



Company: Jay-Bee Oil & Gas
 Well: Grumpy 4
 Location: Tyler Co., WV
 Rig: Precision 823
 API No: 47-095-02629-00-00
 Start Date: 08/29/21 Start Depth: 317

Job Number: 68142 Calculation Method: Minimum Curvature
 Magnetic Declination: -7.75 Proposed Azimuth: 157.41
 Grid Correction: 0.15 Depth Ref: RKB 1313 ft
 Total Correction: -7.9 Field: Marcellus
 North reference: Grid Location Lat/Long: 39.467651, -80.764166
 End Date: End Depth:

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 Plan # 3
 WV Department of Environmental Protection

Survey Tool Type	Bit Depth (ft)	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Direction	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')	Run #
									+N/-S (ft)	+E/-W (ft)	Distance (ft)	Angle (deg)				
TIP	312.50	312.50	1.04	289.55	N 70.5 W	0	312.47	-2.99	2.78	-1.66	3.24	360.00	0.00	0	0	0
1st Svy	490	402	1.03	254.56	S 74.6 W	90	401.96	-3.85	2.84	-3.20	4.28	311.56	0.70	-0.01	-39.09	1
Velocity	579	491	1.59	256.46	S 76.5 W	89	490.93	-4.14	2.34	-5.17	5.68	294.30	0.63	0.63	2.13	1
Velocity	668	580	2.25	277.33	N 82.7 W	89	579.88	-5.21	2.27	-8.11	8.42	285.64	1.07	0.74	23.45	1
Velocity	757	669	2.43	275.07	N 84.9 W	89	668.81	-6.96	2.66	-11.72	12.02	282.79	0.23	0.20	-2.54	1
Velocity	846	758	1.29	251.35	S 71.4 W	89	757.76	-7.90	2.51	-14.55	14.76	279.77	1.52	-1.28	-26.65	1
Velocity	935	847	0.42	196.83	S 16.8 W	89	846.75	-7.72	1.87	-15.59	15.70	276.85	1.24	-0.98	-61.26	1
Velocity	1024	936	0.50	113.72	S 66.3 E	89	935.75	-7.19	1.40	-15.33	15.39	275.23	0.69	0.09	-93.38	1
Velocity	1113	1025	0.77	117.08	S 62.9 E	89	1024.74	-6.45	0.98	-14.44	14.47	273.87	0.31	0.30	3.78	1
Velocity	1202	1114	0.84	127.85	S 52.2 E	89	1113.74	-5.42	0.30	-13.39	13.40	271.30	0.19	0.08	12.10	1
Velocity	1291	1203	0.92	124.70	S 55.3 E	89	1202.73	-4.26	-0.50	-12.29	12.30	267.65	0.11	0.09	-3.54	1
Velocity	1380	1292	0.55	104.03	S 76.0 E	89	1291.72	-3.40	-1.01	-11.29	11.33	264.87	0.51	-0.42	-23.22	1
Velocity	1470	1382	0.37	15.43	N 15.4 E	90	1381.72	-3.37	-0.84	-10.79	10.83	265.56	0.73	-0.20	-98.44	1
Velocity	1558	1470	0.72	342.22	N 17.8 W	88	1469.71	-4.15	-0.04	-10.89	10.89	269.80	0.52	0.40	-37.74	1
Velocity	1647	1559	1.27	336.92	N 23.1 W	89	1558.70	-5.69	1.40	-11.44	11.53	276.98	0.63	0.62	-5.96	1
Velocity	1736	1648	1.55	341.00	N 19.0 W	89	1647.67	-7.88	3.45	-12.22	12.70	285.75	0.33	0.31	4.58	1
Velocity	1825	1737	1.26	348.23	N 11.8 W	89	1736.64	-10.04	5.54	-12.81	13.96	293.39	0.38	-0.33	8.12	1
Velocity	1917	1829	0.45	56.07	N 56.1 E	92	1828.63	-11.10	6.74	-12.72	14.39	297.90	1.27	-0.88	73.74	1
Velocity	2006	1918	0.72	97.89	S 82.1 E	89	1917.63	-10.89	6.85	-11.88	13.71	299.99	0.55	0.30	46.99	1
Velocity	2095	2007	0.82	103.62	S 76.4 E	89	2006.62	-10.23	6.63	-10.70	12.59	301.76	0.14	0.11	6.44	1
Velocity	2184	2096	0.77	115.74	S 64.3 E	89	2095.61	-9.41	6.22	-9.55	11.39	303.08	0.20	-0.06	13.62	1
Velocity	2273	2185	0.80	39.90	N 39.9 E	89	2184.61	-9.25	6.43	-8.61	10.75	306.77	1.08	0.03	-85.21	1
Velocity	2362	2274	1.34	16.67	N 16.7 E	89	2273.59	-10.34	7.91	-7.91	11.19	314.99	0.77	0.61	-26.10	1
Velocity	2451	2363	1.30	21.56	N 21.6 E	89	2362.57	-11.87	9.84	-7.24	12.22	323.66	0.13	-0.04	5.49	1
Velocity	2540	2452	1.29	47.07	N 47.1 E	89	2451.55	-12.94	11.46	-6.14	13.00	331.84	0.64	-0.01	28.66	1
Velocity	2665	2586	1.23	37.50	N 37.5 E	134	2585.51	-14.18	13.63	-4.16	14.25	343.04	0.16	-0.04	-7.14	2
Velocity	2709	2630	2.36	56.02	N 56.0 E	44	2629.49	-14.60	14.51	-3.12	14.85	347.87	2.85	2.57	42.09	2
Velocity	2798	2719	5.22	59.00	N 59.0 E	89	2718.29	-15.55	17.62	1.87	17.72	6.06	3.22	3.21	3.35	2
Velocity	2888	2809	6.66	58.87	N 58.9 E	90	2807.80	-16.93	22.43	9.85	24.50	23.71	1.60	1.60	-0.14	2
Velocity	2977	2898	7.17	66.40	N 66.4 E	89	2896.16	-17.79	27.32	19.36	33.49	35.32	1.17	0.57	8.46	2
Velocity	3066	2987	8.53	70.62	N 70.6 E	89	2984.32	-17.52	31.74	30.67	44.14	44.02	1.66	1.53	4.74	2
Velocity	3155	3076	9.85	73.69	N 73.7 E	89	3072.18	-16.32	36.07	44.21	57.05	50.79	1.58	1.48	3.45	2
Velocity	3244	3165	10.47	77.36	N 77.4 E	89	3159.78	-14.09	39.97	59.40	71.60	56.06	1.01	0.70	4.12	2
Velocity	3333	3254	12.67	79.77	N 79.8 E	89	3246.97	-10.60	43.48	76.90	88.34	60.52	2.53	2.47	2.71	2
Velocity	3422	3343	13.09	80.50	N 80.5 E	89	3333.73	-6.23	46.87	96.45	107.24	64.08	0.51	0.47	0.82	2
Velocity	3511	3432	13.56	78.63	N 78.6 E	89	3420.33	-1.92	50.59	116.62	127.12	66.55	0.72	0.53	-2.10	2
Velocity	3600	3521	14.31	75.68	N 75.7 E	89	3506.72	1.70	55.37	137.50	148.23	68.07	1.16	0.84	-3.31	2
Velocity	3689	3610	14.47	72.90	N 72.9 E	89	3592.92	4.34	61.36	158.79	170.23	68.87	0.80	0.18	-3.12	2
Velocity	3778	3699	14.03	72.42	N 72.4 E	89	3679.19	6.35	67.89	179.70	192.10	69.30	0.51	-0.49	-0.54	2
Velocity	3867	3788	13.77	72.41	N 72.4 E	89	3765.58	8.21	74.35	200.08	213.45	69.62	0.29	-0.29	-0.01	2
Velocity	3958	3879	14.22	73.53	N 73.5 E	91	3853.88	10.35	80.79	221.13	235.42	69.93	0.58	0.49	1.23	2
Velocity	4047	3968	14.32	73.74	N 73.7 E	89	3940.13	12.73	86.97	242.17	257.32	70.25	0.13	0.11	0.24	2

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Survey Tool Type	Bit Depth (ft)	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Direction	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')	Run #
									+N/-S (ft)	+E/-W (ft)	Distance (ft)	Angle (deg)				
Velocity	4136	4057	13.44	73.46	N 73.5 E	89	4026.53	15.03	93.00	262.66	278.63	70.50	0.99	-0.99	-0.31	2
Velocity	4226	4147	12.77	71.98	N 72.0 E	90	4114.19	16.93	99.05	282.14	299.02	70.66	0.83	-0.74	-1.64	2
Velocity	4315	4236	12.64	69.62	N 69.6 E	89	4201.01	18.09	105.49	300.62	318.59	70.66	0.60	-0.15	-2.65	2
Velocity	4403	4324	12.85	67.70	N 67.7 E	88	4286.84	18.51	112.55	318.70	337.99	70.55	0.54	0.24	-2.18	2
Velocity	4492	4413	12.82	69.02	N 69.0 E	89	4373.62	18.83	119.84	337.08	357.75	70.43	0.33	-0.03	1.48	2
Velocity	4581	4502	12.75	69.06	N 69.1 E	89	4460.41	19.40	126.89	355.47	377.44	70.36	0.08	-0.08	0.04	2
Velocity	4670	4591	13.42	70.39	N 70.4 E	89	4547.10	20.21	133.86	374.37	397.59	70.32	0.83	0.75	1.49	2
Velocity	4759	4680	14.27	69.94	N 69.9 E	89	4633.51	21.24	141.09	394.40	418.88	70.32	0.96	0.96	-0.51	2
Velocity	4848	4769	14.38	68.77	N 68.8 E	89	4719.75	21.98	148.86	415.01	440.90	70.27	0.35	0.12	-1.31	2
Velocity	4937	4858	14.30	67.68	N 67.7 E	89	4805.97	22.30	157.03	435.48	462.93	70.17	0.32	-0.09	-1.22	2
Velocity	5026	4947	13.79	69.10	N 69.1 E	89	4892.31	22.66	164.99	455.56	484.51	70.09	0.69	-0.57	1.60	2
Velocity	5115	5036	14.18	72.30	N 72.3 E	89	4978.68	23.90	172.09	475.85	506.01	70.12	0.97	0.44	3.60	2
Velocity	5204	5125	14.50	74.32	N 74.3 E	89	5064.90	26.17	178.42	496.96	528.02	70.25	0.67	0.36	2.27	2
Velocity	5293	5214	14.80	73.35	N 73.4 E	89	5151.01	28.69	184.68	518.58	550.49	70.40	0.44	0.34	-1.09	2
Velocity	5382	5303	14.74	72.74	N 72.7 E	89	5237.07	30.92	191.30	540.29	573.15	70.50	0.19	-0.07	-0.69	2
Velocity	5473	5394	14.75	71.55	N 71.6 E	91	5325.07	32.83	198.40	562.33	596.30	70.57	0.33	0.01	-1.31	2
Velocity	5562	5483	13.95	72.62	N 72.6 E	89	5411.30	34.62	205.19	583.32	618.35	70.62	0.95	-0.90	1.20	2
Velocity	5651	5572	13.19	74.95	N 75.0 E	89	5497.81	36.93	211.03	603.36	639.20	70.72	1.05	-0.85	2.62	2
Velocity	5740	5661	12.57	75.21	N 75.2 E	89	5584.57	39.58	216.14	622.53	658.98	70.85	0.70	-0.70	0.29	2
Velocity	5828	5749	13.66	74.79	N 74.8 E	88	5670.27	42.21	221.31	641.82	678.90	70.97	1.24	1.24	-0.48	2
Velocity	5917	5838	13.95	73.01	N 73.0 E	89	5756.70	44.61	227.21	662.22	700.11	71.06	0.58	0.33	-2.00	2
Velocity	6006	5927	13.74	72.00	N 72.0 E	89	5843.12	46.50	233.61	682.53	721.40	71.11	0.36	-0.24	-1.13	2
Velocity	6095	6016	13.68	70.54	N 70.5 E	89	5929.58	47.92	240.38	702.50	742.49	71.11	0.39	-0.07	-1.64	2
Velocity	6185	6106	14.37	70.42	N 70.4 E	90	6016.90	49.09	247.67	723.06	764.30	71.09	0.77	0.77	-0.13	2
Velocity	6274	6195	14.44	64.96	N 65.0 E	89	6103.11	49.19	256.07	743.52	786.38	71.00	1.53	0.08	-6.13	2
Velocity	6363	6284	13.78	65.37	N 65.4 E	89	6189.42	48.34	265.18	763.21	807.97	70.84	0.75	-0.74	0.46	2
Velocity	6452	6373	13.92	67.59	N 67.6 E	89	6275.83	48.00	273.68	782.74	829.21	70.73	0.62	0.16	2.49	2
Velocity	6541	6462	13.87	72.67	N 72.7 E	89	6362.23	49.01	280.94	802.82	850.56	70.71	1.37	-0.06	5.71	2
Velocity	6585	6516	13.80	73.79	N 73.8 E	54	6414.67	50.32	284.66	815.19	863.46	70.75	0.51	-0.13	2.07	3
Velocity	6630	6561	13.35	71.73	N 71.7 E	45	6458.41	51.31	287.79	825.27	874.01	70.78	1.47	-1.00	-4.58	3
Velocity	6675	6606	13.63	87.88	N 87.9 E	45	6502.18	53.55	289.62	835.51	884.28	70.88	8.37	0.62	35.89	3
Velocity	6719	6650	15.21	103.99	S 76.0 E	44	6544.81	58.81	288.41	846.30	894.09	71.18	9.76	3.59	36.61	3
Velocity	6764	6695	18.32	116.62	S 63.4 E	45	6587.91	67.68	283.81	858.35	904.06	71.70	10.61	6.91	28.07	3
Velocity	6809	6740	21.18	122.37	S 57.6 E	45	6630.26	79.70	276.29	871.55	914.29	72.41	7.68	6.36	12.78	3
Velocity	6853	6784	25.78	127.94	S 52.1 E	44	6670.61	94.55	266.14	885.81	924.93	73.28	11.60	10.45	12.66	3
Velocity	6898	6829	29.53	136.58	S 43.4 E	45	6710.48	113.45	252.06	901.17	935.75	74.37	12.18	8.33	19.20	3
Velocity	6943	6874	34.65	141.04	S 39.0 E	45	6748.60	136.10	234.05	916.85	946.25	75.68	12.53	11.38	9.91	3
Velocity	6987	6918	38.72	144.44	S 35.6 E	44	6783.88	161.53	213.11	932.72	956.76	77.13	10.33	9.25	7.73	3
Velocity	7032	6963	41.66	146.41	S 33.6 E	45	6818.25	189.93	189.20	949.18	967.86	78.73	7.12	6.53	4.38	3
Velocity	7077	7008	45.18	148.25	S 31.8 E	45	6850.93	220.38	163.16	965.86	979.55	80.41	8.31	7.82	4.09	3
Velocity	7121	7052	48.16	150.90	S 29.1 E	44	6881.13	252.08	135.56	982.05	991.36	82.14	8.07	6.77	6.02	3
Velocity	7166	7097	51.57	153.39	S 26.6 E	45	6910.13	286.33	105.14	998.10	1003.63	83.99	8.68	7.58	5.53	3

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Velocity	7211	7142	55.71	156.24	S 23.8 E	45	6936.81	322.52	72.35	1013.50	1016.08	85.92	10.52	9.20	6.33	3
Velocity	7256	7187	59.76	158.99	S 21.0 E	45	6960.83	360.56	37.17	1027.97	1028.64	87.93	10.38	9.00	6.11	3
Velocity	7300	7231	62.13	160.86	S 19.1 E	44	6982.20	398.98	1.05	1041.16	1041.16	89.94	6.54	5.39	4.25	3
Velocity	7345	7276	64.65	161.63	S 18.4 E	45	7002.35	439.12	-37.05	1054.09	1054.74	92.01	5.81	5.60	1.71	3
Velocity	7390	7321	68.88	163.32	S 16.7 E	45	7020.10	480.29	-76.47	1066.53	1069.27	94.10	10.01	9.40	3.76	3
Velocity	7435	7366	74.57	164.45	S 15.6 E	45	7034.21	522.73	-117.50	1078.38	1084.76	96.22	12.87	12.64	2.51	3
Velocity	7479	7410	78.52	165.19	S 14.8 E	44	7044.44	565.16	-158.80	1089.58	1101.09	98.29	9.12	8.98	1.68	3
Velocity	7524	7455	80.88	165.45	S 14.6 E	45	7052.49	609.01	-201.62	1100.80	1119.11	100.38	5.28	5.24	0.58	3
Velocity	7569	7500	82.92	165.96	S 14.0 E	45	7058.83	653.09	-244.79	1111.80	1138.43	102.42	4.67	4.53	1.13	3
Velocity	7613	7544	84.95	165.90	S 14.1 E	44	7063.48	696.36	-287.23	1122.43	1158.60	104.35	4.62	4.61	-0.14	3
Velocity	7658	7589	88.02	165.66	S 14.3 E	45	7066.24	740.79	-330.76	1133.47	1180.74	106.27	6.84	6.82	-0.53	3
Velocity	7702	7633	87.68	165.59	S 14.4 E	44	7067.89	784.31	-373.36	1144.38	1203.75	108.07	0.79	-0.77	-0.16	3
Velocity	7747	7678	87.40	166.07	S 13.9 E	45	7069.82	828.78	-416.95	1155.39	1228.32	109.84	1.23	-0.62	1.07	3
Velocity	7791	7722	88.74	163.82	S 16.2 E	44	7071.30	872.37	-459.41	1166.81	1253.99	111.49	5.95	3.05	-5.11	3
Velocity	7836	7767	88.53	164.07	S 15.9 E	45	7072.37	917.07	-502.64	1179.25	1281.91	113.09	0.73	-0.47	0.56	3
Velocity	7880	7811	88.61	164.64	S 15.4 E	44	7073.47	960.73	-545.00	1191.11	1309.88	114.59	1.31	0.18	1.30	3
Velocity	7970	7901	88.45	164.73	S 15.3 E	90	7075.78	1049.98	-631.77	1214.88	1369.33	117.48	0.20	-0.18	0.10	3
Velocity	8059	7990	89.19	164.85	S 15.2 E	89	7077.61	1138.22	-717.64	1238.22	1431.15	120.10	0.84	0.83	0.13	3
Velocity	8148	8079	90.02	164.83	S 15.2 E	89	7078.23	1226.47	-803.54	1261.50	1495.67	122.50	0.93	0.93	-0.02	3
Velocity	8238	8169	90.55	167.80	S 12.2 E	90	7077.78	1315.37	-890.97	1282.79	1561.85	124.78	3.35	0.59	3.30	3
Velocity	8303	8258	89.82	163.44	S 16.6 E	89	7077.49	1403.44	-977.16	1304.88	1630.20	126.83	4.97	-0.82	-4.90	3
Velocity	8417	8348	89.48	162.97	S 17.0 E	90	7078.04	1492.98	-1063.32	1330.89	1703.50	128.62	0.64	-0.38	-0.52	3
Velocity	8506	8437	90.95	162.48	S 17.5 E	89	7077.71	1581.59	-1148.30	1357.32	1777.89	130.23	1.74	1.65	-0.55	3
Velocity	8595	8526	91.04	161.82	S 18.2 E	89	7076.16	1670.27	-1233.00	1384.59	1854.02	131.69	0.75	0.10	-0.74	3
Velocity	8684	8615	91.47	161.90	S 18.1 E	89	7074.21	1758.98	-1317.56	1412.30	1931.46	133.01	0.49	0.48	0.09	3
Velocity	8773	8704	89.98	162.36	S 17.6 E	89	7073.08	1847.67	-1402.26	1439.60	2009.67	134.25	1.75	-1.67	0.52	3
Velocity	8862	8793	89.61	162.85	S 17.2 E	89	7073.40	1936.31	-1487.19	1466.21	2088.42	135.41	0.69	-0.42	0.55	3
Velocity	8951	8882	91.01	162.49	S 17.5 E	89	7072.92	2024.93	-1572.14	1492.72	2167.91	136.48	1.62	1.57	-0.40	3
Velocity	9040	8971	89.27	163.47	S 16.5 E	89	7072.70	2113.50	-1657.24	1518.77	2247.91	137.50	2.24	-1.96	1.10	3
Velocity	9129	9060	89.81	163.71	S 16.3 E	89	7073.42	2201.98	-1742.61	1543.91	2328.17	138.46	0.66	0.61	0.27	3
Velocity	9217	9148	87.97	163.33	S 16.7 E	88	7075.12	2289.46	-1826.98	1568.87	2408.15	139.35	2.14	-2.09	-0.43	3
Velocity	9306	9237	89.11	162.47	S 17.5 E	89	7077.39	2378.02	-1912.01	1595.03	2489.96	140.16	1.60	1.28	-0.97	3
Velocity	9395	9326	90.82	162.07	S 17.9 E	89	7077.45	2466.70	-1996.78	1622.13	2572.63	140.91	1.97	1.92	-0.45	3
Velocity	9484	9415	90.95	162.26	S 17.7 E	89	7076.07	2555.38	-2081.49	1649.39	2655.77	141.61	0.26	0.15	0.21	3
Velocity	9574	9505	89.99	162.98	S 17.0 E	90	7075.33	2645.01	-2167.38	1676.27	2739.97	142.28	1.33	-1.07	0.80	3
Velocity	9662	9593	91.35	162.51	S 17.5 E	88	7074.30	2732.62	-2251.41	1702.37	2822.57	142.91	1.64	1.55	-0.53	3
Velocity	9751	9682	91.10	163.88	S 16.1 E	89	7072.40	2821.14	-2336.59	1728.09	2906.19	143.51	1.56	-0.28	1.54	3
Velocity	9840	9771	91.04	163.59	S 16.4 E	89	7070.74	2909.58	-2422.01	1753.02	2989.85	144.10	0.33	-0.07	-0.33	3
Velocity	9929	9860	90.67	163.09	S 16.9 E	89	7069.41	2998.10	-2507.27	1778.53	3074.01	144.65	0.70	-0.42	-0.56	3
Velocity	10019	9950	90.41	163.75	S 16.3 E	90	7068.56	3087.60	-2593.52	1804.21	3159.36	145.18	0.79	-0.29	0.73	3
Velocity	10108	10039	89.96	164.07	S 15.9 E	89	7068.28	3176.02	-2679.03	1828.88	3243.76	145.68	0.62	-0.51	0.36	3
Velocity	10197	10128	90.39	164.39	S 15.6 E	89	7068.00	3264.39	-2764.68	1853.06	3328.26	146.17	0.60	0.48	0.36	3

Handwritten mark resembling a stylized 'S' or '3'.



Company: Jay-Bee Oil & Gas
 Well: Grumpy 4
 Location: Tyler Co., WV
 Rig: Precision 823
 API No: 47-095-02629-00-00
 Start Date: 08/29/21 Start Depth: 317

Job Number: 68142 Calculation Method: Minimum Curvature
 Magnetic Declination: -7.75 Proposed Azimuth: 157.41
 Grid Correction: 0.15 Depth Ref: RKB 1313 ft
 Total Correction: -7.9 Field: Marcellus
 North reference: Grid Location Lat/Long: 39.467651, -80.764166
 End Date: End Depth:

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Survey Tool Type	Bit Depth (ft)	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Direction	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates +N/-S (ft)	+E/-W (ft)	Closure Distance (ft)	Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')	Run #
Velocity	10286	10217	89.72	164.69	S 15.3 E	89	7067.92	3352.71	-2850.46	1876.79	3412.84	146.64	0.82	-0.75	0.34	3
Velocity	10375	10306	89.42	165.18	S 14.8 E	89	7068.59	3440.94	-2936.40	1899.92	3497.45	147.10	0.65	-0.34	0.55	3
Velocity	10464	10395	89.07	165.16	S 14.8 E	89	7069.76	3529.11	-3022.43	1922.70	3582.16	147.54	0.39	-0.39	-0.02	3
Velocity	10553	10484	89.62	163.23	S 16.8 E	89	7070.78	3617.48	-3108.05	1946.94	3667.50	147.94	2.25	0.62	-2.17	3
Velocity	10643	10574	90.65	163.98	S 16.0 E	90	7070.56	3706.95	-3194.39	1972.34	3754.23	148.31	1.42	1.14	0.83	3
Velocity	10732	10663	90.42	163.99	S 16.0 E	89	7069.73	3795.36	-3279.93	1996.89	3839.99	148.67	0.26	-0.26	0.01	3
Velocity	10821	10752	89.02	163.60	S 16.4 E	89	7070.17	3883.81	-3365.39	2021.73	3925.97	149.01	1.63	-1.57	-0.44	3
Velocity	10912	10843	89.82	163.79	S 16.2 E	91	7071.09	3974.25	-3452.73	2047.27	4014.06	149.33	0.90	0.88	0.21	3
Velocity	11001	10932	91.27	164.01	S 16.0 E	89	7070.24	4062.68	-3538.23	2071.95	4100.25	149.65	1.65	1.63	0.25	3
Velocity	11091	11022	91.05	163.64	S 16.4 E	90	7068.42	4152.10	-3624.65	2097.02	4187.55	149.95	0.48	-0.24	-0.41	3
Velocity	11181	11112	90.19	164.06	S 15.9 E	90	7067.45	4241.52	-3711.09	2122.05	4274.96	150.24	1.06	-0.96	0.47	3
Velocity	11271	11202	90.96	163.69	S 16.3 E	90	7066.54	4330.94	-3797.55	2147.05	4362.47	150.52	0.95	0.86	-0.41	3
Velocity	11361	11292	90.89	163.89	S 16.1 E	90	7065.09	4420.37	-3883.96	2172.17	4450.11	150.78	0.24	-0.08	0.22	3
Velocity	11452	11383	90.42	164.19	S 15.8 E	91	7064.05	4510.76	-3971.45	2197.19	4538.72	151.05	0.61	-0.52	0.33	3
Velocity	11542	11473	89.62	164.63	S 15.4 E	90	7064.02	4600.09	-4058.13	2221.37	4626.33	151.30	1.01	-0.89	0.49	3
Velocity	11632	11563	90.84	163.50	S 16.5 E	90	7063.66	4689.48	-4144.67	2246.08	4714.15	151.55	1.85	1.36	-1.26	3
Velocity	11722	11653	90.76	164.06	S 15.9 E	90	7062.40	4778.91	-4231.08	2271.22	4802.13	151.77	0.63	-0.09	0.62	3
Velocity	11812	11743	89.27	161.50	S 18.5 E	90	7062.38	4868.51	-4317.04	2297.86	4890.50	151.97	3.29	-1.66	-2.84	3
Velocity	11902	11833	88.85	162.18	S 17.8 E	90	7063.85	4958.23	-4402.54	2325.91	4979.18	152.15	0.89	-0.47	0.76	3
Velocity	11993	11924	90.36	162.55	S 17.5 E	91	7064.48	5048.88	-4489.26	2353.47	5068.76	152.33	1.71	1.66	0.41	3
Velocity	12083	12014	90.18	162.76	S 17.2 E	90	7064.06	5138.50	-4575.17	2380.31	5157.32	152.51	0.31	-0.20	0.23	3
Velocity	12173	12104	89.59	163.28	S 16.7 E	90	7064.24	5228.07	-4661.24	2406.59	5245.84	152.69	0.87	-0.66	0.58	3
Velocity	12263	12194	90.86	162.68	S 17.3 E	90	7063.88	5317.64	-4747.30	2432.93	5334.42	152.87	1.56	1.41	-0.67	3
Velocity	12353	12284	90.35	162.41	S 17.6 E	90	7062.93	5407.28	-4833.15	2459.93	5423.15	153.03	0.64	-0.57	-0.30	3
Velocity	12443	12374	90.59	163.56	S 16.4 E	90	7062.20	5496.85	-4919.20	2486.26	5511.81	153.19	1.31	0.27	1.28	3
Velocity	12534	12465	89.36	163.75	S 16.3 E	91	7062.24	5587.31	-5006.52	2511.87	5601.32	153.36	1.37	-1.35	0.21	3
Velocity	12624	12555	89.05	164.27	S 15.7 E	90	7063.48	5676.70	-5093.03	2536.66	5689.78	153.52	0.67	-0.34	0.58	3
Velocity	12714	12645	88.41	164.78	S 15.2 E	90	7065.48	5765.98	-5179.75	2560.67	5778.13	153.69	0.91	-0.71	0.57	3
Velocity	12804	12735	89.24	163.88	S 16.1 E	90	7067.32	5855.31	-5266.38	2584.97	5866.59	153.86	1.36	0.92	-1.00	3
Velocity	12895	12826	90.25	162.83	S 17.2 E	91	7067.73	5945.82	-5353.57	2611.03	5956.36	154.00	1.60	1.11	-1.15	3
Velocity	12985	12916	89.56	162.49	S 17.5 E	90	7067.88	6035.44	-5439.48	2637.86	6045.35	154.13	0.85	-0.77	-0.38	3
Velocity	13075	13006	91.02	162.29	S 17.7 E	90	7067.42	6125.09	-5525.26	2665.09	6134.42	154.25	1.64	1.62	-0.22	3
Velocity	13165	13096	90.50	161.68	S 18.3 E	90	7066.23	6214.80	-5610.84	2692.92	6223.61	154.36	0.89	-0.58	-0.68	3
Velocity	13256	13187	90.56	162.41	S 17.6 E	91	7065.39	6305.50	-5697.40	2720.97	6313.80	154.47	0.80	0.07	0.80	3
Velocity	13346	13277	91.22	163.71	S 16.3 E	90	7063.99	6395.05	-5783.48	2747.19	6402.79	154.59	1.62	0.73	1.44	3
Velocity	13436	13367	91.39	164.36	S 15.6 E	90	7061.94	6484.42	-5869.99	2771.94	6491.56	154.72	0.75	0.19	0.72	3
Velocity	13526	13457	90.90	164.23	S 15.8 E	90	7060.14	6573.75	-5956.61	2796.29	6580.31	154.85	0.56	-0.54	-0.14	3
Velocity	13617	13548	90.41	164.28	S 15.7 E	91	7059.10	6664.10	-6044.19	2820.98	6670.10	154.98	0.54	-0.54	0.05	3
Velocity	13707	13638	89.79	164.70	S 15.3 E	90	7058.94	6753.41	-6130.91	2845.05	6758.87	155.11	0.83	-0.69	0.47	3
Velocity	13798	13729	90.30	163.40	S 16.6 E	91	7058.87	6843.80	-6218.41	2870.06	6848.78	155.22	1.53	0.56	-1.43	3
Velocity	13887	13818	89.99	163.59	S 16.4 E	89	7058.65	6932.30	-6303.74	2895.34	6936.87	155.33	0.41	-0.35	0.21	3
Velocity	13977	13908	90.01	163.29	S 16.7 E	90	7058.65	7021.80	-6390.00	2920.99	7025.98	155.43	0.33	0.02	-0.33	3

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Company: Jay-Bee Oil & Gas
 Well: Grumpy 4
 Location: Tyler Co., WV
 Rig: Precision 823
 API No: 47-095-02629-00-00
 Start Date: 08/29/21 Start Depth: 317

Job Number: 68142 Calculation Method: Minimum Curvature
 Magnetic Declination: -7.75 Proposed Azimuth: 157.41
 Grid Correction: 0.15 Depth Ref: RKB 1313 ft Plan #
 Total Correction: -7.9 Field: Marcellus
 North reference: Grid Location Lat/Long: 39.467651, -80.764166

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Survey Tool Type	Bit Depth (ft)	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Direction	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')	Run #
									+N/-S (ft)	+E/-W (ft)	Distance (ft)	Angle (deg)				
Velocity	14068	13999	90.02	163.57	S 16.4 E	91	7058.62	7112.30	-6477.23	2946.94	7116.10	155.54	0.31	0.01	0.31	3
Velocity	14157	14088	89.68	163.55	S 16.5 E	89	7058.86	7200.78	-6562.59	2972.13	7204.24	155.63	0.38	-0.38	-0.02	3
Velocity	14247	14178	90.76	163.58	S 16.4 E	90	7058.51	7290.26	-6648.91	2997.60	7293.39	155.73	1.20	1.20	0.03	3
Velocity	14337	14268	90.33	164.20	S 15.8 E	90	7057.65	7379.68	-6735.37	3022.57	7382.49	155.83	0.84	-0.48	0.69	3
Velocity	14428	14359	90.18	163.64	S 16.4 E	91	7057.25	7470.10	-6822.81	3047.77	7472.59	155.93	0.64	-0.16	-0.62	3
Velocity	14517	14448	90.75	163.67	S 16.3 E	89	7056.53	7558.56	-6908.21	3072.82	7560.79	156.02	0.64	0.64	0.03	3
Velocity	14608	14539	91.30	164.53	S 15.5 E	91	7054.90	7648.93	-6995.71	3097.74	7650.88	156.12	1.12	0.60	0.95	3
Velocity	14698	14629	91.32	165.40	S 14.6 E	90	7052.84	7738.12	-7082.61	3121.08	7739.80	156.22	0.97	0.02	0.97	3
Velocity	14788	14719	91.12	165.32	S 14.7 E	90	7050.93	7827.24	-7169.66	3143.83	7828.65	156.32	0.24	-0.22	-0.09	3
Velocity	14878	14809	90.56	163.02	S 17.0 E	90	7049.61	7916.60	-7256.24	3168.37	7917.80	156.41	2.63	-0.62	-2.56	3
Velocity	14967	14898	89.51	163.47	S 16.5 E	89	7049.55	8005.13	-7341.46	3194.03	8006.17	156.49	1.28	-1.18	0.51	3
Velocity	15057	14988	89.44	164.37	S 15.6 E	90	7050.38	8094.55	-7427.93	3218.96	8095.42	156.57	1.00	-0.08	1.00	3
Velocity	15148	15079	90.02	166.25	S 13.8 E	91	7050.81	8184.68	-7515.95	3242.03	8185.37	156.67	2.16	0.64	2.07	3
Velocity	15238	15169	89.35	164.75	S 15.3 E	90	7051.30	8273.78	-7603.08	3264.56	8274.31	156.76	1.83	-0.74	-1.67	3
Velocity	15328	15259	88.94	164.72	S 15.3 E	90	7052.64	8363.04	-7689.89	3288.26	8363.44	156.85	0.46	-0.46	-0.03	3
Velocity	15418	15349	88.78	165.09	S 14.9 E	90	7054.43	8452.25	-7776.77	3311.69	8452.54	156.93	0.45	-0.18	0.41	3
Velocity	15508	15439	89.88	164.85	S 15.2 E	90	7055.49	8541.46	-7863.68	3335.03	8541.66	157.02	1.25	1.22	-0.27	3
Velocity	15598	15529	89.90	165.38	S 14.6 E	90	7055.66	8630.65	-7950.66	3358.15	8630.77	157.10	0.59	0.02	0.59	3
Velocity	15688	15619	89.96	167.69	S 12.3 E	90	7055.77	8719.50	-8038.18	3379.10	8719.56	157.20	2.57	0.07	2.57	3
Velocity	15779	15710	90.47	165.67	S 14.3 E	91	7055.43	8809.31	-8126.73	3400.07	8809.32	157.30	2.29	0.56	-2.22	3
Velocity	15869	15800	90.53	165.92	S 14.1 E	90	7054.64	8898.34	-8213.98	3422.15	8898.34	157.38	0.29	0.07	0.28	3

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