

Minimum Radius of Curvature

API: 42-109-34214 **Well:** Hay Valerie 0014WA **Wellhead Location** **Lat:** 31.797114
Operator: Chevron **Area:** Delaware **Long:** -104.050975
Rig: Patterson 289 **Type:** U Lateral **Magnetic Declination:** 8.38
TD: 20,382' **Plane of Proposal:** 182.14

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
0.00	0.00	0.00		0.0	0.00	0.00	0.00	0.00	0.00			
194	0.22	204.63	194	194.0	0.34	-0.34	-0.16	0.37	204.63	0.11	0.11	105.48
242	0.32	231.63	48	242.0	0.52	-0.51	-0.30	0.59	210.58	0.33	0.21	56.25
340	0.58	289.21	98	340.0	0.55	-0.51	-0.98	1.11	242.45	0.50	0.27	58.76
438	0.65	284.11	98	438.0	0.29	-0.21	-1.99	2.00	263.87	0.09	0.07	-5.20
536	0.51	279.15	98	536.0	0.12	-0.01	-2.96	2.96	269.83	0.15	-0.14	-5.06
625	0.59	254.21	89	625.0	0.21	-0.07	-3.79	3.79	268.94	0.28	0.09	-28.02
714	0.73	246.34	89	714.0	0.60	-0.42	-4.75	4.77	264.92	0.19	0.16	-8.84
804	0.88	259.91	90	804.0	1.00	-0.77	-5.96	6.01	262.60	0.27	0.17	15.08
895	1.63	246.97	91	894.9	1.69	-1.40	-7.84	7.96	259.85	0.88	0.82	-14.22
985	2.46	253.83	90	984.9	2.85	-2.44	-10.87	11.14	257.34	0.96	0.92	7.62
1079	3.03	227.88	94	1078.8	5.21	-4.67	-14.65	15.38	252.32	1.44	0.61	-27.61
1173	2.76	218.10	94	1172.7	8.78	-8.12	-17.89	19.64	245.60	0.60	-0.29	-10.40
1267	2.07	175.38	94	1266.6	12.30	-11.59	-19.15	22.38	238.81	1.99	-0.73	-45.45
1361	1.95	174.49	94	1360.5	15.57	-14.87	-18.86	24.02	231.74	0.13	-0.13	-0.95
1456	2.21	168.18	95	1455.5	18.95	-18.28	-18.33	25.88	225.08	0.36	0.27	-6.64
1550	1.96	158.28	94	1549.4	22.18	-21.54	-17.36	27.67	218.87	0.47	-0.27	-10.53
1644	1.66	146.89	94	1643.4	24.76	-24.18	-16.02	29.00	213.53	0.50	-0.32	-12.12
1738	2.07	130.95	94	1737.3	26.93	-26.43	-14.00	29.91	207.91	0.70	0.44	-16.96
1832	2.46	142.31	94	1831.2	29.55	-29.14	-11.48	31.32	201.51	0.63	0.41	12.09
1927	5.45	183.48	95	1926.0	35.63	-35.26	-10.51	36.79	196.60	4.15	3.15	43.34
2021	5.12	183.21	94	2019.6	44.28	-43.90	-11.01	45.26	194.08	0.35	-0.35	-0.29
2115	4.67	177.47	94	2113.3	52.29	-51.91	-11.08	53.08	192.05	0.71	-0.48	-6.11
2209	5.09	174.42	94	2206.9	60.24	-59.89	-10.51	60.80	189.95	0.53	0.45	-3.24
2304	8.33	203.44	95	2301.3	70.83	-70.40	-12.83	71.56	190.33	4.84	3.41	30.55
2397	8.06	208.18	93	2393.3	82.96	-82.33	-18.59	84.40	192.73	0.78	-0.29	5.10
2497	9.47	218.07	100	2492.2	95.92	-94.98	-26.98	98.74	195.86	2.06	1.41	9.89
2591	9.43	215.93	94	2584.9	108.59	-107.31	-36.26	113.27	198.67	0.38	-0.04	-2.28
2685	9.66	216.15	94	2677.6	121.52	-119.91	-45.44	128.23	200.75	0.25	0.24	0.23
2779	9.53	217.30	94	2770.3	134.42	-132.47	-54.80	143.36	202.48	0.25	-0.14	1.22
2874	9.76	215.77	95	2863.9	147.56	-145.26	-64.28	158.84	203.87	0.36	0.24	-1.61
2968	9.76	216.78	94	2956.6	160.75	-158.10	-73.70	174.44	204.99	0.18	0.00	1.07
3062	9.74	216.13	94	3049.2	173.89	-170.91	-83.16	190.07	205.95	0.12	-0.02	-0.69
3156	10.77	237.36	94	3141.8	185.50	-182.07	-95.25	205.48	207.62	4.14	1.10	22.59
3250	11.49	242.09	94	3234.0	195.20	-191.19	-110.92	221.04	210.12	1.24	0.77	5.03
3344	11.24	241.77	94	3326.1	204.52	-199.91	-127.27	236.98	212.48	0.27	-0.27	-0.34
3438	10.41	243.18	94	3418.5	213.26	-208.07	-142.92	252.43	214.48	0.93	-0.88	1.50
3532	10.20	244.24	94	3511.0	221.27	-215.52	-157.99	267.23	216.24	0.30	-0.22	1.13
3626	9.89	245.21	94	3603.5	228.82	-222.52	-172.82	281.75	217.83	0.38	-0.33	1.03
3721	9.66	243.68	95	3697.1	236.31	-229.48	-187.37	296.25	219.23	0.37	-0.24	-1.61
3815	9.92	243.69	94	3789.8	243.93	-236.56	-201.69	310.87	220.45	0.28	0.28	0.01
4004	9.41	244.20	189	3976.1	258.93	-250.50	-230.20	340.21	222.58	0.27	-0.27	0.27
4098	9.17	243.50	94	4068.9	266.12	-257.19	-243.82	354.39	223.47	0.28	-0.26	-0.74
4192	10.16	236.54	94	4161.5	274.53	-265.10	-257.44	369.53	224.16	1.63	1.05	-7.40
4287	10.60	234.57	95	4255.0	284.74	-274.79	-271.55	386.33	224.66	0.60	0.46	-2.07
4381	10.26	235.80	94	4347.4	294.97	-284.51	-285.52	403.07	225.10	0.43	-0.36	1.31
4475	9.53	236.10	94	4440.0	304.51	-293.55	-298.90	418.95	225.52	0.78	-0.78	0.32
4569	8.70	235.28	94	4532.8	313.35	-301.94	-311.20	433.61	225.87	0.89	-0.88	-0.87
4663	10.02	220.72	94	4625.6	324.01	-312.19	-322.38	448.77	225.92	2.87	1.40	-15.49
4758	9.42	219.33	95	4719.2	336.67	-324.47	-332.70	464.73	225.72	0.68	-0.63	-1.46
4946	6.94	220.68	188	4905.3	357.81	-344.99	-349.86	491.34	225.40	1.32	-1.32	0.72
5040	6.57	218.85	94	4998.6	366.56	-353.48	-356.94	502.35	225.28	0.46	-0.39	-1.95
5229	8.65	227.22	189	5186.0	385.27	-371.56	-374.15	527.30	225.20	1.24	1.10	4.43
5323	9.50	229.53	94	5278.8	395.51	-381.39	-385.24	542.10	225.29	0.98	0.90	2.46
5417	10.02	229.86	94	5371.4	406.27	-391.70	-397.39	557.99	225.41	0.56	0.55	0.35
5511	9.25	230.06	94	5464.1	416.83	-401.82	-409.44	573.67	225.54	0.82	-0.82	0.21
5605	8.85	228.70	94	5556.9	426.86	-411.44	-420.66	588.42	225.63	0.48	-0.43	-1.45
5699	8.18	230.27	94	5649.9	436.30	-420.49	-431.24	602.31	225.72	0.75	-0.71	1.67

Minimum Radius of Curvature

API: 42-109-34214 **Well: Hay Valerie 0014WA** **Wellhead Location** **Lat: 31.797114**
Operator: Chevron **Area: Delaware** **Long: -104.050975**
Rig: Patterson 289 **Type: U Lateral** **Magnetic Declination: 8.38**
TD: 20,382' **Plane of Proposal: 182.14**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
5793	6.93	227.71	94	5743.1	444.73	-428.58	-440.58	614.65	225.79	1.38	-1.33	-2.72
5888	8.11	233.30	95	5837.3	452.95	-436.44	-450.19	627.02	225.89	1.46	1.24	5.88
5982	8.44	233.91	94	5930.3	461.38	-444.47	-461.08	640.43	226.05	0.36	0.35	0.65
6076	7.20	233.07	94	6023.4	469.36	-452.07	-471.36	653.11	226.20	1.32	-1.32	-0.89
6170	5.58	231.89	94	6116.8	476.02	-458.43	-479.67	663.51	226.30	1.73	-1.72	-1.26
6265	4.19	226.93	95	6211.5	481.47	-463.65	-485.84	671.58	226.34	1.53	-1.46	-5.22
6359	3.14	220.62	94	6305.3	485.92	-467.95	-490.02	677.57	226.32	1.19	-1.12	-6.71
6453	2.24	216.63	94	6399.2	489.45	-471.38	-492.80	681.94	226.27	0.98	-0.96	-4.24
6548	1.68	221.18	95	6494.1	492.07	-473.92	-494.82	685.16	226.24	0.61	-0.59	4.79
6641	1.27	254.70	93	6587.1	493.43	-475.22	-496.71	687.43	226.27	1.01	-0.44	36.04
6735	1.35	249.00	94	6681.1	494.18	-475.89	-498.75	689.36	226.34	0.16	0.09	-6.06
6830	1.65	240.37	95	6776.0	495.34	-476.97	-500.99	691.72	226.41	0.39	0.32	-9.08
6924	1.34	199.51	94	6870.0	497.10	-478.67	-502.53	694.02	226.39	1.15	-0.33	-43.47
7019	1.80	139.62	95	6965.0	499.26	-480.85	-501.93	695.10	226.23	1.70	0.48	-63.04
7113	1.23	154.26	94	7058.9	501.24	-482.89	-500.54	695.50	226.03	0.73	-0.61	15.57
7207	1.29	152.32	94	7152.9	503.05	-484.73	-499.61	696.11	225.87	0.08	0.06	-2.06
7301	1.47	177.16	94	7246.9	505.17	-486.87	-499.06	697.21	225.71	0.66	0.19	26.43
7396	3.29	244.32	95	7341.8	507.66	-489.27	-501.45	700.60	225.70	3.20	1.92	70.69
7490	2.14	243.47	94	7435.7	509.76	-491.23	-505.46	704.83	225.82	1.22	-1.22	-0.90
7584	1.33	239.92	94	7529.7	511.18	-492.56	-507.97	707.56	225.88	0.87	-0.86	-3.78
7678	0.79	242.51	94	7623.7	512.08	-493.40	-509.49	709.24	225.92	0.58	-0.57	2.76
7772	1.73	290.23	94	7717.6	511.96	-493.21	-511.40	710.48	226.04	1.42	1.00	50.77
7963	2.60	281.86	191	7908.5	510.34	-491.32	-518.34	714.20	226.53	0.48	0.46	-4.38
8059	2.11	288.10	96	8004.4	509.48	-490.33	-522.15	716.28	226.80	0.58	-0.51	6.50
8152	2.36	291.81	93	8097.3	508.37	-489.08	-525.56	717.92	227.06	0.31	0.27	3.99
8246	1.97	288.65	94	8191.3	507.26	-487.85	-528.88	719.52	227.31	0.43	-0.41	-3.36
8340	1.76	301.14	94	8285.2	506.10	-486.59	-531.65	720.71	227.53	0.49	-0.22	13.29
8435	1.55	290.95	95	8380.2	504.98	-485.37	-534.10	721.70	227.74	0.38	-0.22	-10.73
8529	1.70	287.61	94	8474.2	504.20	-484.50	-536.61	722.97	227.92	0.19	0.16	-3.55
8584	1.27	287.31	55	8529.1	503.82	-484.07	-537.97	723.70	228.02	0.78	-0.78	-0.55
8712	1.34	272.62	128	8657.1	503.43	-483.58	-540.82	725.49	228.20	0.27	0.05	-11.48
8807	1.20	274.84	95	8752.1	503.38	-483.44	-542.92	726.97	228.32	0.16	-0.15	2.34
8902	0.86	261.28	95	8847.1	503.47	-483.47	-544.62	728.25	228.40	0.44	-0.36	-14.27
8996	9.57	183.42	94	8940.6	511.43	-491.39	-545.79	734.40	228.00	10.03	9.27	-82.83
9091	21.91	180.47	95	9031.9	537.14	-517.10	-546.41	752.30	226.58	13.01	12.99	-3.11
9186	29.93	177.61	95	9117.3	578.55	-558.57	-545.56	780.79	224.32	8.54	8.44	-3.01
9279	35.46	175.79	93	9195.5	628.53	-608.69	-542.61	815.44	221.71	6.04	5.95	-1.96
9374	41.76	175.92	95	9269.7	687.43	-667.79	-538.33	857.76	218.87	6.63	6.63	0.14
9469	48.88	178.51	95	9336.4	754.68	-735.21	-535.15	909.35	216.05	7.74	7.49	2.73
9564	55.50	181.89	95	9394.7	829.64	-810.20	-535.51	971.18	213.46	7.51	6.97	3.56
9658	66.57	182.40	94	9440.1	911.75	-892.26	-538.60	1042.22	211.12	11.79	11.78	0.54
9752	78.13	179.02	94	9468.6	1001.13	-981.66	-539.62	1120.20	208.80	12.76	12.30	-3.60
9847	88.92	175.30	95	9479.3	1095.01	-1075.78	-534.92	1201.44	206.44	12.00	11.36	-3.92
9941	89.17	175.55	94	9480.8	1188.35	-1169.47	-527.43	1282.90	204.28	0.38	0.27	0.27
10036	88.53	176.39	95	9482.7	1282.78	-1264.21	-520.75	1367.27	202.39	1.11	-0.67	0.88
10130	90.86	180.41	94	9483.2	1376.55	-1358.15	-518.13	1453.63	200.88	4.94	2.48	4.28
10225	90.71	184.96	95	9481.9	1471.51	-1453.01	-522.58	1544.13	199.78	4.79	-0.16	4.79
10319	91.61	182.55	94	9480.0	1565.45	-1546.78	-528.73	1634.65	198.87	2.74	0.96	-2.56
10414	90.07	184.96	95	9478.7	1660.39	-1641.56	-534.95	1726.52	198.05	3.01	-1.62	2.54
10509	90.18	184.37	95	9478.4	1755.30	-1736.24	-542.68	1819.08	197.36	0.63	0.12	-0.62
10604	90.34	187.02	95	9478.0	1850.10	-1830.76	-552.10	1912.20	196.78	2.79	0.17	2.79
10699	90.15	184.73	95	9477.6	1944.90	-1925.26	-561.83	2005.56	196.27	2.42	-0.20	-2.41
10794	89.85	185.45	95	9477.6	2039.77	-2019.88	-570.25	2098.84	195.77	0.82	-0.32	0.76
10889	89.34	182.66	95	9478.3	2134.70	-2114.63	-576.97	2191.93	195.26	2.99	-0.54	-2.94
10983	89.65	180.72	94	9479.1	2228.69	-2208.58	-579.74	2283.41	194.71	2.09	0.33	-2.06
11078	90.10	183.09	95	9479.3	2323.68	-2303.52	-582.90	2376.13	194.20	2.54	0.47	2.49
11172	89.85	181.66	94	9479.4	2417.68	-2397.44	-586.80	2468.21	193.75	1.54	-0.27	-1.52
11267	89.59	181.40	95	9479.8	2512.67	-2492.41	-589.33	2561.13	193.30	0.39	-0.27	-0.27

Minimum Radius of Curvature

API: 42-109-34214 **Well: Hay Valerie 0014WA** **Wellhead Location** **Lat: 31.797114**
Operator: Chevron **Area: Delaware** **Long: -104.050975**
Rig: Patterson 289 **Type: U Lateral** **Magnetic Declination: 8.38**
TD: 20,382' **Plane of Proposal: 182.14**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
11360	89.23	181.01	93	9480.8	2605.66	-2585.38	-591.29	2652.13	192.88	0.57	-0.39	-0.42
11452	89.82	182.82	92	9481.5	2697.65	-2677.32	-594.36	2742.50	192.52	2.07	0.64	1.97
11543	89.73	181.97	91	9481.9	2788.65	-2768.24	-598.17	2832.13	192.19	0.94	-0.10	-0.93
11633	89.85	183.45	90	9482.2	2878.64	-2858.14	-602.42	2920.93	191.90	1.65	0.13	1.64
11724	90.24	184.24	91	9482.2	2969.60	-2948.93	-608.52	3011.06	191.66	0.97	0.43	0.87
11815	88.92	180.93	91	9482.8	3060.58	-3039.82	-612.63	3100.94	191.39	3.92	-1.45	-3.64
11907	89.34	181.42	92	9484.2	3152.55	-3131.79	-614.51	3191.51	191.10	0.70	0.46	0.53
11998	89.85	181.92	91	9484.9	3243.55	-3222.75	-617.17	3281.31	190.84	0.78	0.56	0.55
12088	89.99	184.19	90	9485.0	3333.53	-3312.62	-621.96	3370.50	190.63	2.53	0.16	2.52
12180	89.99	184.60	92	9485.0	3425.46	-3404.34	-629.01	3461.97	190.47	0.45	0.00	0.45
12271	89.37	181.80	91	9485.5	3516.43	-3495.19	-634.09	3552.24	190.28	3.15	-0.68	-3.08
12362	89.85	182.65	91	9486.1	3607.43	-3586.12	-637.62	3642.36	190.08	1.07	0.53	0.93
12453	89.96	183.62	91	9486.3	3698.41	-3676.98	-642.60	3732.71	189.91	1.07	0.12	1.07
12547	90.01	183.97	94	9486.3	3792.37	-3770.78	-648.82	3826.19	189.76	0.38	0.05	0.37
12642	88.92	182.04	95	9487.2	3887.35	-3865.64	-653.80	3920.54	189.60	2.33	-1.15	-2.03
12745	88.53	180.67	103	9489.5	3990.32	-3968.58	-656.24	4022.47	189.39	1.38	-0.38	-1.33
12839	90.07	183.66	94	9490.6	4084.30	-4062.49	-659.79	4115.72	189.22	3.58	1.64	3.18
12934	89.40	182.82	95	9491.1	4179.28	-4157.34	-665.16	4210.21	189.09	1.13	-0.71	-0.88
13028	89.62	184.41	94	9491.9	4273.24	-4251.14	-671.08	4303.79	188.97	1.71	0.23	1.69
13122	89.57	184.91	94	9492.5	4367.14	-4344.83	-678.72	4397.52	188.88	0.53	-0.05	0.53
13217	90.04	185.44	95	9492.9	4462.01	-4439.44	-687.29	4492.33	188.80	0.75	0.49	0.56
13312	89.90	184.81	95	9492.9	4556.88	-4534.06	-695.77	4587.14	188.72	0.68	-0.15	-0.66
13407	89.40	185.42	95	9493.5	4651.75	-4628.68	-704.24	4681.95	188.65	0.83	-0.53	0.64
13502	90.85	185.89	95	9493.3	4746.57	-4723.22	-713.60	4776.82	188.59	1.60	1.53	0.49
13596	89.73	182.55	94	9492.8	4840.49	-4816.94	-720.52	4870.53	188.51	3.75	-1.19	-3.55
13692	89.68	180.06	96	9493.3	4936.47	-4912.91	-722.71	4965.78	188.37	2.59	-0.05	-2.59
13787	89.85	174.65	95	9493.7	5031.10	-5007.77	-718.32	5059.03	188.16	5.70	0.18	-5.69
13882	90.38	169.64	95	9493.5	5124.63	-5101.85	-705.35	5150.38	187.87	5.30	0.56	-5.27
13977	89.99	160.28	95	9493.2	5215.29	-5193.49	-680.72	5237.92	187.47	9.86	-0.41	-9.85
14072	89.26	149.53	95	9493.8	5299.63	-5279.40	-640.49	5318.11	186.92	11.34	-0.77	-11.32
14166	88.89	143.08	94	9495.3	5375.79	-5357.56	-588.38	5389.77	186.27	6.87	-0.39	-6.86
14261	89.31	136.04	95	9496.8	5445.69	-5429.80	-526.80	5455.30	185.54	7.42	0.44	-7.41
14355	87.46	127.18	94	9499.5	5505.36	-5492.14	-456.62	5511.09	184.75	9.62	-1.97	-9.43
14450	89.06	125.12	95	9502.4	5558.47	-5548.15	-379.95	5561.14	183.92	2.74	1.68	-2.17
14545	88.00	118.46	95	9504.8	5605.42	-5598.15	-299.28	5606.14	183.06	7.10	-1.12	-7.01
14638	85.47	110.10	93	9510.1	5640.39	-5636.30	-214.73	5640.39	182.18	9.38	-2.72	-8.99
14732	84.09	101.36	94	9518.7	5662.37	-5661.66	-124.72	5663.03	181.26	9.37	-1.47	-9.30
14827	87.91	93.11	95	9525.3	5670.76	-5673.57	-30.80	5673.65	180.31	9.55	4.02	-8.68
14921	92.26	86.59	94	9525.2	5667.01	-5673.32	63.13	5673.67	179.36	8.34	4.63	-6.94
15015	90.60	78.97	94	9522.8	5651.73	-5661.52	156.28	5663.67	178.42	8.29	-1.77	-8.11
15109	87.97	67.77	94	9524.0	5621.54	-5634.67	246.19	5640.04	177.50	12.24	-2.80	-11.91
15204	88.64	59.81	95	9526.8	5576.49	-5592.76	331.32	5602.56	176.61	8.40	0.71	-8.38
15299	89.45	54.26	95	9528.4	5521.88	-5541.09	410.98	5556.31	175.76	5.90	0.85	-5.84
15393	89.65	44.72	94	9529.2	5458.27	-5480.11	482.36	5501.29	174.97	10.15	0.21	-10.15
15487	90.27	35.22	94	9529.2	5384.11	-5408.15	542.68	5435.31	174.27	10.13	0.66	-10.11
15582	90.15	25.13	95	9528.9	5300.37	-5326.13	590.36	5358.75	173.67	10.62	-0.13	-10.62
15676	90.69	13.50	94	9528.2	5210.72	-5237.57	621.40	5274.31	173.23	12.39	0.57	-12.37
15771	90.27	4.72	95	9527.4	5116.52	-5143.87	636.43	5183.09	172.95	9.25	-0.44	-9.24
15865	90.04	1.02	94	9527.1	5022.54	-5050.00	641.13	5090.54	172.76	3.94	-0.24	-3.94
15959	88.95	0.33	94	9528.0	4928.58	-4956.01	642.24	4997.45	172.62	1.37	-1.16	-0.73
16054	90.10	2.26	95	9528.7	4833.60	-4861.05	644.39	4903.57	172.45	2.36	1.21	2.03
16148	89.12	2.16	94	9529.4	4739.60	-4767.12	648.01	4810.96	172.26	1.05	-1.04	-0.11
16242	89.93	0.47	94	9530.2	4645.62	-4673.15	650.17	4718.17	172.08	1.99	0.86	-1.80
16337	89.82	2.78	95	9530.4	4550.63	-4578.20	652.86	4624.51	171.88	2.43	-0.12	2.43
16431	89.85	2.71	94	9530.6	4456.63	-4484.31	657.36	4532.23	171.66	0.08	0.03	-0.07
16526	89.37	0.14	95	9531.3	4361.65	-4389.35	659.73	4438.65	171.45	2.75	-0.51	-2.71
16621	90.18	2.08	95	9531.7	4266.67	-4294.37	661.57	4345.03	171.24	2.21	0.85	2.04
16715	91.28	3.75	94	9530.5	4172.69	-4200.50	666.35	4253.03	170.99	2.13	1.17	1.78

Minimum Radius of Curvature

API: 42-109-34214 **Well: Hay Valerie 0014WA** **Wellhead Location** **Lat: 31.797114**
Operator: Chevron **Area: Delaware** **Long: -104.050975**
Rig: Patterson 289 **Type: U Lateral** **Magnetic Declination: 8.38**
TD: 20,382' **Plane of Proposal: 182.14**

Measured Depth Ft	Drift Angle Deg	Azimuth Direction Deg	Course Length Ft	TVD Ft	Vertical Section Ft	COORDINATES		CLOSURE		Dog Leg Severity Deg/100'	Build / Drop Deg/100'	Left / Right Deg/100'
						N-S Ft	E-W Ft	Distance FT	Direction Deg			
16810	91.11	2.19	95	9528.5	4077.73	-4105.66	671.27	4160.17	170.71	1.65	-0.18	-1.64
16905	90.32	3.36	95	9527.3	3982.74	-4010.78	675.87	4067.32	170.43	1.49	-0.83	1.23
17000	90.52	3.80	95	9526.6	3887.77	-3915.97	681.80	3974.88	170.12	0.51	0.21	0.46
17094	90.29	2.78	94	9525.9	3793.80	-3822.12	687.19	3883.41	169.81	1.11	-0.24	-1.09
17188	90.55	0.60	94	9525.2	3699.81	-3728.17	689.97	3791.48	169.52	2.34	0.28	-2.32
17283	90.83	1.63	95	9524.1	3604.83	-3633.20	691.81	3698.48	169.22	1.12	0.29	1.08
17377	90.35	1.53	94	9523.1	3510.84	-3539.24	694.41	3606.72	168.90	0.52	-0.51	-0.11
17473	90.66	1.79	96	9522.3	3414.85	-3443.28	697.19	3513.16	168.55	0.42	0.32	0.27
17567	89.93	1.64	94	9521.8	3320.85	-3349.33	700.00	3421.70	168.20	0.79	-0.78	-0.16
17662	89.85	0.27	95	9522.0	3225.88	-3254.34	701.58	3329.11	167.83	1.44	-0.08	-1.44
17758	91.19	4.89	96	9521.1	3129.91	-3158.47	705.90	3236.40	167.40	5.01	1.40	4.81
17852	91.92	9.07	94	9518.6	3036.30	-3065.23	717.32	3148.04	166.83	4.51	0.78	4.45
17947	90.38	7.95	95	9516.7	2941.91	-2971.29	731.37	3059.98	166.17	2.00	-1.62	-1.18
18042	90.63	3.12	95	9515.8	2847.11	-2876.77	740.53	2970.55	165.56	5.09	0.26	-5.08
18136	90.63	359.63	94	9514.8	2753.14	-2782.82	742.79	2880.24	165.06	3.71	0.00	379.27
18231	90.41	358.57	95	9513.9	2658.28	-2687.83	741.30	2788.18	164.58	1.14	-0.23	-1.12
18325	90.29	358.51	94	9513.3	2564.47	-2593.87	738.90	2697.06	164.10	0.14	-0.13	-0.06
18420	90.41	1.36	95	9512.8	2469.55	-2498.88	738.79	2605.80	163.53	3.00	0.13	-375.95
18610	90.29	0.77	190	9511.6	2279.59	-2308.92	742.32	2425.31	162.18	0.32	-0.06	-0.31
18798	89.93	0.79	188	9511.2	2091.64	-2120.93	744.88	2247.93	160.65	0.19	-0.19	0.01
18892	90.71	358.47	94	9510.7	1997.74	-2026.94	744.28	2159.27	159.84	2.60	0.83	380.51
18987	90.01	355.98	95	9510.1	1903.10	-1932.07	739.68	2068.82	159.05	2.72	-0.74	-2.62
19082	90.69	0.23	95	9509.5	1808.36	-1837.14	736.54	1979.29	158.15	4.53	0.72	-374.47
19176	90.91	1.26	94	9508.2	1714.39	-1743.16	737.76	1892.85	157.06	1.12	0.23	1.10
19271	89.62	7.52	95	9507.8	1619.52	-1648.49	745.03	1809.03	155.68	6.73	-1.36	6.59
19366	89.71	7.25	95	9508.3	1524.92	-1554.28	757.24	1728.93	154.02	0.30	0.09	-0.28
19461	89.44	4.51	95	9509.1	1430.13	-1459.79	766.97	1649.01	152.28	2.90	-0.28	-2.88
19556	89.12	7.55	95	9510.2	1335.37	-1365.33	776.95	1570.92	150.36	3.22	-0.34	3.20
19650	90.15	5.43	94	9510.8	1241.65	-1271.94	787.57	1496.03	148.23	2.51	1.10	-2.26
19745	90.10	358.78	95	9510.6	1146.70	-1177.06	791.06	1418.18	146.10	7.00	-0.05	371.95
19840	90.63	355.26	95	9510.0	1052.10	-1082.21	786.12	1337.59	144.01	3.75	0.56	-3.71
19934	90.01	1.56	94	9509.5	958.35	-988.29	783.51	1261.20	141.59	6.73	-0.66	-376.28
20029	90.10	2.97	95	9509.4	863.35	-893.37	787.27	1190.76	138.61	1.49	0.09	1.48
20124	90.15	2.80	95	9509.2	768.36	-798.49	792.05	1124.69	135.23	0.19	0.05	-0.18
20219	89.68	354.64	95	9509.3	673.61	-703.60	789.93	1057.84	131.69	8.60	-0.49	370.36
20314	90.43	347.27	95	9509.3	580.48	-609.84	775.00	986.17	128.20	7.80	0.79	-7.76
20350	90.46	348.15	36	9509.0	545.61	-574.67	767.34	958.67	126.83	2.45	0.08	2.44
20382	90.46	348.15	32	9508.7	514.56	-543.35	760.77	934.88	125.53	0.00	0.00	0.00