9059.16	3723.94	3721.81	-768.98	708355.05	381017.65	32°02'44.696"N	103°39'39.173"W	1.96	
12653.00	89.850	0.270	9059.95	3812.93	3810.80	-768.51	708355.52	381106.64	32°02'45.577"N	103°39'39.161"W	0.80	
12742.00	91.420	0.430	9058.96	3901.92	3899.79	-767.97	708356.06	381195.63	32°02'46.457"N	103°39'39.149"W	1.77	
12831.00	93.080	0.950	9055.47	3990.84	3988.72	-766.90	708357.13	381284.54	32°02'47.337"N	103°39'39.130"W	1.95	
12919.00	91.420	0.260	9052.01	4078.76	4076.64	-765.97	708358.06	381372.46	32°02'48.207"N	103°39'39.113"W	2.04	
13008.00	92.710	1.960	9048.80	4167.68	4165.56	-764.25	708359.78	381461.38	32°02'49.087"N	103°39'39.086"W	2.40	
13096.00	91.850	359.570	9045.30	4255.59	4253.47	-763.08	708360.96	381549.29	32°02'49.957"N	103°39'39.066"W	2.88	
13185.00	92.560	359.310	9041.88	4344.52	4342.40	-763.95	708360.09	381638.22	32°02'50.837"N	103°39'39.070"W	0.85	
13273.00	92.740	358.380	9037.81	4432.41	4430.29	-765.72	708358.32	381726.10	32°02'51.707"N	103°39'39.084"W	1.08	
13362.00	90.740	357.640	9035.11	4521.32	4519.19	-768.81	708355.23	381815.00	32°02'52.587"N	103°39'39.113"W	2.40	
13450.00	90.770	356.530	9033.95	4609.21	4607.07	-773.28	708350.75	381902.87	32°02'53.456"N	103°39'39.159"W	1.26	
13539.00	92.860	356.740	9031.13	4698.02	4695.87	-778.50	708345.53	381991.66	32°02'54.335"N	103°39'39.213"W	2.36	
13627.00	94.910	356.840	9025.17	4785.69	4783.52	-783.42	708340.62	382079.32	32°02'55.203"N	103°39'39.264"W	2.33	
13715.00	92.060	357.880	9019.82	4873.43	4871.25	-787.46	708336.57	382167.05	32°02'56.072"N	103°39'39.305"W	3.45	
13804.00	92.250	357.880	9016.47	4962.32	4960.13	-790.75	708333.28	382255.92	32°02'56.951"N	103°39'39.336"W	0.21	
13892.00	94.040	358.110	9011.64	5050.14	5047.94	-793.83	708330.21	382343.72	32°02'57.820"N	103°39'39.366"W	2.05	
13942.00	94.720	358.250	9007.82	5099.97	5097.77	-795.41	708328.62	382393.55	32°02'58.314"N	103°39'39.381"W	1.39	3/4 BHI MWD 4616' - 13942'
13995.00	94.720	358.250	9003.46	5152.77	5150.56	-797.02	708327.01	382446.34	32°02'58.836"N	103°39'39.396"W	0.00	Projection to TD: 13995'



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
SD WE 15 Fed P9 No. 5H 1850'VS from LP	9040.00	2404.87	-780.52	708343.51	379700.77	32°02'31.665"N	103°39'39.402"W	point
SD WE 15 Fed P9 No. 5H BHL rev 3	9040.00	5149.22	-788.03	708336.00	382445.00	32°02'58.822"N	103°39'39.291"W	rectangle
SD WE 15 Fed P9 No. 5H 3100'VS from LP	9058.00	3657.87	-783.95	708340.08	380953.71	32°02'44.064"N	103°39'39.352"W	point

WELLPATH COMPOSITION - Ref Wellbore: SD WE 15 Fed P9 No. 5H AWB Ref Wellpath: SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.60	672.00	ISCWSA MWD, Rev. 4 (Standard)	Imported teledrift 263' - 672'	SD WE 15 Fed P9 No. 5H AWB
672.00	4446.00	BHI NaviTrak (Standard)	12 1/4 BHI MWD 710' - 4446'	SD WE 15 Fed P9 No. 5H AWB
4446.00	13942.00	BHI NaviTrak (Standard)	8 3/4 BHI MWD 4616' - 13942'	SD WE 15 Fed P9 No. 5H AWB
13942.00	13995.00	Blind Drilling (std)	Projection to bit	SD WE 15 Fed P9 No. 5H AWB



Actual Wellpath Report

SD WE 15 Federal P9 No. 5H awp 263' - 13942' Proj: 13995'

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REFERENCE WELLPATH IDENTIFICATION

Operator	Chevron U.S.A. Inc.	Slot	SD WE 15 Fed P9 No. 5H
Area	Lea County, NM	Well	SD WE 15 Federal P9 No. 5H
Field	Jennings / Upper BN SPRN Shale (Lea County, NM)	Wellbore	SD WE 15 Fed P9 No. 5H AWB
Facility	SD WE 15 Fed P9		

COMMENTS

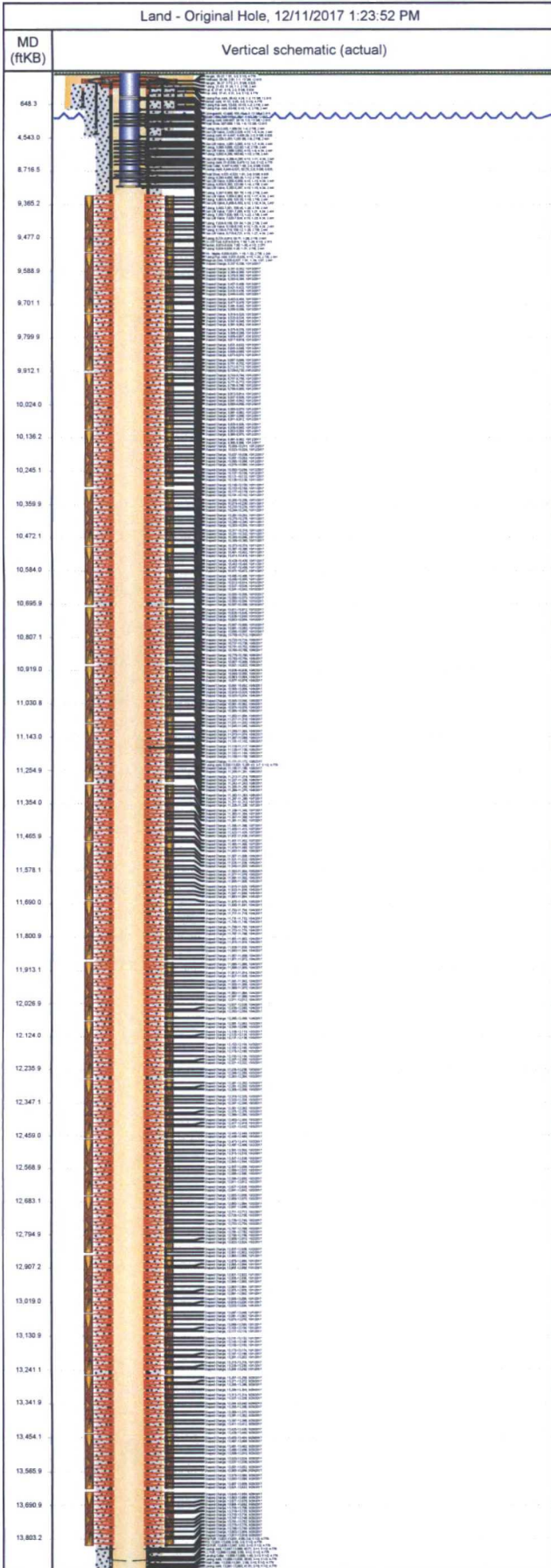
Wellpath general comments

Well: SD WE 15 Federal P9 No. 5H
Field: Jennings/Upper BN SPRN, Shale
Rig: Nabors X30
Location: Lea Co., NM
API: 30-025-43640-00
Latitude: 32° 02' 07.819" N
Longitude: 103° 39' 30.510" W
DF Elevation: 3189.6 feet
Elev. GL: 3157 feet
Proposed Direction: 359.84°
PBHL: 13995 feet
Duration: 04/24/2017-06/07/2017
FSE's: D. Hardeman
SO#: 8499552
12 1/4 BHI MWD 710' - 4446'
8 3/4 BHI MWD 4616' - 13942'
Projection to TD: 13995'



Wellbore Schematic

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent
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Job Details		
Job Category	Start Date	Rig/Unit End Date
Completion	8/18/2017	10/29/2017
Completion	10/30/2017	11/2/2017

Casing Strings					
Csg Des	OD (in)	Wt/Len (lb/ft)	Grade	Top Thread	Set Depth (MD) (ftKB)
Surface	13 3/8	54.50	J-55	ST&C	689
Intermediate Casing 1	9 5/8	40.00	L-80	LT&C	4,533
Production Casing	5 1/2	20.00	HCP110	TXPBTC	13,985

Tubing Strings			
Tubing set at 8,837.0ftKB on 11/1/2017 12:00			

Tubing Description		Run Date		String Length (ft)		Set Depth (MD) (ftKB)	
Tubing		11/1/2017		8,815.70		8,837.0	
Item Des	Jts	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Btm (ftKB)	
Tubing	1	2 7/8	6.50	L-80	31.24	52.5	
Tubing Pup Joint	1	2 7/8	6.50	L-80	10.10	62.6	
Tubing Pup Joint	1	2 7/8	6.50	L-80	6.10	68.7	
Tubing	61	2 7/8	6.50	L-80	1,956.54	2,025.3	
Gas Lift Valve	1	4.335			4.10	2,029.4	
Tubing	29	2 7/8	6.50	L-80	1,031.86	3,061.2	
Gas Lift Valve	1	4.335			4.10	3,065.3	
Tubing	18	2 7/8	6.50	L-80	622.60	3,687.9	
Gas Lift Valve	1	4.335			4.10	3,692.0	
Tubing	18	2 7/8	6.50	L-80	593.60	4,285.6	
Gas Lift Valve	1	4.335			4.10	4,289.7	
Tubing	17	2 7/8	6.50	L-80	565.26	4,855.0	
Gas Lift Valve	1	4.335			4.10	4,859.1	
Tubing	18	2 7/8	6.50	L-80	533.89	5,393.0	
Gas Lift Valve	1	4.335			4.10	5,397.1	
Tubing	17	2 7/8	6.50	L-80	561.78	5,958.9	
Gas Lift Valve	1	4.335			4.10	5,963.0	
Tubing	18	2 7/8	6.50	L-80	525.55	6,488.5	
Gas Lift Valve	1	4.335			4.10	6,492.6	
Tubing	17	2 7/8	6.50	L-80	558.45	7,051.1	
Gas Lift Valve	1	4.335			4.10	7,055.2	
Tubing	17	2 7/8	6.50	L-80	565.13	7,620.3	
Gas Lift Valve	1	4.335			4.10	7,624.4	
Tubing	18	2 7/8	6.50	L-80	531.84	8,156.2	
Gas Lift Valve	1	4.335			4.10	8,160.3	
Tubing	19	2 7/8	6.50	L-80	556.12	8,716.5	
Gas Lift Valve	1	4.335			4.10	8,720.6	
Tubing	1	2 7/8	6.50	L-80	93.71	8,814.3	
On-Off Tool	1	4 1/2			1.50	8,815.8	
Packer	1	4 1/2			7.80	8,823.6	
Tubing	1	2 7/8	6.40	L-80	6.26	8,829.8	
XN - Nipple	1	2 7/8			1.16	8,831.0	
Tubing Pup Joint	1	2 7/8	6.50	L-80	4.10	8,835.1	
Magnum Disk	1	3.668			1.91	8,837.0	

Perforations					
Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/13/2017	9,337.0	9,338.0	2.0	2	Avalon, Original Hole
10/13/2017	9,351.0	9,352.0	2.0	2	Avalon, Original Hole
10/13/2017	9,365.0	9,366.0	2.0	2	Avalon, Original Hole
10/13/2017	9,379.0	9,380.0	2.0	2	Avalon, Original Hole
10/13/2017	9,393.0	9,394.0	2.0	2	Avalon, Original Hole
10/13/2017	9,407.0	9,408.0	2.0	2	Avalon, Original Hole
10/13/2017	9,421.0	9,422.0	2.0	2	Avalon, Original Hole
10/13/2017	9,435.0	9,436.0	3.0	3	Avalon, Original Hole
10/13/2017	9,449.0	9,450.0	3.0	3	Avalon, Original Hole
10/13/2017	9,463.0	9,464.0	3.0	3	Avalon, Original Hole



Wellbore Schematic

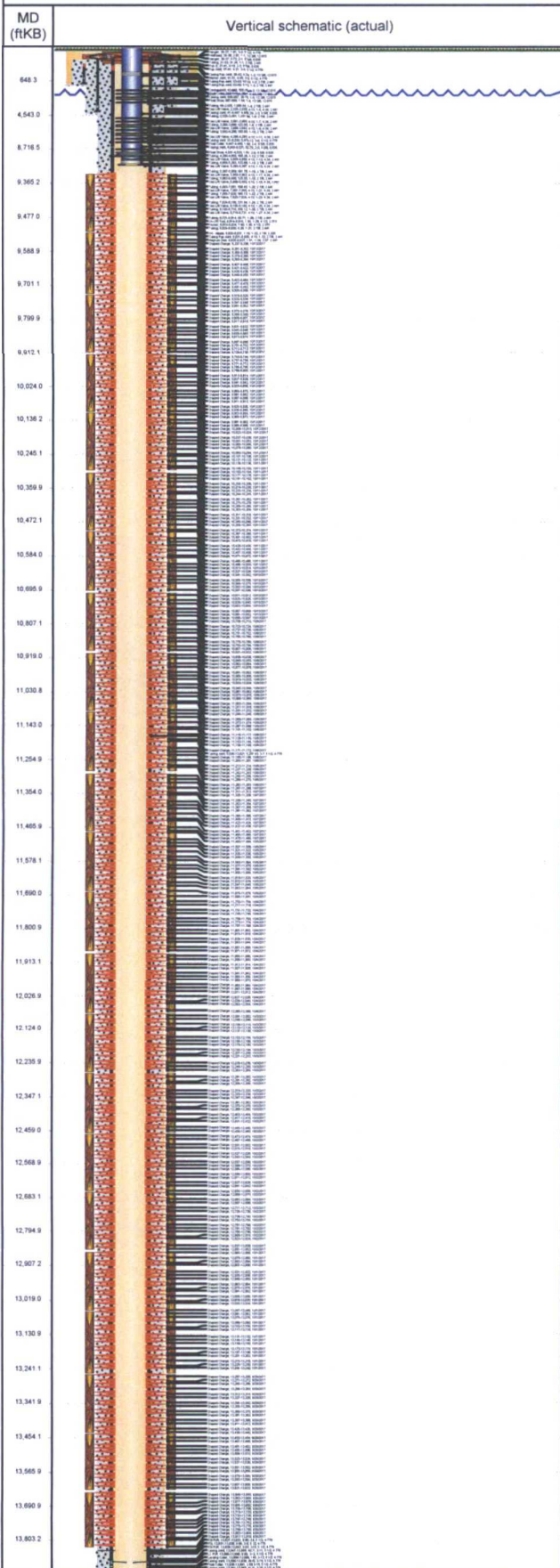
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1:23:53 PM



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/13/2017	9,477.0	9,478.0	3.0	3	Avalon, Original Hole
10/13/2017	9,491.0	9,492.0	3.0	3	Avalon, Original Hole
10/13/2017	9,505.0	9,506.0	4.0	4	Avalon, Original Hole
10/13/2017	9,519.0	9,520.0	5.0	5	Avalon, Original Hole
10/13/2017	9,533.0	9,534.0	2.0	2	Avalon, Original Hole
10/13/2017	9,547.0	9,548.0	2.0	2	Avalon, Original Hole
10/13/2017	9,561.0	9,562.0	2.0	2	Avalon, Original Hole
10/13/2017	9,575.0	9,576.0	2.0	2	Avalon, Original Hole
10/13/2017	9,589.0	9,590.0	2.0	2	Avalon, Original Hole
10/13/2017	9,606.0	9,607.0	2.0	2	Avalon, Original Hole
10/13/2017	9,617.0	9,618.0	2.0	2	Avalon, Original Hole
10/13/2017	9,631.0	9,632.0	3.0	3	Avalon, Original Hole
10/13/2017	9,645.0	9,646.0	3.0	3	Avalon, Original Hole
10/13/2017	9,659.0	9,660.0	3.0	3	Avalon, Original Hole
10/13/2017	9,673.0	9,674.0	3.0	3	Avalon, Original Hole
10/13/2017	9,687.0	9,688.0	3.0	3	Avalon, Original Hole
10/13/2017	9,701.0	9,702.0	4.0	4	Avalon, Original Hole
10/13/2017	9,712.0	9,713.0	5.0	5	Avalon, Original Hole
10/12/2017	9,729.0	9,730.0	2.0	2	Avalon, Original Hole
10/12/2017	9,743.0	9,744.0	2.0	2	Avalon, Original Hole
10/12/2017	9,757.0	9,758.0	2.0	2	Avalon, Original Hole
10/12/2017	9,771.0	9,772.0	2.0	2	Avalon, Original Hole
10/12/2017	9,785.0	9,786.0	2.0	2	Avalon, Original Hole
10/12/2017	9,799.0	9,800.0	2.0	2	Avalon, Original Hole
10/12/2017	9,813.0	9,814.0	2.0	2	Avalon, Original Hole
10/12/2017	9,827.0	9,828.0	3.0	3	Avalon, Original Hole
10/12/2017	9,841.0	9,842.0	3.0	3	Avalon, Original Hole
10/12/2017	9,855.0	9,856.0	3.0	3	Avalon, Original Hole
10/12/2017	9,869.0	9,870.0	3.0	3	Avalon, Original Hole
10/12/2017	9,881.0	9,882.0	3.0	3	Avalon, Original Hole
10/12/2017	9,897.0	9,898.0	4.0	4	Avalon, Original Hole
10/12/2017	9,911.0	9,912.0	5.0	5	Avalon, Original Hole
10/12/2017	9,925.0	9,926.0	2.0	2	Avalon, Original Hole
10/12/2017	9,939.0	9,940.0	2.0	2	Avalon, Original Hole
10/12/2017	9,953.0	9,954.0	2.0	2	Avalon, Original Hole
10/12/2017	9,969.0	9,970.0	2.0	2	Avalon, Original Hole
10/12/2017	9,981.0	9,982.0	2.0	2	Avalon, Original Hole
10/12/2017	9,995.0	9,996.0	2.0	2	Avalon, Original Hole
10/12/2017	10,009.0	10,010.0	2.0	2	Avalon, Original Hole
10/12/2017	10,023.0	10,024.0	3.0	3	Avalon, Original Hole
10/12/2017	10,037.0	10,038.0	3.0	3	Avalon, Original Hole
10/12/2017	10,051.0	10,052.0	3.0	3	Avalon, Original Hole
10/12/2017	10,065.0	10,066.0	3.0	3	Avalon, Original Hole
10/12/2017	10,079.0	10,080.0	3.0	3	Avalon, Original Hole
10/12/2017	10,093.0	10,094.0	4.0	4	Avalon, Original Hole
10/12/2017	10,107.0	10,108.0	5.0	5	Avalon, Original Hole
10/11/2017	10,121.0	10,122.0	2.0	2	Avalon, Original Hole
10/11/2017	10,135.0	10,136.0	2.0	2	Avalon, Original Hole
10/11/2017	10,149.0	10,150.0	2.0	2	Avalon, Original Hole
10/11/2017	10,163.0	10,164.0	2.0	2	Avalon, Original Hole
10/11/2017	10,177.0	10,178.0	2.0	2	Avalon, Original Hole
10/11/2017	10,191.0	10,192.0	2.0	2	Avalon, Original Hole
10/11/2017	10,205.0	10,206.0	2.0	2	Avalon, Original Hole
10/11/2017	10,219.0	10,220.0	3.0	3	Avalon, Original Hole
10/11/2017	10,233.0	10,234.0	3.0	3	Avalon, Original Hole
10/11/2017	10,244.0	10,245.0	3.0	3	Avalon, Original Hole
10/11/2017	10,261.0	10,262.0	3.0	3	Avalon, Original Hole
10/11/2017	10,275.0	10,276.0	3.0	3	Avalon, Original Hole



Wellbore Schematic

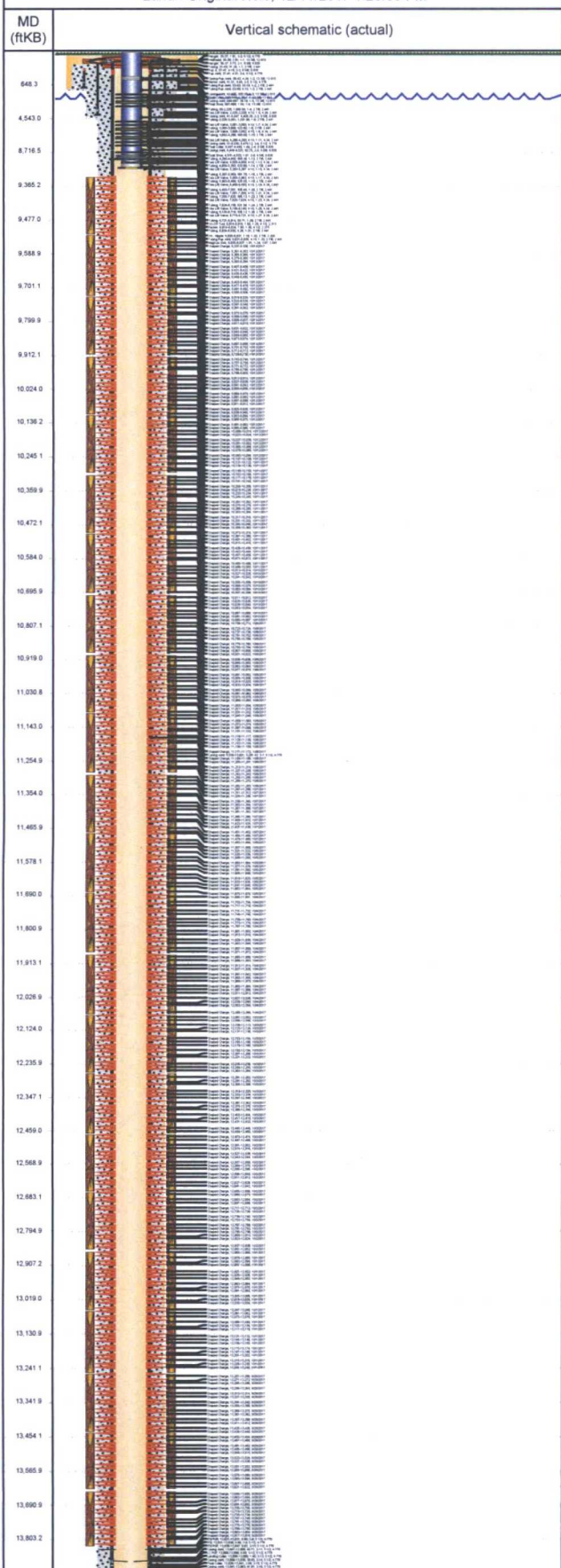
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1:23:53 PM



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/11/2017	10,289.0	10,290.0	4.0	4	Avalon, Original Hole
10/11/2017	10,303.0	10,304.0	5.0	5	Avalon, Original Hole
10/11/2017	10,317.0	10,318.0	2.0	2	Avalon, Original Hole
10/11/2017	10,331.0	10,332.0	2.0	2	Avalon, Original Hole
10/11/2017	10,345.0	10,346.0	2.0	2	Avalon, Original Hole
10/11/2017	10,359.0	10,360.0	2.0	2	Avalon, Original Hole
10/11/2017	10,373.0	10,374.0	2.0	2	Avalon, Original Hole
10/11/2017	10,387.0	10,388.0	2.0	2	Avalon, Original Hole
10/11/2017	10,401.0	10,402.0	2.0	2	Avalon, Original Hole
10/11/2017	10,415.0	10,416.0	3.0	3	Avalon, Original Hole
10/11/2017	10,429.0	10,430.0	3.0	3	Avalon, Original Hole
10/11/2017	10,443.0	10,444.0	3.0	3	Avalon, Original Hole
10/11/2017	10,457.0	10,458.0	3.0	3	Avalon, Original Hole
10/11/2017	10,471.0	10,472.0	3.0	3	Avalon, Original Hole
10/11/2017	10,485.0	10,486.0	4.0	4	Avalon, Original Hole
10/11/2017	10,499.0	10,500.0	5.0	5	Avalon, Original Hole
10/10/2017	10,513.0	10,514.0	2.0	2	Avalon, Original Hole
10/10/2017	10,527.0	10,528.0	2.0	2	Avalon, Original Hole
10/10/2017	10,541.0	10,542.0	2.0	2	Avalon, Original Hole
10/10/2017	10,555.0	10,556.0	2.0	2	Avalon, Original Hole
10/10/2017	10,569.0	10,570.0	2.0	2	Avalon, Original Hole
10/10/2017	10,583.0	10,584.0	2.0	2	Avalon, Original Hole
10/10/2017	10,597.0	10,598.0	3.0	3	Avalon, Original Hole
10/10/2017	10,611.0	10,612.0	3.0	3	Avalon, Original Hole
10/10/2017	10,625.0	10,626.0	3.0	3	Avalon, Original Hole
10/10/2017	10,639.0	10,640.0	3.0	3	Avalon, Original Hole
10/10/2017	10,653.0	10,654.0	3.0	3	Avalon, Original Hole
10/10/2017	10,667.0	10,668.0	4.0	4	Avalon, Original Hole
10/10/2017	10,681.0	10,682.0	5.0	5	Avalon, Original Hole
10/10/2017	10,695.0	10,697.0	2.0	2	Avalon, Original Hole
10/9/2017	10,709.0	10,710.0	2.0	2	Avalon, Original Hole
10/9/2017	10,723.0	10,724.0	2.0	2	Avalon, Original Hole
10/9/2017	10,737.0	10,738.0	2.0	2	Avalon, Original Hole
10/9/2017	10,751.0	10,752.0	2.0	2	Avalon, Original Hole
10/9/2017	10,765.0	10,766.0	2.0	2	Avalon, Original Hole
10/9/2017	10,779.0	10,780.0	2.0	2	Avalon, Original Hole
10/9/2017	10,793.0	10,794.0	2.0	2	Avalon, Original Hole
10/9/2017	10,807.0	10,808.0	3.0	3	Avalon, Original Hole
10/9/2017	10,821.0	10,822.0	3.0	3	Avalon, Original Hole
10/9/2017	10,835.0	10,836.0	3.0	3	Avalon, Original Hole
10/9/2017	10,849.0	10,850.0	3.0	3	Avalon, Original Hole
10/9/2017	10,863.0	10,864.0	3.0	3	Avalon, Original Hole
10/9/2017	10,877.0	10,878.0	4.0	4	Avalon, Original Hole
10/9/2017	10,891.0	10,892.0	5.0	5	Avalon, Original Hole
10/9/2017	10,905.0	10,906.0	2.0	2	Avalon, Original Hole
10/9/2017	10,919.0	10,920.0	2.0	2	Avalon, Original Hole
10/9/2017	10,933.0	10,934.0	2.0	2	Avalon, Original Hole
10/9/2017	10,945.0	10,946.0	2.0	2	Avalon, Original Hole
10/9/2017	10,961.0	10,962.0	2.0	2	Avalon, Original Hole
10/9/2017	10,975.0	10,976.0	2.0	2	Avalon, Original Hole
10/9/2017	10,989.0	10,990.0	2.0	2	Avalon, Original Hole
10/9/2017	11,003.0	11,004.0	3.0	3	Avalon, Original Hole
10/9/2017	11,017.0	11,018.0	3.0	3	Avalon, Original Hole
10/9/2017	11,031.0	11,032.0	3.0	3	Avalon, Original Hole
10/9/2017	11,045.0	11,046.0	3.0	3	Avalon, Original Hole
10/9/2017	11,059.0	11,060.0	3.0	3	Avalon, Original Hole
10/9/2017	11,073.0	11,074.0	4.0	4	Avalon, Original Hole
10/9/2017	11,087.0	11,088.0	5.0	5	Avalon, Original Hole



Wellbore Schematic

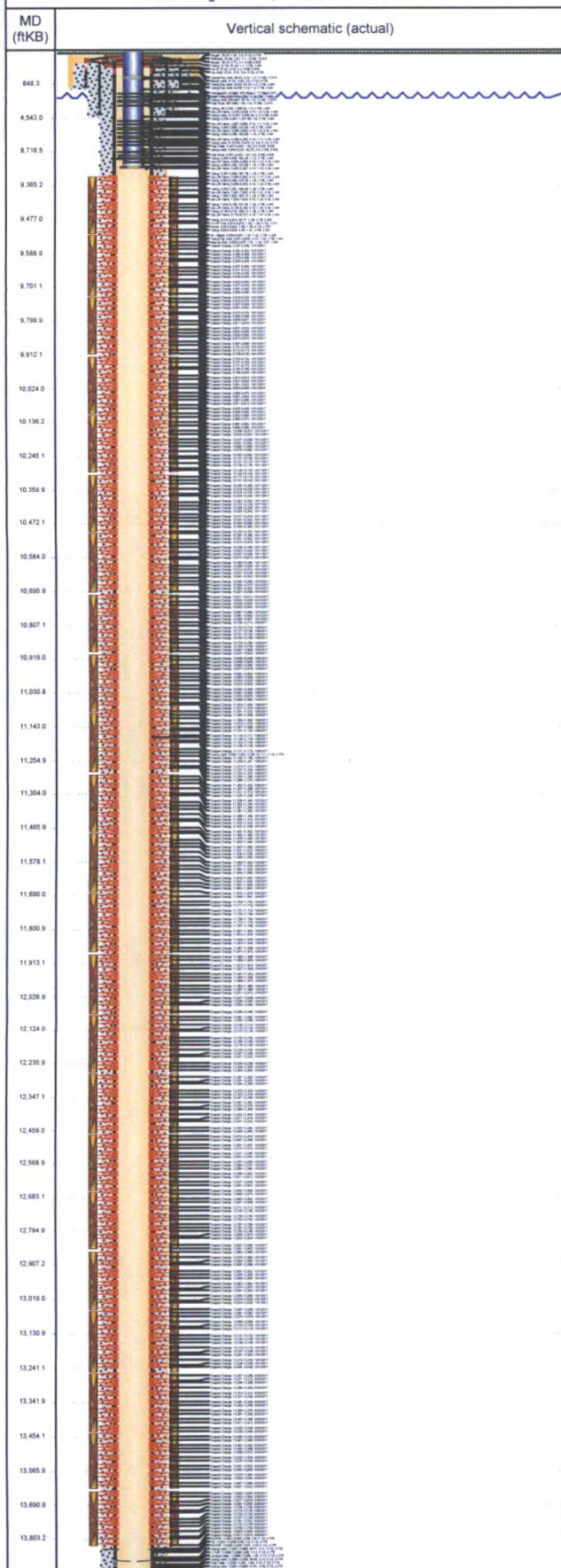
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1:23:54 PM



Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/8/2017	11,101.0	11,102.0	2.0	2	Avalon, Original Hole
10/8/2017	11,116.0	11,117.0	2.0	2	Avalon, Original Hole
10/8/2017	11,129.0	11,130.0	2.0	2	Avalon, Original Hole
10/8/2017	11,143.0	11,144.0	2.0	2	Avalon, Original Hole
10/8/2017	11,158.0	11,159.0	2.0	2	Avalon, Original Hole
10/8/2017	11,171.0	11,172.0	2.0	2	Avalon, Original Hole
10/8/2017	11,185.0	11,186.0	2.0	2	Avalon, Original Hole
10/8/2017	11,200.0	11,201.0	3.0	3	Avalon, Original Hole
10/8/2017	11,213.0	11,214.0	3.0	3	Avalon, Original Hole
10/8/2017	11,227.0	11,228.0	3.0	3	Avalon, Original Hole
10/8/2017	11,242.0	11,243.0	3.0	3	Avalon, Original Hole
10/8/2017	11,255.0	11,256.0	3.0	3	Avalon, Original Hole
10/8/2017	11,269.0	11,270.0	4.0	4	Avalon, Original Hole
10/8/2017	11,282.0	11,283.0	5.0	5	Avalon, Original Hole
10/7/2017	11,297.0	11,298.0	2.0	2	Avalon, Original Hole
10/7/2017	11,311.0	11,312.0	2.0	2	Avalon, Original Hole
10/7/2017	11,325.0	11,326.0	2.0	2	Avalon, Original Hole
10/7/2017	11,339.0	11,340.0	2.0	2	Avalon, Original Hole
10/7/2017	11,353.0	11,354.0	2.0	2	Avalon, Original Hole
10/7/2017	11,367.0	11,368.0	2.0	2	Avalon, Original Hole
10/7/2017	11,381.0	11,382.0	2.0	2	Avalon, Original Hole
10/7/2017	11,395.0	11,396.0	3.0	3	Avalon, Original Hole
10/7/2017	11,409.0	11,410.0	3.0	3	Avalon, Original Hole
10/7/2017	11,423.0	11,424.0	3.0	3	Avalon, Original Hole
10/7/2017	11,437.0	11,438.0	3.0	3	Avalon, Original Hole
10/7/2017	11,451.0	11,452.0	3.0	3	Avalon, Original Hole
10/7/2017	11,465.0	11,466.0	4.0	4	Avalon, Original Hole
10/7/2017	11,479.0	11,480.0	5.0	5	Avalon, Original Hole
10/5/2017	11,493.0	11,494.0	2.0	2	Avalon, Original Hole
10/5/2017	11,507.0	11,508.0	2.0	2	Avalon, Original Hole
10/5/2017	11,521.0	11,522.0	2.0	2	Avalon, Original Hole
10/5/2017	11,535.0	11,536.0	2.0	2	Avalon, Original Hole
10/5/2017	11,549.0	11,550.0	2.0	2	Avalon, Original Hole
10/5/2017	11,563.0	11,564.0	2.0	2	Avalon, Original Hole
10/5/2017	11,577.0	11,578.0	2.0	2	Avalon, Original Hole
10/5/2017	11,591.0	11,592.0	3.0	3	Avalon, Original Hole
10/5/2017	11,605.0	11,606.0	3.0	3	Avalon, Original Hole
10/5/2017	11,619.0	11,620.0	3.0	3	Avalon, Original Hole
10/5/2017	11,633.0	11,634.0	3.0	3	Avalon, Original Hole
10/5/2017	11,647.0	11,648.0	3.0	3	Avalon, Original Hole
10/5/2017	11,663.0	11,664.0	4.0	4	Avalon, Original Hole
10/5/2017	11,675.0	11,676.0	5.0	5	Avalon, Original Hole
10/4/2017	11,690.0	11,691.0	2.0	2	Avalon, Original Hole
10/4/2017	11,703.0	11,704.0	2.0	2	Avalon, Original Hole
10/4/2017	11,717.0	11,718.0	2.0	2	Avalon, Original Hole
10/4/2017	11,731.0	11,732.0	2.0	2	Avalon, Original Hole
10/4/2017	11,745.0	11,746.0	2.0	2	Avalon, Original Hole
10/4/2017	11,759.0	11,760.0	2.0	2	Avalon, Original Hole
10/4/2017	11,773.0	11,774.0	2.0	2	Avalon, Original Hole
10/4/2017	11,787.0	11,788.0	3.0	3	Avalon, Original Hole
10/4/2017	11,801.0	11,802.0	3.0	3	Avalon, Original Hole
10/4/2017	11,815.0	11,816.0	3.0	3	Avalon, Original Hole
10/4/2017	11,829.0	11,830.0	3.0	3	Avalon, Original Hole
10/4/2017	11,843.0	11,844.0	3.0	3	Avalon, Original Hole
10/4/2017	11,857.0	11,858.0	4.0	4	Avalon, Original Hole
10/4/2017	11,871.0	11,872.0	5.0	5	Avalon, Original Hole
10/4/2017	11,885.0	11,886.0	2.0	2	Avalon, Original Hole
10/4/2017	11,899.0	11,900.0	2.0	2	Avalon, Original Hole



Wellbore Schematic

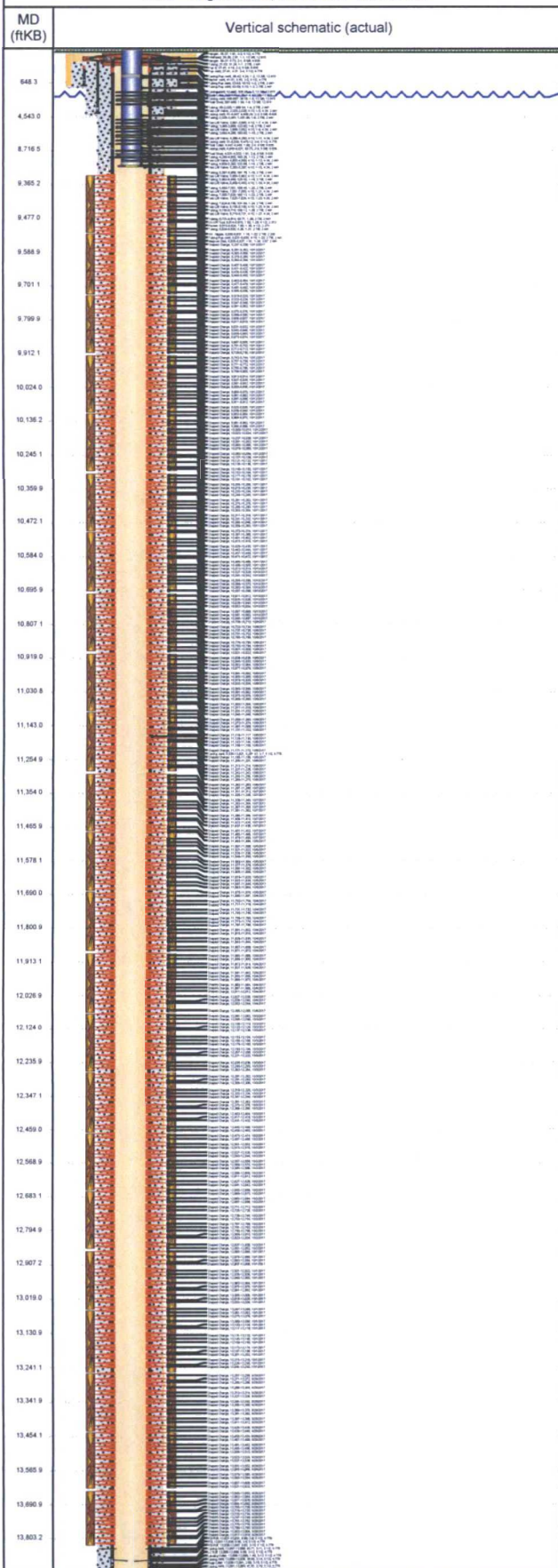
Well Name
SD WE 15 FED P9 5H

Lease
SD WE 15 FED P9

Field Name
JENNINGS

Business Unit
Mid-Continent

Land - Original Hole, 12/11/2017 1:23:55 PM



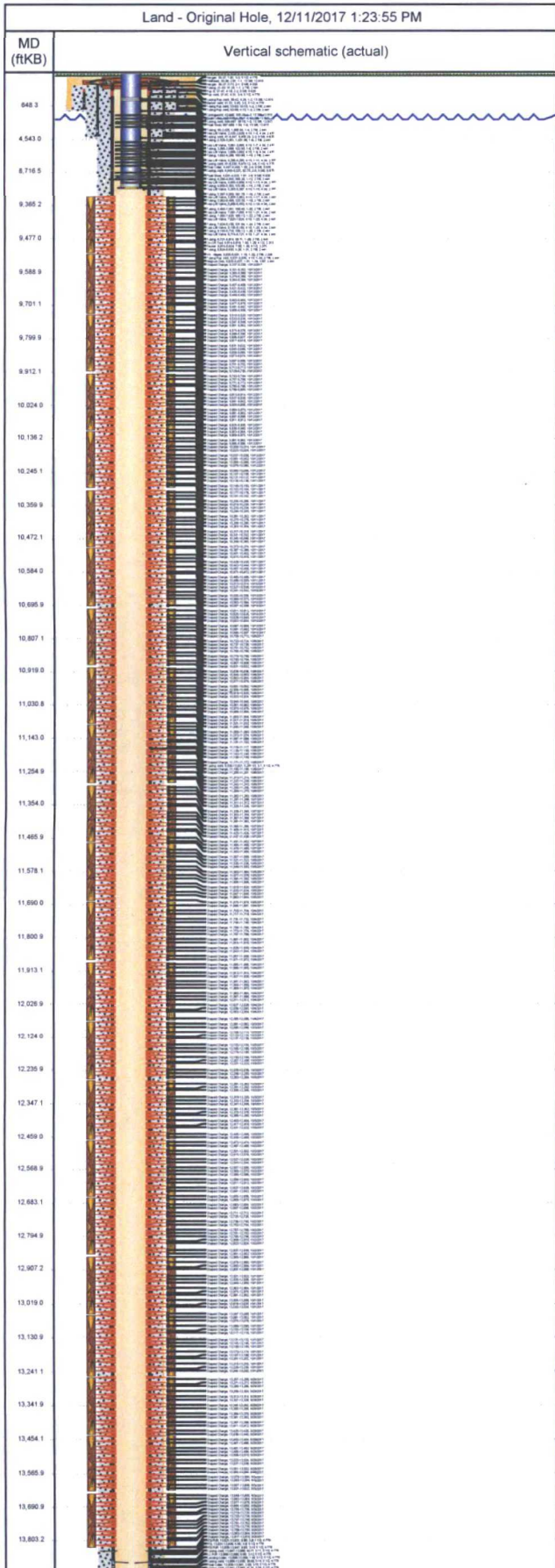
Perforations

Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/4/2017	11,913.0	11,914.0	2.0	2	Avalon, Original Hole
10/4/2017	11,927.0	11,928.0	2.0	2	Avalon, Original Hole
10/4/2017	11,941.0	11,942.0	2.0	2	Avalon, Original Hole
10/4/2017	11,955.0	11,956.0	2.0	2	Avalon, Original Hole
10/4/2017	11,969.0	11,970.0	2.0	2	Avalon, Original Hole
10/4/2017	11,983.0	11,984.0	3.0	3	Avalon, Original Hole
10/4/2017	11,997.0	11,998.0	3.0	3	Avalon, Original Hole
10/4/2017	12,011.0	12,012.0	3.0	3	Avalon, Original Hole
10/4/2017	12,027.0	12,028.0	3.0	3	Avalon, Original Hole
10/4/2017	12,039.0	12,040.0	3.0	3	Avalon, Original Hole
10/4/2017	12,053.0	12,054.0	4.0	4	Avalon, Original Hole
10/4/2017	12,065.0	12,066.0	5.0	5	Avalon, Original Hole
10/3/2017	12,081.0	12,082.0	2.0	2	Avalon, Original Hole
10/3/2017	12,095.0	12,096.0	2.0	2	Avalon, Original Hole
10/3/2017	12,109.0	12,110.0	2.0	2	Avalon, Original Hole
10/3/2017	12,123.0	12,124.0	2.0	2	Avalon, Original Hole
10/3/2017	12,137.0	12,138.0	2.0	2	Avalon, Original Hole
10/3/2017	12,153.0	12,154.0	2.0	2	Avalon, Original Hole
10/3/2017	12,165.0	12,166.0	2.0	2	Avalon, Original Hole
10/3/2017	12,179.0	12,180.0	3.0	3	Avalon, Original Hole
10/3/2017	12,193.0	12,194.0	3.0	3	Avalon, Original Hole
10/3/2017	12,207.0	12,208.0	3.0	3	Avalon, Original Hole
10/3/2017	12,221.0	12,222.0	3.0	3	Avalon, Original Hole
10/3/2017	12,235.0	12,236.0	3.0	3	Avalon, Original Hole
10/3/2017	12,249.0	12,250.0	4.0	4	Avalon, Original Hole
10/3/2017	12,263.0	12,264.0	5.0	5	Avalon, Original Hole
10/3/2017	12,281.0	12,282.0	2.0	2	Avalon, Original Hole
10/3/2017	12,291.0	12,292.0	2.0	2	Avalon, Original Hole
10/3/2017	12,305.0	12,306.0	2.0	2	Avalon, Original Hole
10/3/2017	12,319.0	12,320.0	2.0	2	Avalon, Original Hole
10/3/2017	12,333.0	12,334.0	2.0	2	Avalon, Original Hole
10/3/2017	12,347.0	12,348.0	2.0	2	Avalon, Original Hole
10/3/2017	12,361.0	12,362.0	2.0	2	Avalon, Original Hole
10/3/2017	12,375.0	12,376.0	3.0	3	Avalon, Original Hole
10/3/2017	12,389.0	12,390.0	3.0	3	Avalon, Original Hole
10/3/2017	12,403.0	12,404.0	3.0	3	Avalon, Original Hole
10/3/2017	12,417.0	12,418.0	3.0	3	Avalon, Original Hole
10/3/2017	12,431.0	12,432.0	3.0	3	Avalon, Original Hole
10/3/2017	12,445.0	12,446.0	4.0	4	Avalon, Original Hole
10/3/2017	12,459.0	12,460.0	5.0	5	Avalon, Original Hole
10/2/2017	12,473.0	12,474.0	2.0	2	Avalon, Original Hole
10/2/2017	12,487.0	12,488.0	2.0	2	Avalon, Original Hole
10/2/2017	12,501.0	12,502.0	2.0	2	Avalon, Original Hole
10/2/2017	12,515.0	12,516.0	2.0	2	Avalon, Original Hole
10/2/2017	12,527.0	12,528.0	2.0	2	Avalon, Original Hole
10/2/2017	12,543.0	12,544.0	2.0	2	Avalon, Original Hole
10/2/2017	12,557.0	12,558.0	2.0	2	Avalon, Original Hole
10/2/2017	12,569.0	12,570.0	3.0	3	Avalon, Original Hole
10/2/2017	12,585.0	12,586.0	3.0	3	Avalon, Original Hole
10/2/2017	12,599.0	12,600.0	3.0	3	Avalon, Original Hole
10/2/2017	12,611.0	12,612.0	3.0	3	Avalon, Original Hole
10/2/2017	12,627.0	12,628.0	3.0	3	Avalon, Original Hole
10/2/2017	12,641.0	12,642.0	4.0	4	Avalon, Original Hole
10/2/2017	12,655.0	12,656.0	5.0	5	Avalon, Original Hole
10/2/2017	12,669.0	12,670.0	2.0	2	Avalon, Original Hole
10/2/2017	12,683.0	12,684.0	2.0	2	Avalon, Original Hole
10/2/2017	12,697.0	12,698.0	2.0	2	Avalon, Original Hole
10/2/2017	12,711.0	12,712.0	2.0	2	Avalon, Original Hole



Wellbore Schematic

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent
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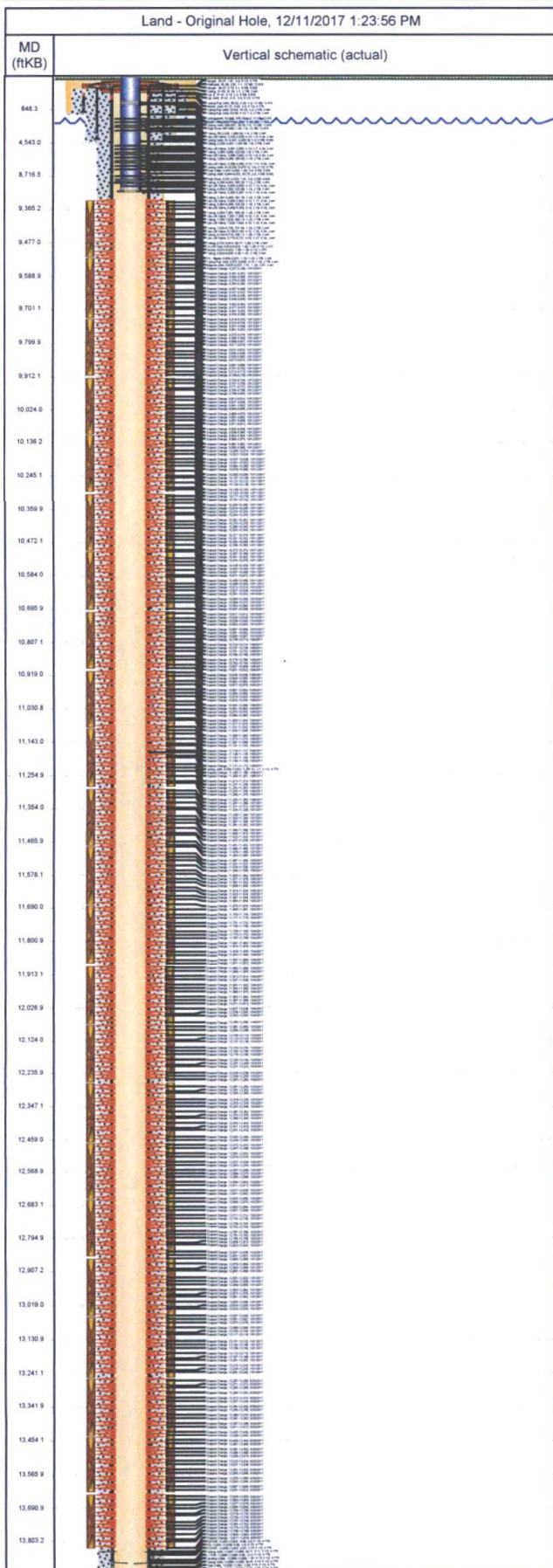


Perforations					
Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
10/2/2017	12,725.0	12,726.0	2.0	2	Avalon, Original Hole
10/2/2017	12,739.0	12,740.0	2.0	2	Avalon, Original Hole
10/2/2017	12,753.0	12,754.0	2.0	2	Avalon, Original Hole
10/2/2017	12,767.0	12,768.0	3.0	3	Avalon, Original Hole
10/2/2017	12,781.0	12,782.0	3.0	3	Avalon, Original Hole
10/2/2017	12,795.0	12,796.0	3.0	3	Avalon, Original Hole
10/2/2017	12,809.0	12,810.0	3.0	3	Avalon, Original Hole
10/2/2017	12,823.0	12,824.0	3.0	3	Avalon, Original Hole
10/2/2017	12,837.0	12,838.0	4.0	4	Avalon, Original Hole
10/2/2017	12,851.0	12,852.0	5.0	5	Avalon, Original Hole
10/1/2017	12,865.0	12,866.0	2.0	2	Avalon, Original Hole
10/1/2017	12,879.0	12,880.0	2.0	2	Avalon, Original Hole
10/1/2017	12,893.0	12,894.0	2.0	2	Avalon, Original Hole
10/1/2017	12,907.0	12,908.0	2.0	2	Avalon, Original Hole
10/1/2017	12,921.0	12,922.0	2.0	2	Avalon, Original Hole
10/1/2017	12,935.0	12,936.0	2.0	2	Avalon, Original Hole
10/1/2017	12,949.0	12,950.0	2.0	2	Avalon, Original Hole
10/1/2017	12,963.0	12,964.0	3.0	3	Avalon, Original Hole
10/1/2017	12,975.0	12,976.0	3.0	3	Avalon, Original Hole
10/1/2017	12,991.0	12,992.0	3.0	3	Avalon, Original Hole
10/1/2017	13,005.0	13,006.0	3.0	3	Avalon, Original Hole
10/1/2017	13,019.0	13,020.0	3.0	3	Avalon, Original Hole
10/1/2017	13,033.0	13,034.0	4.0	4	Avalon, Original Hole
10/1/2017	13,047.0	13,048.0	5.0	5	Avalon, Original Hole
10/1/2017	13,061.0	13,062.0	2.0	2	Avalon, Original Hole
10/1/2017	13,075.0	13,076.0	2.0	2	Avalon, Original Hole
10/1/2017	13,089.0	13,090.0	2.0	2	Avalon, Original Hole
10/1/2017	13,103.0	13,104.0	2.0	2	Avalon, Original Hole
10/1/2017	13,117.0	13,118.0	2.0	2	Avalon, Original Hole
10/1/2017	13,131.0	13,132.0	2.0	2	Avalon, Original Hole
10/1/2017	13,145.0	13,146.0	2.0	2	Avalon, Original Hole
10/1/2017	13,159.0	13,160.0	3.0	3	Avalon, Original Hole
10/1/2017	13,173.0	13,174.0	3.0	3	Avalon, Original Hole
10/1/2017	13,187.0	13,188.0	3.0	3	Avalon, Original Hole
10/1/2017	13,201.0	13,202.0	3.0	3	Avalon, Original Hole
10/1/2017	13,215.0	13,216.0	3.0	3	Avalon, Original Hole
10/1/2017	13,229.0	13,230.0	4.0	4	Avalon, Original Hole
10/1/2017	13,241.0	13,242.0	5.0	5	Avalon, Original Hole
9/29/2017	13,257.0	13,258.0	2.0	2	Avalon, Original Hole
9/29/2017	13,271.0	13,272.0	2.0	2	Avalon, Original Hole
9/29/2017	13,285.0	13,286.0	2.0	2	Avalon, Original Hole
9/29/2017	13,299.0	13,300.0	2.0	2	Avalon, Original Hole
9/29/2017	13,313.0	13,314.0	2.0	2	Avalon, Original Hole
9/29/2017	13,327.0	13,328.0	2.0	2	Avalon, Original Hole
9/29/2017	13,341.0	13,342.0	2.0	2	Avalon, Original Hole
9/29/2017	13,355.0	13,356.0	3.0	3	Avalon, Original Hole
9/29/2017	13,369.0	13,370.0	3.0	3	Avalon, Original Hole
9/29/2017	13,381.0	13,382.0	3.0	3	Avalon, Original Hole
9/29/2017	13,397.0	13,398.0	3.0	3	Avalon, Original Hole
9/29/2017	13,411.0	13,412.0	3.0	3	Avalon, Original Hole
9/29/2017	13,425.0	13,426.0	4.0	4	Avalon, Original Hole
9/29/2017	13,439.0	13,440.0	5.0	5	Avalon, Original Hole
9/29/2017	13,453.0	13,454.0	2.0	2	Avalon, Original Hole
9/29/2017	13,467.0	13,468.0	2.0	2	Avalon, Original Hole
9/29/2017	13,481.0	13,482.0	2.0	2	Avalon, Original Hole
9/29/2017	13,495.0	13,496.0	2.0	2	Avalon, Original Hole
9/29/2017	13,509.0	13,510.0	2.0	2	Avalon, Original Hole
9/29/2017	13,523.0	13,524.0	2.0	2	Avalon, Original Hole



Wellbore Schematic

Well Name SD WE 15 FED P9 5H	Lease SD WE 15 FED P9	Field Name JENNINGS	Business Unit Mid-Continent
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Perforations					
Date	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Entered Shot Total	Linked Zone
9/29/2017	13,537.0	13,538.0	3.0	3	Avalon, Original Hole
9/29/2017	13,551.0	13,552.0	3.0	3	Avalon, Original Hole
9/29/2017	13,565.0	13,566.0	3.0	3	Avalon, Original Hole
9/29/2017	13,579.0	13,580.0	3.0	3	Avalon, Original Hole
9/29/2017	13,593.0	13,594.0	3.0	3	Avalon, Original Hole
9/29/2017	13,607.0	13,608.0	4.0	4	Avalon, Original Hole
9/29/2017	13,621.0	13,622.0	5.0	5	Avalon, Original Hole
9/28/2017	13,649.0	13,650.0	3.0	2	Avalon, Original Hole
9/28/2017	13,663.0	13,664.0	3.0	2	Avalon, Original Hole
9/28/2017	13,677.0	13,678.0	3.0	2	Avalon, Original Hole
9/28/2017	13,691.0	13,692.0	3.0	2	Avalon, Original Hole
9/28/2017	13,705.0	13,706.0	3.0	2	Avalon, Original Hole
9/28/2017	13,719.0	13,720.0	3.0	2	Avalon, Original Hole
9/28/2017	13,733.0	13,734.0	3.0	3	Avalon, Original Hole
9/28/2017	13,747.0	13,748.0	3.0	3	Avalon, Original Hole
9/28/2017	13,761.0	13,762.0	3.0	3	Avalon, Original Hole
9/28/2017	13,775.0	13,776.0	3.0	3	Avalon, Original Hole
9/28/2017	13,789.0	13,790.0	3.0	3	Avalon, Original Hole
9/28/2017	13,803.0	13,804.0	4.0	4	Avalon, Original Hole
9/28/2017	13,817.0	13,818.0	6.0	5	Avalon, Original Hole

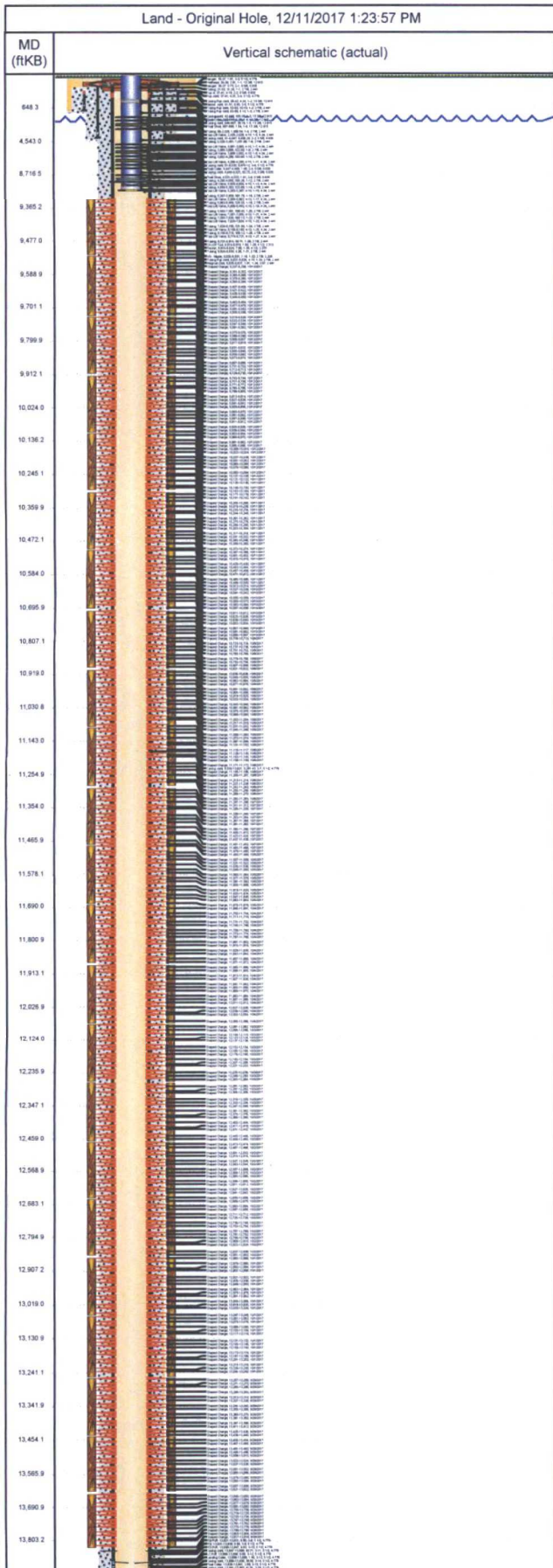
Other Strings			
Run Date	Pull Date	Set Depth (ftKB)	Com

Other In Hole					
Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date	Com
Packer (retrievable)	8,851.0	8,860.0	10/20/2017		Packer element at 8,851'
Composite Frac Plug (drop ball)	9,528.0	9,529.0	10/13/2017	10/20/2017	Stage 23
Composite Frac Plug (drop ball)	9,719.0	9,720.0	10/13/2017	10/20/2017	Stage 22
Composite Frac Plug (drop ball)	9,920.0	9,921.0	10/12/2017	10/20/2017	Stage 21
Composite Frac Plug (drop ball)	10,116.0	10,117.0	10/12/2017	10/20/2017	Stage 20
Composite Frac Plug (drop ball)	10,312.0	10,313.0	10/11/2017	10/20/2017	Stage 19
Composite Frac Plug (drop ball)	10,508.0	10,509.0	10/11/2017	10/20/2017	Stage 18
Composite Frac Plug (drop ball)	10,704.0	10,705.0	10/9/2017	10/20/2017	Stage 17
Composite Frac Plug (drop ball)	10,900.0	10,901.0	10/9/2017	10/20/2017	Stage 16
Composite Frac Plug (drop ball)	11,087.0	11,088.0	10/9/2017	10/20/2017	Stage 15
Composite Frac Plug (drop ball)	11,292.0	11,293.0	10/8/2017	10/20/2017	Stage 14
Composite Frac Plug (drop ball)	11,488.0	11,489.0	10/7/2017	10/20/2017	Stage 13
Composite Frac Plug (drop ball)	11,684.0	11,685.0	10/5/2017	10/20/2017	Stage 12
Composite Frac Plug (drop ball)	11,880.0	11,881.0	10/4/2017	10/20/2017	Stage 11
Composite Frac Plug (drop ball)	12,076.0	12,077.0	10/4/2017	10/20/2017	Stage 10
Composite Frac Plug (drop ball)	12,272.0	12,273.0	10/3/2017	10/20/2017	Stage 9
Composite Frac Plug (drop ball)	12,468.0	12,469.0	10/3/2017	10/20/2017	Stage 8
Composite Frac Plug (drop ball)	12,664.0	12,665.0	10/2/2017	10/21/2017	Stage 7



Wellbore Schematic

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Other In Hole					
Des	Top (ftKB)	Btm (ftKB)	Run Date	Pull Date	Com
Composite Frac Plug (drop ball)	12,860.0	12,861.0	10/2/2017	10/21/2017	Stage 6
Composite Frac Plug (drop ball)	13,056.0	13,057.0	10/1/2017	10/21/2017	Stage 5
Composite Frac Plug (drop ball)	13,252.0	13,253.0	10/1/2017	10/21/2017	Stage 4
Composite Frac Plug (drop ball)	13,448.0	13,449.0	9/29/2017	10/21/2017	Stage 3
Composite Frac Plug (drop ball)	13,644.0	13,645.0	9/29/2017	10/21/2017	Stage 2