



Survey Report

Service Company: Aim Directional Services, LLC

Location: Jal

Well: Sidewinder SWD #1

Rig: Frontier 32

API or UWI: 30-025-45427

Job Number: WT-19-003

State: New Mexico

Operating Company: NGL Energy Partners, LP

County: Lea

Magnetic Declination: 6.17

Country: USA

Proposed Azimuth: 0.00

Comment

North Reference: GRID

Latitude: 32.1329388888889

Longitude: -103.449352777778

HOBBS OCD
APR 08 2019
RECEIVED

Tie-In Data

MD	Inclination	Azimuth	TVD	NS	EW
985.00	0.00	0.00	985.00	0.00	0.00

Survey Data

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
1034.00	0.53	196.01	1034.00	-0.22	-0.06	196.01	0.23	-0.22	1.08
1189.00	0.48	185.64	1188.99	-1.55	-0.32	191.79	1.59	-1.55	0.07
1376.00	0.79	174.04	1375.98	-3.61	-0.27	184.23	3.62	-3.61	0.18
1470.00	0.79	164.29	1469.97	-4.88	-0.02	180.29	4.88	-4.88	0.14
1597.00	0.84	171.23	1596.96	-6.65	0.35	176.95	6.66	-6.65	0.09
1691.00	0.88	175.54	1690.95	-8.05	0.52	176.33	8.06	-8.05	0.08
1785.00	0.97	179.75	1784.94	-9.56	0.58	176.56	9.58	-9.56	0.12
1878.00	1.01	171.67	1877.92	-11.16	0.70	176.42	11.18	-11.16	0.16
1971.00	0.92	168.15	1970.91	-12.70	0.97	175.63	12.74	-12.70	0.12
2066.00	1.05	163.67	2065.90	-14.28	1.37	174.52	14.35	-14.28	0.16
2162.00	1.05	160.24	2161.88	-15.96	1.92	173.15	16.07	-15.96	0.07
2256.00	1.05	148.64	2255.86	-17.50	2.66	171.37	17.70	-17.50	0.23
2351.00	1.10	144.07	2350.85	-18.98	3.64	169.14	19.33	-18.98	0.10
2446.00	1.27	133.61	2445.83	-20.45	4.94	166.42	21.04	-20.45	0.29
2540.00	1.49	120.34	2539.80	-21.78	6.75	162.78	22.81	-21.78	0.41
2627.00	2.24	118.23	2626.75	-23.16	9.22	158.28	24.93	-23.16	0.87

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
2722.00	2.24	103.99	2721.68	-24.49	12.66	152.66	27.57	-24.49	0.58
2816.00	1.63	93.71	2815.63	-25.02	15.78	147.76	29.58	-25.02	0.74
2912.00	1.14	94.59	2911.60	-25.18	18.09	144.30	31.01	-25.18	0.51
3008.00	0.79	99.25	3007.59	-25.36	19.70	142.17	32.11	-25.36	0.37
3103.00	0.35	85.97	3102.58	-25.45	20.63	140.97	32.76	-25.45	0.48
3197.00	0.04	37.46	3196.58	-25.40	20.94	140.50	32.92	-25.40	0.35
3292.00	0.53	343.41	3291.58	-24.96	20.83	140.14	32.51	-24.96	0.53
3387.00	0.57	321.61	3386.57	-24.16	20.42	139.81	31.63	-24.16	0.22
3482.00	0.40	331.28	3481.57	-23.50	19.96	139.66	30.84	-23.50	0.20
3577.00	0.18	169.65	3576.57	-23.36	19.83	139.67	30.64	-23.36	0.60
3671.00	0.44	129.30	3670.57	-23.73	20.14	139.69	31.12	-23.73	0.35
3765.00	0.70	118.23	3764.56	-24.23	20.92	139.20	32.01	-24.23	0.30
3861.00	0.53	102.06	3860.56	-24.60	21.87	138.36	32.92	-24.60	0.25
3956.00	0.31	50.38	3955.56	-24.53	22.50	137.47	33.29	-24.53	0.44
4051.00	0.26	338.48	4050.56	-24.17	22.62	136.90	33.10	-24.17	0.35
4146.00	0.35	359.84	4145.55	-23.68	22.54	136.41	32.69	-23.68	0.15
4242.00	0.26	10.30	4241.55	-23.17	22.58	135.74	32.35	-23.17	0.11
4337.00	0.40	33.94	4336.55	-22.68	22.80	134.85	32.16	-22.68	0.20
4432.00	0.35	40.18	4431.55	-22.18	23.17	133.75	32.08	-22.18	0.07
4527.00	0.18	105.40	4526.55	-22.00	23.50	133.11	32.20	-22.00	0.34
4622.00	0.48	103.82	4621.55	-22.14	24.03	132.65	32.68	-22.14	0.32
4717.00	0.62	112.25	4716.54	-22.43	24.90	132.01	33.51	-22.43	0.17
4812.00	0.70	114.89	4811.54	-22.87	25.90	131.44	34.55	-22.87	0.09
4908.00	0.79	106.10	4907.53	-23.30	27.07	130.72	35.71	-23.30	0.15
5003.00	0.62	105.93	5002.52	-23.62	28.19	129.96	36.78	-23.62	0.18
5098.00	0.44	134.75	5097.52	-24.02	28.94	129.69	37.61	-24.02	0.33
5193.00	0.31	179.23	5192.52	-24.53	29.21	130.03	38.14	-24.53	0.32
5287.00	0.26	232.84	5286.51	-24.91	29.04	130.63	38.26	-24.91	0.28
5362.00	0.31	240.31	5361.51	-25.12	28.73	131.16	38.16	-25.12	0.08
5500.00	0.31	239.26	5499.51	-25.49	28.08	132.23	37.93	-25.49	0.00
5596.00	0.26	283.29	5595.51	-25.57	27.65	132.77	37.66	-25.57	0.23
5691.00	0.35	268.88	5690.51	-25.53	27.15	133.24	37.27	-25.53	0.12
5786.00	0.22	259.73	5785.51	-25.57	26.68	133.79	36.95	-25.57	0.14
5881.00	0.40	267.56	5880.51	-25.62	26.17	134.39	36.62	-25.62	0.19
5976.00	0.40	258.33	5975.50	-25.70	25.51	135.21	36.21	-25.70	0.07
6071.00	0.31	274.76	6070.50	-25.74	24.93	135.92	35.84	-25.74	0.14
6166.00	0.53	264.04	6165.50	-25.77	24.24	136.75	35.37	-25.77	0.24

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
6261.00	0.70	260.61	6260.49	-25.91	23.23	138.12	34.79	-25.91	0.18
6357.00	0.70	267.12	6356.49	-26.03	22.06	139.72	34.12	-26.03	0.08
6452.00	0.84	281.97	6451.48	-25.92	20.80	141.25	33.23	-25.92	0.26
6547.00	0.79	281.09	6546.47	-25.65	19.48	142.78	32.20	-25.65	0.05
6641.00	0.84	271.51	6640.46	-25.50	18.15	144.56	31.30	-25.50	0.15
6736.00	0.88	270.63	6735.45	-25.48	16.73	146.71	30.48	-25.48	0.04
6832.00	0.97	276.43	6831.44	-25.38	15.18	149.11	29.57	-25.38	0.14
6927.00	1.01	275.99	6926.42	-25.20	13.55	151.73	28.61	-25.20	0.04
7022.00	0.88	286.72	7021.41	-24.90	12.02	154.24	27.65	-24.90	0.23
7118.00	1.05	284.70	7117.40	-24.47	10.46	156.85	26.61	-24.47	0.18
7213.00	0.97	281.27	7212.38	-24.09	8.83	159.87	25.66	-24.09	0.11
7308.00	1.01	285.57	7307.37	-23.71	7.24	163.03	24.79	-23.71	0.09
7403.00	1.10	289.88	7402.35	-23.17	5.57	166.48	23.83	-23.17	0.13
7498.00	1.05	276.70	7497.33	-22.76	3.85	170.40	23.09	-22.76	0.26
7593.00	1.19	278.28	7592.32	-22.52	2.01	174.90	22.61	-22.52	0.15
7688.00	1.14	280.04	7687.30	-22.21	0.10	179.73	22.21	-22.21	0.06
7783.00	1.27	265.89	7782.28	-22.12	-1.88	184.85	22.20	-22.12	0.34
7878.00	1.36	271.86	7877.25	-22.16	-4.05	190.37	22.53	-22.16	0.17
7974.00	1.36	269.14	7973.22	-22.14	-6.33	195.96	23.03	-22.14	0.07
8068.00	1.49	259.47	8067.19	-22.38	-8.65	201.13	23.99	-22.38	0.29
8163.00	1.49	261.84	8162.16	-22.78	-11.09	205.95	25.34	-22.78	0.06
8258.00	1.54	257.63	8257.13	-23.23	-13.56	210.26	26.90	-23.23	0.13
8353.00	1.36	264.39	8352.10	-23.62	-15.92	213.99	28.48	-23.62	0.26
8448.00	1.36	262.90	8447.07	-23.86	-18.16	217.28	29.99	-23.86	0.04
8543.00	1.19	252.53	8542.05	-24.30	-20.22	219.77	31.62	-24.30	0.30
8637.00	1.27	244.18	8636.03	-25.05	-22.09	221.41	33.40	-25.05	0.21
8733.00	1.23	246.55	8732.00	-25.92	-24.00	222.79	35.32	-25.92	0.07
8828.00	1.23	243.83	8826.98	-26.78	-25.85	223.99	37.22	-26.78	0.06
8922.00	1.19	240.93	8920.96	-27.69	-27.61	224.91	39.10	-27.69	0.08
9017.00	1.10	242.07	9015.94	-28.60	-29.27	225.66	40.93	-28.60	0.10
9112.00	0.84	247.96	9110.93	-29.29	-30.72	226.37	42.45	-29.29	0.29
9208.00	0.75	246.38	9206.92	-29.81	-31.95	226.99	43.70	-29.81	0.10
9303.00	0.48	221.59	9301.91	-30.35	-32.79	227.21	44.68	-30.35	0.39
9398.00	0.40	187.66	9396.91	-30.98	-33.09	226.89	45.33	-30.98	0.28
9493.00	0.40	130.10	9491.91	-31.52	-32.88	226.21	45.55	-31.52	0.41
9588.00	0.53	116.74	9586.91	-31.93	-32.24	225.27	45.38	-31.93	0.18
9684.00	0.57	121.75	9682.90	-32.38	-31.44	224.15	45.13	-32.38	0.07

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
9779.00	0.66	122.80	9777.90	-32.93	-30.57	222.88	44.93	-32.93	0.10
9874.00	0.75	114.80	9872.89	-33.49	-29.55	221.43	44.66	-33.49	0.14
9969.00	0.70	93.18	9967.88	-33.78	-28.41	220.06	44.14	-33.78	0.29
10063.00	0.62	53.81	10061.88	-33.51	-27.42	219.29	43.30	-33.51	0.48
10158.00	0.79	59.43	10156.87	-32.87	-26.44	218.81	42.19	-32.87	0.19
10221.00	1.05	56.80	10219.86	-32.34	-25.59	218.35	41.24	-32.34	0.42
10316.00	1.19	47.65	10314.84	-31.20	-24.13	217.72	39.44	-31.20	0.24
10412.00	1.49	41.41	10410.82	-29.59	-22.57	217.33	37.21	-29.59	0.35
10507.00	1.89	39.57	10505.77	-27.45	-20.75	217.09	34.41	-27.45	0.42
10602.00	1.98	34.82	10600.72	-24.90	-18.82	217.08	31.21	-24.90	0.19
10697.00	2.15	28.67	10695.66	-21.99	-17.03	217.75	27.81	-21.99	0.29
10792.00	2.42	23.13	10790.58	-18.58	-15.38	219.62	24.12	-18.58	0.37
10887.00	2.29	27.09	10885.50	-15.05	-13.73	222.38	20.37	-15.05	0.22
10982.00	2.42	24.89	10980.42	-11.54	-12.02	226.18	16.66	-11.54	0.17
11078.00	2.55	22.87	11076.33	-7.73	-10.34	233.21	12.91	-7.73	0.16
11172.00	2.51	26.82	11170.24	-3.97	-8.60	245.23	9.47	-3.97	0.19
11267.00	2.51	27.26	11265.15	-0.26	-6.71	267.77	6.71	-0.26	0.02
11363.00	2.29	33.24	11361.07	3.21	-4.69	304.39	5.69	3.21	0.35
11458.00	2.29	41.85	11455.99	6.21	-2.39	339.00	6.65	6.21	0.36
11552.00	2.33	45.72	11549.91	8.95	0.24	1.51	8.95	8.95	0.17
11648.00	2.51	50.12	11645.83	11.66	3.25	15.56	12.10	11.66	0.27
11743.00	2.86	52.31	11740.72	14.44	6.72	24.95	15.93	14.44	0.38
11838.00	3.08	44.40	11835.60	17.71	10.38	30.37	20.53	17.71	0.49
11932.00	3.21	44.14	11929.45	21.40	13.98	33.15	25.56	21.40	0.14
12027.00	3.43	40.71	12024.30	25.47	17.68	34.78	31.01	25.47	0.31
12123.00	3.43	48.09	12120.12	29.56	21.69	36.27	36.67	29.56	0.46
12218.00	3.60	54.77	12214.95	33.18	26.25	38.34	42.31	33.18	0.47
12313.00	3.82	55.13	12309.75	36.71	31.28	40.43	48.23	36.71	0.23
12347.00	3.87	50.03	12343.67	38.10	33.09	40.98	50.46	38.10	1.02
12491.00	3.91	53.54	12487.34	44.13	40.76	42.72	60.08	44.13	0.17
12586.00	2.55	77.63	12582.19	46.51	45.43	44.33	65.02	46.51	1.99
12680.00	1.89	97.93	12676.12	46.75	49.01	46.35	67.73	46.75	1.08
12775.00	1.49	90.37	12771.08	46.52	51.79	48.07	69.62	46.52	0.48
12869.00	1.41	87.73	12865.05	46.56	54.17	49.32	71.43	46.56	0.11
12964.00	1.14	85.89	12960.02	46.67	56.28	50.33	73.12	46.67	0.29
13060.00	0.84	86.06	13056.01	46.79	57.94	51.07	74.47	46.79	0.31
13155.00	0.92	86.41	13151.00	46.89	59.39	51.71	75.67	46.89	0.08

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
13250.00	1.05	82.90	13245.99	47.04	61.02	52.37	77.05	47.04	0.15
13345.00	0.97	86.06	13340.97	47.21	62.68	53.02	78.47	47.21	0.10
13440.00	0.92	81.93	13435.96	47.37	64.24	53.60	79.82	47.37	0.09
13631.00	0.66	55.04	13626.94	48.21	66.66	54.12	82.27	48.21	0.23
13726.00	0.66	33.86	13721.93	48.98	67.41	54.00	83.33	48.98	0.26
13821.00	0.75	30.16	13816.93	49.97	68.03	53.70	84.41	49.97	0.11
13916.00	0.84	18.65	13911.92	51.17	68.57	53.27	85.56	51.17	0.19
14011.00	0.92	13.46	14006.91	52.57	68.97	52.68	86.72	52.57	0.12
14107.00	1.14	10.65	14102.89	54.26	69.32	51.95	88.03	54.26	0.24
14202.00	1.32	13.73	14197.87	56.25	69.76	51.12	89.61	56.25	0.20
14392.00	1.36	13.03	14387.82	60.57	70.78	49.44	93.17	60.57	0.02
14487.00	1.49	3.71	14482.79	62.90	71.12	48.51	94.95	62.90	0.28
14582.00	1.36	357.38	14577.76	65.26	71.15	47.47	96.55	65.26	0.21
14677.00	1.45	359.05	14672.73	67.59	71.08	46.44	98.08	67.59	0.10
14772.00	1.49	358.26	14767.70	70.03	71.02	45.40	99.74	70.03	0.05
14867.00	1.36	356.15	14862.67	72.39	70.91	44.41	101.33	72.39	0.15
14962.00	1.19	352.46	14957.65	74.49	70.70	43.50	102.70	74.49	0.20
15057.00	1.19	350.96	15052.62	76.44	70.42	42.65	103.93	76.44	0.03
15151.00	1.10	350.09	15146.61	78.30	70.11	41.84	105.10	78.30	0.10
15246.00	1.32	337.08	15241.58	80.20	69.52	40.92	106.14	80.20	0.37
15342.00	1.41	344.46	15337.56	82.36	68.78	39.87	107.30	82.36	0.21
15437.00	1.45	350.35	15432.53	84.67	68.26	38.88	108.76	84.67	0.16
15532.00	1.45	335.76	15527.50	86.95	67.57	37.85	110.12	86.95	0.39
15627.00	1.58	332.24	15622.46	89.20	66.46	36.69	111.24	89.20	0.17
15720.00	1.71	349.12	15715.43	91.70	65.60	35.58	112.75	91.70	0.54
15815.00	1.63	1.25	15810.39	94.44	65.37	34.69	114.86	94.44	0.38
15909.00	1.45	6.08	15904.35	96.96	65.52	34.05	117.03	96.96	0.24
16004.00	1.23	7.84	15999.33	99.17	65.79	33.56	119.01	99.17	0.24
16099.00	1.19	8.10	16094.31	101.16	66.07	33.15	120.82	101.16	0.04
16194.00	1.54	1.16	16189.28	103.41	66.23	32.64	122.80	103.41	0.41
16289.00	1.49	3.01	16284.25	105.92	66.32	32.05	124.97	105.92	0.07
16384.00	1.85	350.44	16379.21	108.66	66.13	31.32	127.21	108.66	0.54
16479.00	2.15	351.76	16474.15	111.94	65.62	30.38	129.76	111.94	0.32
16574.00	2.55	343.05	16569.07	115.73	64.75	29.23	132.61	115.73	0.56
16669.00	2.77	339.63	16663.97	119.90	63.34	27.84	135.60	119.90	0.29
16764.00	2.86	346.04	16758.85	124.35	61.96	26.49	138.93	124.35	0.34
16862.00	2.81	350.79	16856.73	129.09	60.99	25.29	142.78	129.09	0.25

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
16957.00	2.90	351.05	16951.61	133.77	60.24	24.25	146.71	133.77	0.10
17052.00	2.95	348.59	17046.49	138.54	59.39	23.20	150.73	138.54	0.14
17148.00	3.16	344.02	17142.35	143.50	58.17	22.07	154.84	143.50	0.33
17243.00	3.34	340.95	17237.20	148.64	56.54	20.83	159.03	148.64	0.26
17295.00	3.03	337.69	17289.12	151.34	55.53	20.15	161.20	151.34	0.69
17411.00	3.38	333.56	17404.94	157.24	52.84	18.58	165.88	157.24	0.36
17506.00	4.26	324.95	17499.73	162.63	49.57	16.95	170.02	162.63	1.10
17602.00	2.68	347.10	17595.55	167.74	47.02	15.66	174.21	167.74	2.13
17696.00	1.49	75.52	17689.51	170.19	47.71	15.66	176.75	170.19	3.22
17791.00	3.82	125.35	17784.41	168.67	51.49	16.98	176.35	168.67	3.24
17886.00	4.84	131.33	17879.14	164.19	57.08	19.17	173.83	164.19	1.17
17981.00	4.75	147.50	17973.81	158.22	62.20	21.46	170.01	158.22	1.42
18077.00	4.62	157.08	18069.49	151.31	65.85	23.52	165.02	151.31	0.83
18172.00	4.48	157.25	18164.19	144.37	68.77	25.47	159.91	144.37	0.15
18267.00	3.56	178.00	18258.96	138.00	70.31	27.00	154.87	138.00	1.80
18362.00	4.75	181.60	18353.71	131.12	70.30	28.20	148.77	131.12	1.28
18457.00	5.23	182.21	18448.35	122.86	70.03	29.68	141.41	122.86	0.51
18552.00	6.51	188.54	18542.85	113.20	69.06	31.38	132.61	113.20	1.51
18647.00	7.38	185.99	18637.15	101.81	67.62	33.59	122.22	101.81	0.97
18742.00	6.77	183.09	18731.43	90.15	66.68	36.49	112.13	90.15	0.74
18838.00	7.87	178.88	18826.64	77.93	66.51	40.48	102.45	77.93	1.27
18933.00	8.44	177.29	18920.68	64.46	66.96	46.09	92.95	64.46	0.65
19028.00	9.58	174.30	19014.51	49.63	68.08	53.91	84.25	49.63	1.30
19070.00	10.07	173.25	19055.89	42.51	68.86	58.31	80.92	42.51	1.24

Projected Survey

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
19145.00	10.07	173.25	19129.74	29.48	70.40	67.27	76.32	29.48	0.00