

51-01711

H WELLPLANNING DETAILED DIRECTIONAL SURVEY REPORT SURVEY\_DATE 10/18/2014

H HEADER INFORMATION

H COMPANY : Chevron Appalachia, LLC
H FIELD : Marshall County, WV
H SITE : Francis Pad
H WELL : Francis 3H
H WELLPATH : Francis 3H
H DEPTH UNIT: ft

H WELL & MAP INFORMATION

H Geodetic System: US State Plane 1983
H GeodeticDatum: North American Datum 1983
H Map Zone: West Virginia Northern Zone
H WELL EW MAP : 1633906.41
H WELL NS MAP : 502427.81
H DATUM ELEVN (KB-MSL) : 1292.00
H VSECT ANGLE : 112.54
H Azimuth Reference: True
H Magnetic Declination: -7.970
H Grid Convergence: -0.760

H SURVEY TYPE INFORMATION

H 100.00 - 807.00 SURVEY #1 - SDI GYRO IN 5" DRILL PIPE : SDI STANDARD KEEPER 103
H 852.00 - 2645.00 SURVEY #2 - SDI MWD 12-1/4 HOLE : SDI MWD
H 2776.00 - 11655.00 SURVEY #3 - SDI MWD 8-1/2 HOLE : SDI MWD

H SURVEY LIST

Table with 11 columns: MD, INC, AZI, TVD, V.Sec., DLS, N/S, E/W, EASTING(X), NORTHING(Y), TOOL. It lists survey data points for three different survey types: SDI Standard Keeper 103, SDI MWD, and SDI MWD (3).

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3815	0.84	306.6	3811	65.94	0.09	62.95	97.52	1634004.76	502489.463	SDI MWD (3)
3910	0.89	318.45	3906	64.6	0.2	63.91	96.47	1634003.72	502490.443	SDI MWD (3)
4004	0.67	342.43	4000	63.59	0.41	64.98	95.82	1634003.09	502491.523	SDI MWD (3)
4099	0.65	354.71	4095	62.98	0.15	66.05	95.6	1634002.88	502492.593	SDI MWD (3)
4194	0.6	346.92	4190	62.44	0.1	67.07	95.44	1634002.73	502493.613	SDI MWD (3)
4316	0.7	336.25	4312	61.53	0.13	68.38	94.99	1634002.31	502494.923	SDI MWD (3)
4410	0.71	203.7	4406	61.1	1.37	68.37	94.53	1634001.84	502494.923	SDI MWD (3)
4505	0.83	196.86	4501	61.16	0.16	67.17	94.09	1634001.39	502493.733	SDI MWD (3)
4552	0.82	194.07	4547.9	61.24	0.09	66.52	93.91	1634001.2	502493.083	SDI MWD (3)
4600	1.14	101.24	4595.9	61.76	2.99	66.09	94.3	1634001.58	502492.653	SDI MWD (3)
4647	3.57	87.44	4642.9	63.54	5.27	66.07	96.22	1634003.5	502492.603	SDI MWD (3)
4694	6.93	79.57	4689.7	67.25	7.29	66.65	100.47	1634007.76	502493.123	SDI MWD (3)
4789	13.6	72.81	4783.1	80.66	7.12	70.99	116.8	1634024.14	502497.253	SDI MWD (3)
4883	19.61	71.94	4873.2	101.16	6.4	79.15	142.37	1634049.83	502505.073	SDI MWD (3)
4978	25.49	70.29	4960.9	128.42	6.22	91	176.8	1634084.41	502516.463	SDI MWD (3)
5072	30.19	68.88	5044	160.5	5.05	106.35	217.92	1634125.72	502531.263	SDI MWD (3)
5167	39.61	71.48	5121.8	200.71	10.04	124.62	269.03	1634177.08	502548.853	SDI MWD (3)
5262	51.72	73.99	5188.1	252.91	12.88	144.59	333.84	1634242.14	502567.963	SDI MWD (3)
5357	65.55	68.98	5237.4	313.73	15.23	170.53	410.45	1634319.09	502592.883	SDI MWD (3)
5451	67.83	66.01	5274.6	374.69	3.78	203.58	490.18	1634399.25	502624.873	SDI MWD (3)
5545	67.16	64.8	5310.6	433.77	1.39	239.72	569.14	1634478.68	502659.963	SDI MWD (3)
5640	66.63	63.55	5347.9	491.82	1.33	277.78	647.79	1634557.83	502696.973	SDI MWD (3)
5735	65.86	62.58	5386.1	548.32	1.24	317.17	725.31	1634635.86	502735.333	SDI MWD (3)
5829	64.35	64.25	5425.7	604.11	2.28	355.33	801.55	1634712.61	502772.473	SDI MWD (3)
5925	62.11	65.7	5469	661.93	2.69	391.59	879.2	1634790.73	502807.703	SDI MWD (3)
6019	59.1	66.13	5515.1	718.17	3.23	425.01	953.96	1634865.93	502840.133	SDI MWD (3)
6113	56.96	67.67	5564.9	773.91	2.67	456.31	1027.29	1634939.67	502870.453	SDI MWD (3)
6208	58.2	67.63	5615.8	830.72	1.31	486.8	1101.46	1635014.24	502899.953	SDI MWD (3)
6302	56.87	66.81	5666.2	886.49	1.59	517.51	1174.58	1635087.76	502929.683	SDI MWD (3)
6397	56.86	66.23	5718.2	941.73	0.51	549.2	1247.55	1635161.14	502960.413	SDI MWD (3)
6491	55.2	65.19	5770.7	995.06	1.99	581.26	1318.6	1635232.61	502991.523	SDI MWD (3)
6586	56.57	65.92	5824	1048.72	1.58	613.8	1390.2	1635304.64	503023.113	SDI MWD (3)
6680	56.63	67.73	5875.7	1103.51	1.61	644.68	1462.34	1635377.18	503053.033	SDI MWD (3)
6775	55.94	67.01	5928.5	1159.22	0.96	675.09	1535.28	1635450.51	503082.473	SDI MWD (3)
6870	56.58	68.24	5981.2	1215.17	1.27	705.16	1608.33	1635523.96	503111.563	SDI MWD (3)
6965	55.9	68.15	6034	1271.65	0.72	734.49	1681.66	1635597.67	503139.923	SDI MWD (3)
7060	54.74	67.47	6088.1	1327.15	1.36	763.99	1753.99	1635670.39	503168.463	SDI MWD (3)
7154	56.73	66.5	6141	1381.54	2.28	794.37	1825.49	1635742.28	503197.893	SDI MWD (3)
7249	56.42	66.53	6193.3	1436.59	0.33	825.97	1898.21	1635815.41	503228.523	SDI MWD (3)
7343	55.57	66.18	6245.9	1490.54	0.96	857.22	1969.59	1635887.2	503258.823	SDI MWD (3)
7390	56.61	70.85	6272.1	1518.58	8.54	871.49	2005.87	1635923.67	503272.613	SDI MWD (3)
7437	57.69	76.93	6297.6	1549.4	11.11	882.43	2043.78	1635961.72	503283.043	SDI MWD (3)
7484	57.87	79.76	6322.7	1582.29	5.11	890.46	2082.72	1636000.76	503290.553	SDI MWD (3)
7532	57.44	80.84	6348.4	1616.58	2.1	897.29	2122.69	1636040.82	503296.853	SDI MWD (3)
7579	58.32	82.15	6373.4	1650.69	3.01	903.18	2162.06	1636080.26	503302.223	SDI MWD (3)
7627	58.01	85.98	6398.7	1686.52	6.81	907.39	2202.61	1636120.86	503305.903	SDI MWD (3)
7674	58.42	90.04	6423.5	1722.86	7.39	908.78	2242.52	1636160.79	503306.753	SDI MWD (3)
7722	61.84	94.89	6447.4	1761.94	11.29	906.96	2284.08	1636202.32	503304.383	SDI MWD (3)
7769	69.18	103.2	6466.9	1803.47	22.41	900.16	2326.23	1636244.38	503297.023	SDI MWD (3)
7817	75.95	109.15	6481.3	1848.94	18.4	887.37	2370.15	1636288.12	503283.653	SDI MWD (3)
7864	76.75	109.25	6492.3	1894.54	1.71	872.35	2413.28	1636331.05	503268.063	SDI MWD (3)
7912	78.15	114.25	6502.8	1941.37	10.58	854.99	2456.78	1636374.32	503250.123	SDI MWD (3)
7959	80.2	119.83	6511.6	1987.37	12.45	834.01	2497.87	1636415.13	503228.603	SDI MWD (3)
8006	82.33	123.78	6518.8	2033.2	9.46	809.53	2537.34	1636454.27	503203.603	SDI MWD (3)
8053	81.8	124.13	6525.2	2078.83	1.35	783.53	2575.95	1636492.53	503177.093	SDI MWD (3)
8101	80.43	127.02	6532.7	2125.03	6.6	755.94	2614.52	1636530.73	503148.993	SDI MWD (3)
8148	78.03	130	6541.4	2169.41	8.05	727.2	2650.64	1636566.47	503119.783	SDI MWD (3)
8196	80.04	135.89	6550.6	2213.55	12.75	695.11	2685.12	1636600.51	503087.233	SDI MWD (3)
8243	84.08	139.57	6557.1	2255.65	11.58	660.67	2716.41	1636631.35	503052.383	SDI MWD (3)
8290	88.52	140.97	6560.1	2297.16	9.9	624.61	2746.38	1636660.83	503015.923	SDI MWD (3)
8337	87.18	137.77	6561.9	2339.06	7.38	588.97	2776.96	1636690.94	502979.883	SDI MWD (3)
8385	87.01	137.4	6564.3	2382.49	0.85	553.58	2809.29	1636722.8	502944.063	SDI MWD (3)
8480	91.01	139.24	6565.9	2468	4.63	482.65	2872.44	1636785	502872.303	SDI MWD (3)
8575	89.78	141.09	6565.3	2552.17	2.34	409.71	2933.29	1636844.87	502798.563	SDI MWD (3)
8669	90.04	139.77	6565.4	2635.25	1.43	337.25	2993.16	1636903.78	502725.313	SDI MWD (3)
8764	89.16	140.74	6566.1	2719.34	1.38	264.21	3053.9	1636963.55	502651.473	SDI MWD (3)
8859	87.67	139.6	6568.7	2803.47	1.97	191.29	3114.72	1637023.4	502577.753	SDI MWD (3)
8953	86.88	139.6	6573.2	2887.09	0.84	119.78	3175.58	1637083.3	502505.443	SDI MWD (3)

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9048	89.52	138.37	6576.2	2972.1	3.07	48.15	3237.89	1637144.65	502432.993	SDI MWD (3)
9143	89.96	138.1	6576.6	3057.7	0.54	-22.71	3301.16	1637206.98	502361.303	SDI MWD (3)
9238	89.87	137.4	6576.8	3143.65	0.74	-93.03	3365.04	1637269.91	502290.133	SDI MWD (3)
9332	89.6	135.9	6577.2	3229.45	1.62	-161.38	3429.56	1637333.52	502220.933	SDI MWD (3)
9426	91.63	143.73	6576.2	3312.92	8.6	-233.13	3490.16	1637393.17	502148.393	SDI MWD (3)
9521	88.2	142.94	6576.3	3394.52	3.71	-309.32	3546.88	1637448.87	502071.453	SDI MWD (3)
9615	86.09	141.53	6581	3476.06	2.7	-383.54	3604.37	1637505.37	501996.483	SDI MWD (3)
9710	89.52	142.06	6584.6	3558.87	3.65	-458.12	3663.07	1637563.08	501921.123	SDI MWD (3)
9804	89.16	141.62	6585.7	3640.84	0.6	-532.03	3721.15	1637620.17	501846.453	SDI MWD (3)
9899	93.21	140.91	6583.8	3724.11	4.33	-606.1	3780.57	1637678.6	501771.603	SDI MWD (3)
9994	93.21	140.91	6578.4	3807.57	0	-679.72	3840.37	1637737.42	501697.193	SDI MWD (3)
10089	93.3	143.9	6573	3889.81	3.14	-754.86	3898.23	1637794.28	501621.293	SDI MWD (3)
10183	89.25	144.96	6570.9	3969.59	4.45	-831.29	3952.88	1637847.91	501544.153	SDI MWD (3)
10278	86.7	144.69	6574.3	4049.84	2.7	-908.88	4007.57	1637901.57	501465.833	SDI MWD (3)
10372	86.17	144.69	6580.2	4129.28	0.56	-985.44	4061.8	1637954.77	501388.563	SDI MWD (3)
10467	86	144.69	6586.6	4209.52	0.18	-1062.79	4116.58	1638008.52	501310.493	SDI MWD (3)
10562	89.87	143.37	6590.1	4290.46	4.3	-1139.6	4172.33	1638063.25	501232.943	SDI MWD (3)
10657	90.31	142.67	6589.9	4372.33	0.87	-1215.49	4229.48	1638119.38	501156.303	SDI MWD (3)
10751	89.6	141	6590	4454.31	1.93	-1289.4	4287.56	1638176.48	501081.643	SDI MWD (3)
10846	89.69	140.3	6590.6	4538.1	0.74	-1362.86	4347.8	1638235.73	501007.383	SDI MWD (3)
10941	88.9	140.21	6591.7	4622.19	0.84	-1435.9	4408.53	1638295.49	500933.543	SDI MWD (3)
11036	88.37	139.95	6594	4706.4	0.62	-1508.74	4469.48	1638355.47	500859.903	SDI MWD (3)
11130	88.11	139.77	6596.9	4789.88	0.34	-1580.56	4530.05	1638415.08	500787.283	SDI MWD (3)
11225	88.02	140.47	6600.1	4874.04	0.74	-1653.42	4590.92	1638474.98	500713.623	SDI MWD (3)
11320	87.58	140.21	6603.7	4958.01	0.54	-1726.5	4651.51	1638534.59	500639.743	SDI MWD (3)
11414	87.49	139.51	6607.8	5041.45	0.75	-1798.3	4712.05	1638594.18	500567.153	SDI MWD (3)
11509	91.8	139.24	6608.4	5126.19	4.55	-1870.38	4773.89	1638655.05	500494.253	SDI MWD (3)
11583	91.63	139.77	6606.2	5192.12	0.75	-1926.63	4821.92	1638702.34	500437.373	SDI MWD (3)
11655	91.63	139.77	6604.1	5256.11	0	-1981.58	4868.41	1638748.09	500381.813	SDI MWD (3)

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