

Chisholm Minis 1 Fed Com WCA 10H MWD 0' to 18850' - Definitive Survey

Geodetic Report

(Def Survey)

CHISHOLM ENERGY

DEC 31 2019
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Report Date: July 29, 2019 - 02:40 PM
Client: Chisholm
Field: NM Las County (NAD 83)
Structure / Slot: Chisholm Minis 1 Fed Com WCA 10H / New Slot
Well: Chisholm Minis 1 Fed Com WCA 10H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Chisholm Minis 1 Fed Com WCA 10H MWD 0' to 18850' - Definitive
Survey Date: July 02, 2019
Tort / AHD / DDA / ERD Ratio: 342.776' / 7963.012' / 6.647' / 0.687
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 31' 17.6851" W 103° 37' 26.2854"
Location Grid N/E Y/X: N 554206.900 RUS, E 759980.700 RUS
CRS Grid Convergence Angle: 0.3814°
Grid Scale Factor: 0.99996364
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.580° (Grid North)
Vertical Section Origin: 0.000 R, 0.000 R
TVD Reference Datum: RKB
TVD Reference Elevation: 3753.000 ft above MSL
Seasbed / Ground Elevation: 3722.000 ft above MSL
Magnetic Declination: 6.668°
Total Gravity Field Strength: 988.481mg (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 48124.038 nT
Magnetic Dip Angle: 80.306°
Declination Date: July 22, 2019
Magnetic Declination Model: HDGM 2019
Grid North: 0.3814°
Grid Convergence Used: 0.3814°
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azth Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	Closure (ft)	Closure Azimuth (°)
SHL	0.00	0.00	181.22	0.00	0.00	0.00	0.00	N/A	554206.90	759980.70	32.521579	-103.623968	0.00	0.00
First S.B. MWD Survey	117.00	0.23	145.85	117.00	0.20	-0.19	0.13	0.20	554206.71	759980.83	32.521578	-103.623968	0.23	145.85
	211.00	0.22	180.36	211.00	0.53	-0.53	0.24	0.14	554208.37	759980.84	32.521578	-103.623967	0.58	155.98
	301.00	0.68	183.23	301.00	1.22	-1.22	0.39	0.53	554207.88	759981.09	32.521578	-103.623967	1.28	162.22
	360.00	0.98	176.35	359.99	2.08	-2.05	0.52	0.60	554206.85	759981.22	32.521574	-103.623967	2.12	165.72
	420.00	0.99	189.82	419.98	3.08	-3.08	0.47	0.39	554205.82	759981.17	32.521571	-103.623967	3.11	171.37
	479.00	0.91	195.83	478.97	4.03	-4.03	0.25	0.22	554204.87	759980.95	32.521568	-103.623967	4.04	176.42
	585.00	0.84	188.45	584.96	5.31	-5.31	0.00	0.19	554203.59	759980.70	32.521565	-103.623968	5.31	180.05
	627.00	0.84	183.97	626.96	6.20	-6.21	-0.17	0.18	554202.89	759980.53	32.521562	-103.623968	6.21	181.53
	722.00	0.83	182.10	721.95	7.57	-7.57	-0.36	0.18	554201.33	759980.34	32.521558	-103.623970	7.58	182.71
	817.00	0.94	183.20	816.93	9.03	-9.03	-0.43	0.12	554199.87	759980.27	32.521554	-103.623970	9.04	182.71
	911.00	0.53	182.78	910.93	10.23	-10.24	-0.49	0.44	554198.88	759980.21	32.521551	-103.623970	10.25	182.75
	1006.00	0.38	181.64	1005.92	10.87	-10.88	-0.41	0.23	554197.92	759980.29	32.521549	-103.623970	10.88	182.16
	1100.00	0.45	186.82	1099.82	11.63	-11.63	-0.24	0.09	554197.27	759980.46	32.521547	-103.623969	11.64	181.20
	1185.00	0.38	185.03	1184.92	12.31	-12.31	-0.20	0.14	554196.59	759980.50	32.521545	-103.623969	12.32	180.92
	1289.00	0.40	188.28	1288.82	12.91	-12.85	-0.26	0.02	554195.85	759980.44	32.521544	-103.623969	12.95	181.15
	1384.00	0.32	187.85	1383.92	13.54	-13.54	-0.33	0.08	554195.38	759980.37	32.521542	-103.623970	13.55	181.41
	1478.00	0.23	186.82	1477.91	13.99	-13.99	-0.39	0.10	554194.91	759980.31	32.521541	-103.623970	14.00	181.61
	1508.00	0.25	203.10	1507.91	14.11	-14.11	-0.43	0.23	554194.79	759980.27	32.521540	-103.623970	14.12	181.73
	1670.00	0.57	172.07	1669.91	15.23	-15.23	-0.45	0.23	554193.67	759980.25	32.521537	-103.623970	15.24	181.70
	1765.00	1.11	148.04	1764.90	16.47	-16.48	-0.13	0.68	554192.44	759980.83	32.521534	-103.623968	16.47	178.56
	1859.00	1.19	139.05	1858.88	17.87	-17.86	-0.17	0.17	554190.94	759981.07	32.521530	-103.623964	17.88	175.94
	1954.00	2.22	227.83	1953.87	18.84	-18.82	-1.79	1.27	554190.08	759982.48	32.521527	-103.623963	18.85	174.58
	2048.00	2.27	308.89	2047.85	17.78	-17.78	0.20	2.38	554191.12	759980.90	32.521530	-103.623968	17.78	178.34
	2142.00	3.95	312.68	2141.71	14.38	-14.41	-3.63	1.80	554194.49	759977.07	32.521540	-103.623980	14.88	184.12
	2237.00	5.57	300.82	2236.38	9.78	-9.83	-6.09	1.99	554198.07	759970.71	32.521552	-103.624001	14.02	225.48
	2331.00	5.88	308.80	2330.91	4.34	-4.48	-17.88	0.91	554204.42	759963.04	32.521567	-103.624027	14.22	255.77
	2425.00	5.35	312.02	2423.48	-1.68	1.47	-24.67	0.86	554210.37	759966.03	32.521584	-103.624048	14.71	273.42
	2520.00	5.73	312.95	2518.02	-7.91	7.87	-31.43	0.41	554216.57	759949.27	32.521601	-103.624070	32.35	283.71
	2614.00	5.13	310.94	2611.58	-14.15	13.88	-38.31	0.27	554222.75	759942.39	32.521618	-103.624092	40.74	289.88
	2709.00	5.13	297.83	2706.15	-19.22	18.87	-45.55	1.35	554227.77	759935.15	32.521632	-103.624118	48.30	292.50
	2803.00	4.98	294.14	2799.78	-22.91	22.50	-52.88	0.98	554231.40	759927.72	32.521642	-103.624140	55.81	293.01
	2898.00	4.37	293.82	2894.47	-26.10	25.64	-60.08	0.84	554234.54	759920.64	32.521651	-103.624162	65.31	293.12
	2993.00	4.92	281.57	2889.16	-28.42	27.91	-67.37	1.18	554238.81	759913.33	32.521657	-103.624186	72.82	292.50
	3087.00	3.80	285.70	3082.88	-30.13	29.58	-74.32	1.24	554238.48	759906.38	32.521682	-103.624219	79.98	291.69
	3182.00	2.84	280.07	3177.72	-31.67	31.08	-79.61	1.01	554239.98	759901.09	32.521686	-103.624228	85.48	291.31
	3277.00	3.75	284.53	3272.54	-32.42	32.49	-84.88	0.98	554241.39	759895.62	32.521694	-103.624240	90.98	290.95
	3371.00	4.85	283.89	3366.30	-34.91	34.20	-91.72	1.17	554243.10	759888.69	32.521675	-103.624265	97.89	290.45
	3465.00	5.45	281.57	3459.82	-36.81	36.04	-99.95	0.87	554244.94	759880.75	32.521680	-103.624292	106.25	289.83
	3560.00	5.04	278.40	3554.52	-38.39	37.55	-108.50	0.53	554246.45	759872.21	32.521684	-103.624318	114.81	289.09
	3654.00	4.77	277.54	3649.18	-39.49	38.60	-117.49	0.34	554247.49	759864.24	32.521687	-103.624345	122.70	288.53
	3749.00	4.68	274.02	3742.85	-40.26	39.31	-124.26	0.23	554248.21	759856.45	32.521690	-103.624370	130.53	287.58
	3843.00	4.58	270.89	3836.55	-40.65	39.84	-131.82	0.30	554248.54	759848.89	32.521691	-103.624395	137.65	286.74
	3938.00	4.32	271.62	3931.26	-40.88	39.80	-139.17	0.28	554248.70	759841.53	32.521691	-103.624419	144.75	285.96
	4032.00	4.19	278.80	4025.00	-41.42	40.30	-146.12	0.43	554249.20	759834.59	32.521693	-103.624441	151.58	285.42
	4127.00	4.41	277.55	4119.74	-42.43	41.28	-153.18	0.27	554250.18	759827.53	32.521695	-103.624464	158.64	285.07
	4221.00	4.54	278.35	4213.94	-43.44	42.21	-160.45	0.23	554251.11	759820.26	32.521698	-103.624488	165.81	284.74
	4315.00	4.49	277.98	4307.16	-44.42	43.13	-167.79	0.14	554252.03	759812.92	32.521701	-103.624512	173.25	284.41
	4410.00	4.48	277.75	4401.87	-45.49	44.14	-175.15	0.02	554253.04	759805.58	32.521704	-103.624535	180.63	284.15
	4504.00	4.88	273.80	4495.57	-46.28	44.88	-182.82	0.41	554253.78	759798.09	32.521708	-103.624560	188.05	283.81
	4599.00	5.04	272.83	4590.23	-46.77	45.31	-190.65	0.38	554254.20	759790.06	32.521710	-103.624586	195.46	283.37
	4693.00	4.65	271.52	4683.89	-47.11	45.59	-198.58	0.42	554254.49	759782.12	32.521708	-103.624611	203.75	282.83
	4788.00	4.07	279.50	4778.82	-47.83	46.25	-205.78	0.88	554255.15	759774.95	32.521710	-103.624635	210.89	282.67
	4882.00	3.41	288.18	4872.42	-49.30	47.67	-211.71	0.92	554256.57	759768.00	32.521714	-103.624658	217.01	282.69
	4977.00	2.55	295.85	4967.29	-51.13	49.47	-216.29	1.00	554258.37	759764.42	32.521719	-103.624689	221.88	282.88
	5071.00	1.80	302.84	5061.22	-52.87	51.19	-219.41	0.85	554260.09	759761.52	32.521724	-103.624679	225.31	283.13
	5165.00	1.85	301.54	5156.17	-54.51	52.80	-221.97	0.07	554261.70	759758.74	32.521728	-103.624687	228.17	283.38
	5260.00	1.79	306.88	5250.12	-56.20	54.48	-224.44	0.19	554263.37	759756.27	32.521733	-103.624695	230.86	283.64
	5355.00	1.70	311.03	5345.08	-58.03	56.29	-226.98	0.16	554265.19	759754.02	32.521738	-103.624702	233.58	283.95
	5449.00	1.88	309.81	5439.03	-59.16	58.16	-229.91	0.17	554267.08	759751.79	32.521743	-103.624710	236.19	284.28
	5543.00	1.92	307.43	5533.98	-61.91	60.14	-231.38	0.10	554268.94	759749.35	32.521747	-103.624717	238.05	284.57
	5638.00	1.57	309.83	5627.94	-63.71	61.91	-233.81	0.38	554270.81	759747.10	32.521754	-103.624725	241.67	284.84
	5710.00	1.42	310.16	5699.91	-64.92	63.12	-235.05	0.21	554272.02	759745.08	32.521757	-103.624729	243.38	285.03
	5787.00	1.38	309.50	5776.89	-66.14	64.33	-236.50	0.21	554273.23	759744.21	32.521760	-103.624734	245.09	285.22
	5862.00	1.37	313.58	5871.88	-67.21	65.44	-237.41	0.11	554274.74	759742.51	32.521765	-103.624742	247.14	285.45
	5978.00	1.47	307.02	5965.83	-68.18	67.34	-239.99	0.20	554278.24	759740.72	32.521769	-103.624745	249.26	

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