

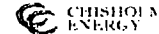
CONFIDENTIAL

Slurmlberger

Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft Definitive

Survey Report

(Def Survey)



Report Date: March 26, 2019 - 02:53 PM
 Client: Chisholm Energy Operating, LLC
 Field: NM Lee County (NAD 83)
 Structure / Slot: Chisholm Buffalo 12-1 Fed Com WCC 6H / New Slot
 Well: Chisholm Buffalo 12-1 Fed Com WCC 6H
 Borehole: ST02
 UWI / AP# #: Unknown / 30-025-45159-02
 Survey Name: Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft Definitive
 Survey Date: March 07, 2019
 Tort / AMD / DDI / ERD Ratio: 234.949 * 16888.336 ft / 0.392 / 0.581
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 40' 4.11238", W 103° 37' 15.70120"
 Location Grid N/E Y/X: N 607415.380 RUS, E 700522.920 RUS
 CRS Grid Convergence Angle: 0.3845°
 Grid Scale Factor: 0.99996411
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 350.730° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB = 318 (JOC 7)
 TVD Reference Elevation: 3741.300 ft above MSL
 Seabed / Ground Elevation: 3710.300 ft above MSL
 Magnetic Declination: 0.638°
 Total Gravity Field Strength: 998.5100mg (0.80065 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48206.161 nT
 Magnetic Dip Angle: 60.817°
 Declination Date: March 07, 2019
 Magnetic Declination Model: HDGM 2010
 North Reference: Grid North
 Grid Convergence Used: 0.3845°
 Total Cor Mag North-Grid North: 0.2530°
 Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azth (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (ft/100ft)	Northings (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	607415.38	700522.92	N 32 40 4.11	W 103 37 15.70
	151.00	0.14	149.55	151.00	-0.16	-0.16	0.09	0.18	149.55	0.09	607415.22	700523.12	N 32 40 4.11	W 103 37 15.70
	240.00	0.33	169.20	240.00	-0.51	-0.50	0.20	0.54	158.71	0.23	607414.88	700523.12	N 32 40 4.11	W 103 37 15.70
	360.00	0.37	158.08	360.00	-1.20	-1.20	0.42	1.27	180.75	0.07	607414.18	700523.34	N 32 40 4.10	W 103 37 15.70
	507.00	0.23	188.33	506.99	-1.93	-1.92	0.57	2.01	163.55	0.15	607413.48	700523.49	N 32 40 4.09	W 103 37 15.70
	601.00	0.27	216.54	600.99	-2.29	-2.29	0.41	2.32	159.87	0.14	607413.09	700523.53	N 32 40 4.09	W 103 37 15.70
	660.00	0.54	222.81	659.99	-2.60	-2.60	0.14	2.61	178.98	0.48	607412.78	700523.06	N 32 40 4.09	W 103 37 15.70
	756.00	0.64	252.96	755.99	-3.09	-3.09	0.68	3.17	192.45	0.34	607412.29	700522.24	N 32 40 4.08	W 103 37 15.80
	883.00	1.04	254.39	882.97	-3.60	-3.61	-2.47	4.38	214.38	0.32	607411.77	700520.45	N 32 40 4.08	W 103 37 15.82
	977.00	1.65	263.97	976.85	-4.17	-4.19	-4.51	6.18	227.12	0.54	607411.19	700518.41	N 32 40 4.07	W 103 37 15.84
	1072.00	1.47	250.22	1071.92	-4.93	-4.96	-6.90	8.49	234.28	0.13	607410.42	700518.02	N 32 40 4.08	W 103 37 15.87
	1168.00	1.89	243.33	1167.88	-6.04	-6.09	-6.47	11.26	237.27	0.48	607409.29	700513.45	N 32 40 4.05	W 103 37 15.90
	1263.00	2.39	234.94	1262.81	-7.87	-7.93	-12.49	14.79	237.80	0.82	607407.45	700510.43	N 32 40 4.03	W 103 37 15.94
	1358.00	2.67	235.00	1357.72	-10.21	-10.29	-15.86	16.90	237.03	0.19	607406.06	700507.08	N 32 40 4.01	W 103 37 15.98
	1453.00	2.83	235.26	1452.82	-12.66	-12.75	-19.39	23.21	236.88	0.08	607402.83	700503.83	N 32 40 3.99	W 103 37 16.02
	1542.00	3.01	240.41	1541.51	-14.96	-15.07	-23.10	27.58	236.89	0.51	607400.31	700499.82	N 32 40 3.98	W 103 37 16.06
	1635.00	3.07	244.29	1634.35	-17.81	-17.94	-28.80	33.78	237.89	0.18	607397.44	700494.32	N 32 40 3.94	W 103 37 16.13
	1734.00	2.31	239.95	1733.24	-19.85	-20.01	-32.55	38.20	238.42	0.83	607395.37	700490.38	N 32 40 3.92	W 103 37 16.17
	1830.00	2.34	240.23	1829.17	-21.78	-21.95	-35.92	42.10	238.58	0.03	607393.43	700487.00	N 32 40 3.90	W 103 37 16.21
	1945.00	2.16	245.81	1944.09	-23.46	-23.64	-39.24	45.81	238.93	0.30	607391.74	700483.58	N 32 40 3.88	W 103 37 16.25
	2040.00	2.00	248.28	2039.03	-24.85	-25.05	-42.39	49.24	239.42	0.17	607390.34	700480.53	N 32 40 3.87	W 103 37 16.29
	2136.00	1.94	241.56	2134.97	-26.28	-26.49	-45.35	52.52	239.71	0.18	607388.88	700477.57	N 32 40 3.85	W 103 37 16.32
	2229.00	1.59	243.84	2227.93	-27.59	-27.81	-47.89	55.38	239.86	0.38	607387.57	700475.03	N 32 40 3.84	W 103 37 16.35
	2325.00	1.85	245.13	2323.89	-28.74	-28.98	-50.34	58.09	240.07	0.07	607386.40	700472.58	N 32 40 3.83	W 103 37 16.38
	2420.00	1.55	250.89	2418.85	-29.73	-29.98	-52.80	60.71	240.41	0.20	607385.41	700470.12	N 32 40 3.82	W 103 37 16.41
	2515.00	1.39	250.55	2513.82	-30.52	-30.78	-55.10	63.11	240.81	0.17	607384.60	700467.82	N 32 40 3.81	W 103 37 16.44
	2610.00	1.55	260.90	2608.79	-31.10	-31.37	-57.45	65.46	241.37	0.33	607384.01	700465.47	N 32 40 3.81	W 103 37 16.47
	2706.00	1.03	270.40	2704.77	-31.15	-31.43	-59.59	67.37	242.19	0.69	607383.95	700463.34	N 32 40 3.81	W 103 37 16.49
	2801.00	0.83	280.78	2799.78	-30.82	-31.11	-60.92	68.40	242.95	0.45	607384.27	700462.00	N 32 40 3.81	W 103 37 16.51
	2897.00	0.68	328.23	2896.76	-30.15	-30.45	-61.73	68.83	243.75	0.42	607384.94	700461.19	N 32 40 3.82	W 103 37 16.52
	2992.00	0.70	344.95	2990.75	-29.35	-29.64	-61.57	68.33	244.29	1.02	607385.74	700461.38	N 32 40 3.82	W 103 37 16.54
	3087.00	1.11	308.73	3085.73	-28.22	-28.51	-60.84	67.01	244.82	0.80	607386.87	700462.28	N 32 40 3.83	W 103 37 16.56
	3183.00	1.18	301.16	3181.72	-26.65	-26.93	-60.57	65.37	245.67	0.22	607388.45	700463.36	N 32 40 3.85	W 103 37 16.49
	3278.00	1.19	316.93	3276.69	-25.05	-25.33	-68.43	63.69	246.56	0.18	607390.05	700464.49	N 32 40 3.87	W 103 37 16.48
	3374.00	1.46	344.45	3372.67	-23.20	-23.47	-67.22	61.84	247.69	0.29	607391.91	700465.71	N 32 40 3.88	W 103 37 16.46
	3469.00	1.60	24.20	3467.64	-21.00	-21.26	-65.99	59.89	249.20	0.32	607394.12	700466.93	N 32 40 3.91	W 103 37 16.45
	3564.00	1.84	12.80	3562.80	-18.47	-18.73	-65.15	58.24	251.24	0.35	607396.05	700467.77	N 32 40 3.93	W 103 37 16.44
	3660.00	1.88	1.25	3658.55	-15.55	-15.81	-64.81	57.05	253.91	0.44	607396.87	700468.11	N 32 40 3.96	W 103 37 16.43
	3755.00	2.42	6.01	3753.49	-12.01	-12.26	-64.55	55.91	257.33	0.60	607403.12	700468.37	N 32 40 3.99	W 103 37 16.43
	3850.00	2.61	8.03	3848.39	-7.87	-8.13	-64.61	54.83	261.43	0.21	607407.25	700468.00	N 32 40 4.04	W 103 37 16.42
	3946.00	2.69	0.94	3944.26	-3.49	-3.74	-63.34	53.47	265.99	0.11	607411.84	700469.58	N 32 40 4.08	W 103 37 16.42
	4028.00	2.87	8.51	4024.20	0.34	0.60	-62.73	52.73	270.10	0.24	607415.47	700470.19	N 32 40 4.12	W 103 37 16.41
	4122.00	2.28	17.28	4120.10	4.63	4.29	-61.81	51.98	274.73	0.74	607419.67	700471.11	N 32 40 4.16	W 103 37 16.40
	4217.00	2.44	23.63	4215.02	8.18	7.95	-60.44	51.08	278.05	0.32	607423.33	700472.49	N 32 40 4.19	W 103 37 16.38
	4312.00	2.17	24.75	4309.94	11.80	11.43	-48.87	50.19	283.17	0.29	607426.81	700474.05	N 32 40 4.23	W 103 37 16.36
	4408.00	2.11	23.12	4405.88	14.93	14.71	-47.42	49.65	287.23	0.09	607430.09	700475.50	N 32 40 4.26	W 103 37 16.34
	4503.00	1.95	20.95	4500.82	18.04	17.83	-46.15	49.48	291.12	0.19	607433.21	700476.77	N 32 40 4.29	W 103 37 16.33
	4599.00	1.77	7.43	4596.77	21.04	20.82	-45.36	49.93	294.05	0.49	607436.20	700477.55	N 32 40 4.32	W 103 37 16.32
	4694.00	1.72	7.85	4691.72	23.90	23.69	-45.00	50.85	297.77	0.05	607439.07	700477.92	N 32 40 4.35	W 103 37 16.32
	4790.00	1.72	7.23	4787.68	26.76	26.55	-44.82	51.92	300.75	0.01	607441.93	700478.30	N 32 40 4.38	W 103 37 16.31
	4885.00	1.59	17.20	4882.64	29.43	29.22	-44.05	52.88	303.55	0.33	607444.80	700478.87	N 32 40 4.40	W 103 37 16.30
	4981.00	1.72	8.25	4978.60	32.12	31.92	-43.45	53.92	306.30	0.30	607447.30	700479.47	N 32 40 4.43	W 103 37 16.30
	5074.00	1.57	9.10	5071.56	34.76	34.56	-43.05	55.21	308.75	0.18	607449.94	700479.87	N 32 40 4.48	W 103 37 16.29
	5169.00	1.16	8.32	5166.53	36.99	36.79	-42.71	56.37	310.75	0.43	607452.17	700480.21	N 32 40 4.48	W 103 37 16.29
	5263.00	1.10	13.49	5260.51	38.89	38.69	-42.34	57.38	312.42	0.12	607454.07	700480.58	N 32 40 4.50	W 103 37 16.28
	5358.00	1.13	122.26	5355.50	39.35	39.18	-41.32	58.93	313.46	1.99	607454.54	700481.61	N 32 40 4.50	W 103 37 16.27
	5454.00	2.58	132.91	5451.45	37.37	37.18	-38.93	53.84	313.88	1.55	607452.58	700483.99	N 32 40 4.48	W 103 37 16.24
	5549.00	3.68	127.60	5546.31	34.03	33.87	-34.95	48.67	314.10	1.20	607449.25	700487.97	N 32 40 4.45	W 103 37 16.20
	5644.00	4.37	125.69	5641.07	30.03	29.89	-29.80	42.07	315.20	0.74	607445.27	700493.32	N 32 40 4.41	W 103 37 16.14
	5740.00	4.58	126.09	5736.78	25.81	25.50	-23.53	34.70	317.31	0.22	607440.88	700499.39	N 32 40 4.37	W 103 37 16.08
	5835.00	5.35	123.77	5831.42	20.89	20.81	-16.78	26.73	321.11	0.84	607436.19	700508.14	N 32 40 4.32	W 103 37 16.09
	5930.00	4.41	126.28	5926.08	16.08	16.03	-10.27	19.04	327.35	1.10	607431.41	700512.85	N 32 40 4.27	W 103 37 16.01
	6025.00	3.50	129.09	6020.85	11.80	11.54	-5.14	12.81	332.17	0.88	607427.58	700517.75	N 32 40 4.24	W 103 37 15.95
	6121.00	3.65	128.42	6116.85	8.05	8.05	-0.41	8.06	337.08	0.08	607423.43	700522.51	N 32 40 4.19	W 103 37 15.80
	6216.00	3.44	128.86	6211.47	4.38	4.38	4.18	6.08	43.83	0.22	607419.76	700527.10	N 32 40 4.16	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLS (ft/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	8752.00	0.85	23.48	8748.49	-25.88	-25.69	67.15	62.01	114.12	0.68	007386.79	700580.08	N 32.40 3.68 W 103.37 15.12	
	8847.00	1.49	11.55	8841.47	-24.00	-23.73	67.07	62.37	112.37	0.72	007386.55	700580.06	N 32.40 3.87 W 103.37 15.12	
	9038.00	3.23	342.87	9030.31	-18.24	-18.24	58.88	58.88	106.01	1.09	007386.14	700579.52	N 32.40 3.95 W 103.37 15.13	
	9131.00	2.72	344.31	9125.18	-11.77	-11.51	55.20	56.39	101.78	0.54	007403.87	700578.12	N 32.40 3.99 W 103.37 15.16	
	9225.00	1.75	8.30	9219.11	-8.20	-7.94	54.81	55.38	98.24	1.41	007407.44	700577.72	N 32.40 4.03 W 103.37 15.15	
	9319.00	0.90	35.80	9313.06	-6.18	-6.92	55.45	55.76	96.10	1.10	007406.46	700578.37	N 32.40 4.05 W 103.37 15.14	
	9414.00	1.09	57.35	9408.07	-6.10	-4.83	56.65	56.85	94.87	0.44	007410.55	700579.56	N 32.40 4.08 W 103.37 15.13	
	9508.00	0.52	68.97	9502.08	-4.47	-4.19	57.80	57.95	94.15	0.83	007411.19	700580.71	N 32.40 4.07 W 103.37 15.12	
	9603.00	0.90	228.79	9597.05	-4.80	-4.53	57.84	57.81	94.50	1.47	007410.85	700580.55	N 32.40 4.08 W 103.37 15.12	
	9697.00	1.16	230.20	9591.04	-5.81	-5.55	56.50	56.50	95.83	0.31	007406.53	700579.21	N 32.40 4.05 W 103.37 15.13	
	9792.00	1.13	259.64	9786.02	-5.02	-5.58	54.85	54.85	95.91	1.21	007409.72	700577.57	N 32.40 4.05 W 103.37 15.10	
	9887.00	1.74	310.11	9880.99	-4.45	-4.20	52.82	52.82	94.55	0.81	007411.18	700575.74	N 32.40 4.07 W 103.37 15.17	
	9981.00	0.68	340.38	9974.97	-2.87	-2.83	51.73	51.70	92.91	1.31	007412.75	700574.84	N 32.40 4.08 W 103.37 15.10	
	10076.00	0.64	351.61	10069.97	-1.79	-1.55	51.54	51.57	91.72	0.05	007413.83	700574.46	N 32.40 4.09 W 103.37 15.12	
	10171.00	0.97	2.24	10164.90	-0.46	-0.22	51.50	51.50	90.24	0.38	007415.10	700574.42	N 32.40 4.11 W 103.37 15.10	
	10265.00	1.03	338.18	10258.94	1.12	1.38	51.21	51.23	88.48	0.45	007416.74	700574.13	N 32.40 4.12 W 103.37 15.19	
	10360.00	1.68	309.34	10353.92	2.80	3.04	49.82	49.91	86.51	0.97	007418.42	700572.74	N 32.40 4.14 W 103.37 15.21	
	10454.00	1.83	299.64	10447.88	4.35	4.57	47.50	47.81	84.51	0.30	007419.95	700570.51	N 32.40 4.15 W 103.37 15.23	
	10549.00	1.88	294.50	10542.83	5.87	5.88	45.00	45.38	82.55	0.31	007421.28	700567.92	N 32.40 4.17 W 103.37 15.26	
	10643.00	1.99	293.74	10636.79	6.88	7.08	42.33	42.92	80.50	0.20	007422.48	700565.25	N 32.40 4.18 W 103.37 15.30	
	10737.00	1.88	293.30	10730.74	8.08	8.25	39.84	40.49	78.24	0.20	007423.83	700562.56	N 32.40 4.19 W 103.37 15.33	
	10832.00	1.46	307.46	10825.70	9.43	9.80	37.25	38.47	75.54	0.62	007424.68	700560.17	N 32.40 4.20 W 103.37 15.35	
	10926.00	0.89	303.99	10919.88	10.57	10.74	35.70	37.28	73.26	0.61	007426.12	700558.61	N 32.40 4.22 W 103.37 15.37	
Last Pilot - SLB	11019.00	0.57	281.83	11012.87	11.07	11.24	34.64	36.42	72.03	0.45	007426.82	700557.58	N 32.40 4.22 W 103.37 15.39	
	11199.00	0.85	357.72	11191.77	26.89	26.84	33.15	42.86	51.00	5.40	007442.22	700556.07	N 32.40 4.38 W 103.37 15.30	
	11248.00	14.19	353.07	11237.73	36.43	36.58	32.30	48.80	41.44	9.45	007451.98	700555.21	N 32.40 4.47 W 103.37 15.41	
	11293.00	16.90	353.88	11282.89	50.00	50.15	30.78	58.63	31.52	11.52	007465.53	700553.68	N 32.40 4.91 W 103.37 15.43	
	11340.00	21.78	347.82	11328.68	66.38	66.51	28.05	72.18	22.87	11.88	007481.89	700550.97	N 32.40 4.77 W 103.37 15.48	
	11388.00	24.79	344.90	11370.75	84.82	84.93	25.63	86.13	18.49	8.63	007500.31	700548.45	N 32.40 4.95 W 103.37 15.51	
	11435.00	28.27	348.17	11412.79	105.28	105.35	18.70	107.00	10.08	7.99	007520.73	700541.62	N 32.40 5.15 W 103.37 15.56	
	11482.00	30.88	347.95	11453.68	127.98	128.04	13.90	128.80	6.19	5.58	007543.42	700536.82	N 32.40 5.38 W 103.37 15.62	
	11529.00	31.35	349.42	11493.90	151.81	151.88	9.13	152.13	3.44	1.90	007567.23	700532.05	N 32.40 5.61 W 103.37 15.67	
	11577.00	32.63	349.08	11534.61	176.82	176.84	4.38	176.89	1.42	2.70	007592.21	700527.30	N 32.40 5.88 W 103.37 15.73	
	11625.00	32.92	349.32	11574.97	202.36	202.38	-0.49	202.38	359.86	0.87	007617.73	700522.43	N 32.40 6.11 W 103.37 15.78	
	11670.00	37.13	352.09	11611.82	227.86	227.84	-4.63	227.89	358.84	10.09	007643.21	700518.29	N 32.40 6.37 W 103.37 15.83	
	11717.00	42.00	356.08	11648.04	257.60	257.60	-7.88	257.72	358.30	11.88	007672.87	700515.28	N 32.40 6.66 W 103.37 15.87	
	11765.00	48.31	356.25	11681.88	291.62	291.58	-0.30	291.72	358.17	13.53	007708.95	700513.62	N 32.40 7.00 W 103.37 15.88	
	11797.00	53.54	358.48	11702.04	316.44	316.40	-10.01	316.58	358.10	16.35	007731.77	700512.91	N 32.40 7.24 W 103.37 15.88	
	11828.00	58.41	359.31	11719.38	342.13	342.08	-10.50	342.24	358.24	16.87	007757.45	700512.42	N 32.40 7.50 W 103.37 15.89	
	11860.00	63.07	359.72	11735.02	370.03	369.99	-10.73	370.14	358.34	14.61	007785.35	700512.19	N 32.40 7.77 W 103.37 15.89	
	11891.00	67.92	359.90	11747.87	398.23	398.19	-10.83	398.33	358.44	16.65	007813.55	700512.09	N 32.40 8.05 W 103.37 15.89	
	11923.00	71.48	0.20	11758.97	428.24	428.19	-10.80	428.33	358.50	11.16	007843.58	700512.12	N 32.40 8.35 W 103.37 15.88	
	11954.00	75.21	0.07	11767.86	457.93	457.89	-10.73	458.01	358.68	12.04	007873.25	700512.19	N 32.40 8.64 W 103.37 15.88	
	12017.00	83.79	2.63	11779.33	516.79	516.75	-0.25	516.84	358.98	14.19	007935.11	700513.87	N 32.40 9.28 W 103.37 15.88	
Last ST01 - SLB	12049.00	87.52	3.39	11781.75	551.64	551.61	-7.58	551.86	359.21	11.89	007968.97	700515.34	N 32.40 9.57 W 103.37 15.84	
	12080.00	87.15	3.12	11783.19	582.55	582.53	-5.82	582.56	359.43	1.48	007997.89	700517.10	N 32.40 9.88 W 103.37 15.81	
	12111.00	86.48	2.44	11784.92	613.40	613.40	-4.32	613.46	359.80	3.12	008028.80	700518.80	N 32.40 10.18 W 103.37 15.79	
	12171.00	86.83	1.52	11788.54	673.30	673.30	-2.25	673.30	359.81	1.58	008088.85	700520.67	N 32.40 10.77 W 103.37 15.76	
	12265.00	86.94	358.13	11793.81	767.14	767.13	-2.53	767.14	359.81	3.02	008182.49	700520.39	N 32.40 11.70 W 103.37 15.76	
	12360.00	87.08	358.77	11798.77	861.93	861.91	-6.78	861.94	359.55	1.44	008277.28	700518.18	N 32.40 12.64 W 103.37 15.80	
	12454.00	90.31	355.57	11801.73	955.70	955.64	-13.03	955.73	359.22	2.89	008370.99	700509.89	N 32.40 13.57 W 103.37 15.87	
	12549.00	90.55	355.87	11801.84	1050.49	1050.38	-20.12	1050.57	359.00	1.34	008465.72	700502.80	N 32.40 14.51 W 103.37 15.94	
	12644.00	89.21	356.42	11802.04	1145.27	1145.10	-28.51	1145.47	358.87	1.52	008560.50	700498.41	N 32.40 15.44 W 103.37 16.01	
	12738.00	90.14	359.53	11802.58	1236.21	1236.09	-26.83	1236.45	358.62	3.45	008654.42	700493.09	N 32.40 16.37 W 103.37 16.04	
	12833.00	90.55	359.59	11802.00	1334.21	1334.08	-30.56	1334.43	358.69	0.44	008749.41	700492.38	N 32.40 17.31 W 103.37 16.04	
	12928.00	89.79	357.98	11801.72	1429.19	1429.06	-32.57	1429.43	358.69	1.87	008844.38	700490.35	N 32.40 18.25 W 103.37 16.06	
	13022.00	90.07	0.00	11801.84	1523.04	1523.04	-34.23	1523.42	358.71	2.17	008938.36	700488.69	N 32.40 19.18 W 103.37 16.07	
	13117.00	89.07	358.87	11802.55	1618.18	1618.03	-35.17	1618.41	358.75	1.58	009033.35	700487.76	N 32.40 20.12 W 103.37 16.08	
	13211.00	88.83	358.20	11804.27	1712.14	1711.98	-37.57	1712.39	358.74	0.76	009127.30	700485.35	N 32.40 21.05 W 103.37 16.10	
	13306.00	89.90	359.07	11805.33	1807.11	1806.95	-38.83	1807.38	358.74	1.45	009222.26	700483.09	N 32.40 21.99 W 103.37 16.12	
	13401.00	87.97	357.85	11807.09	1902.08	1901.88	-42.55	1902.38	358.72	2.52	009317.19	700480.37	N 32.40 22.93 W 103.37 16.14	
	13495.00	87.63	356.45	11810.70	1995.89	1995.69	-47.38	1996.25	358.84	1.33	009410.69	700475.54	N 32.40 23.86 W 103.37 16.19	
	13590.00	86.38	356.04	11814.01	2090.65	2090.43	-53.60	2091.11	358.93	0.90	009505.73	700469.32	N 32.40 24.80 W 103.37 16.25	
	13684.00	90.10	354.92	11815.25	2184.38	2184.12	-61.01	2184.67	358.40	2.18	009599.42	700461.91	N 32.40 25.73 W 103.37 16.33	
	13790.00	92.44	353.50	11813.37	2288.96	2288.66	-69.58	2289.72	358.24	3.22	009683.95	700453.34	N 32.40 26.56 W 103.37 16.43	
	13884.00	92.75	354.55	11809.07	2383.39	2383.04	-78.48	2384.38	358.07	1.15	009778.33	700443.46	N 32.40 27.50 W 103.37 16.54	
	13958.00	92.72	354.87	11804.58	2457.02	2456.84	-48.81	2458.14	357.98	2.04	009871.93	700438.11	N 32.40 28.44 W 103.37 16.61	
	14053.00	92.92	358.40	11798.91	2551.83	2551.43	-61.08	2553.05	357.96					

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (°)	DLB (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		1	0.000	31.000	1/98.425	30.000	30.000	NAL_MWD-NON_SLB-Depth Only		ST02 / Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft Definitive				
		1	31.000	31.000	Act Stns	30.000	30.000	NAL_MWD-NON_SLB-Depth Only		ST02 / Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft Definitive				
		1	31.000	7944.000	Act Stns	30.000	30.000	NAL_MWD-NON_SLB		ST02 / Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft				
		1	7944.000	18055.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG		ST02 / Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft				

...ST02\Chisholm Buffalo 12-1 Fed Com WCC 6H ST02 0ft to 18055ft Definitive



Buffalo 12-1 Fed Com WCC 6H

API # 30-025-45159

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TVD R-RKB	Geological Tops	Wellbore Sketch	Hole Size	Casing	Drilling Fluids	Cement	OH Evaluation/Logs
2,000'	1,546 Rustler 1,839 Salado		17-1/2"	Surface: 13-3/8" 54.5# J55 BTC	FW Spud Mud 8.5 - 9.2 ppg 38 - 40 Vis 8 - 10 PV 8 - 10 YP	Top of Lead: Surface 13.5 ppg 1.72 cuft/sk 870 sks - 100% XS Top of Tail: 1,075' 14.8 ppg 1.33 cuft/sk 575 sks - 100% XS	2 Man Mudlogging from Surface to TD 30 ft Samples
3,000'	3,721 7 Rivers		12-1/4"	Intermediate: 9-5/8" 40# L80HC BTC	Diesel/Brine Emulsion 8.7 - 9.3 ppg 28 - 32 Vis 1 - 3 PV 1 - 3 YP	Stage 1 Top of Lead: 3,700' 11.5 ppg 3.66 cuft/sk 600 sks - 100% XS Top of Tail: 7,200' 14.8 ppg 1.33 cuft/sk 380 sks - 100% XS Stage 2 Top of Lead: Surface 11.5 ppg 3.66 cuft/sk 525 sks - 200% XS Top of Tail: 3,000' 14.8 ppg 1.33 cuft/sk 500 sks - 200% XS	2 man Mudlogging from Surface to TD 30 ft Samples
4,000'	4,381 Queen		8-3/4" Pilot Hole & Curve 8-1/2" Lateral	Production: 5-1/2" 20# P110 BTC	Pilot Hole Cut Brine/WBM 9.0 - 9.5 ppg 15 - 20 PV 8 - 12 YP Curve & Lateral OBM 10.0 - 14.5 ppg 15 - 20 PV 8 - 12 YP	Top of Lead: Surface 11.3 ppg 2.95 cuft/sk 945 sks - 10% XS Top of Tail: 10,500' 14.5 ppg 1.28 cuft/sk 1,520 sks - 10% XS	2 Man Mudlogging from ICP to PH TD & Lateral TD 10' Samples through PH & Curve 30' Samples through Lateral PH OH Logging SGR, DLL-MIL, Neu-Den Porosity from ICP to PH TD (GR-Neu to Surf) Full-Wave Sonic from 7,700' - PH TD Select neutron spectroscopy and electrical imager, Dielectric 100 RSW cores from Select Points
5,000'	6,351 Delaware Mtn Grp						
6,000'	7,851 Bone Spring						
7,000'	9,116 1st BS SS						
8,000'	9,631 2nd BS SS						
9,000'	10,566 3rd BS SS						
10,000'	10,781 Wolfcamp						
11,000'	11,646 Penn Shale						
12,000'	12,081 Strawn						
		Cement Plug: 12,288' - 11,127' PHTD - 12,311'					18,015' MD 11,688' TVD 18,055' TD 11,690' TVD