

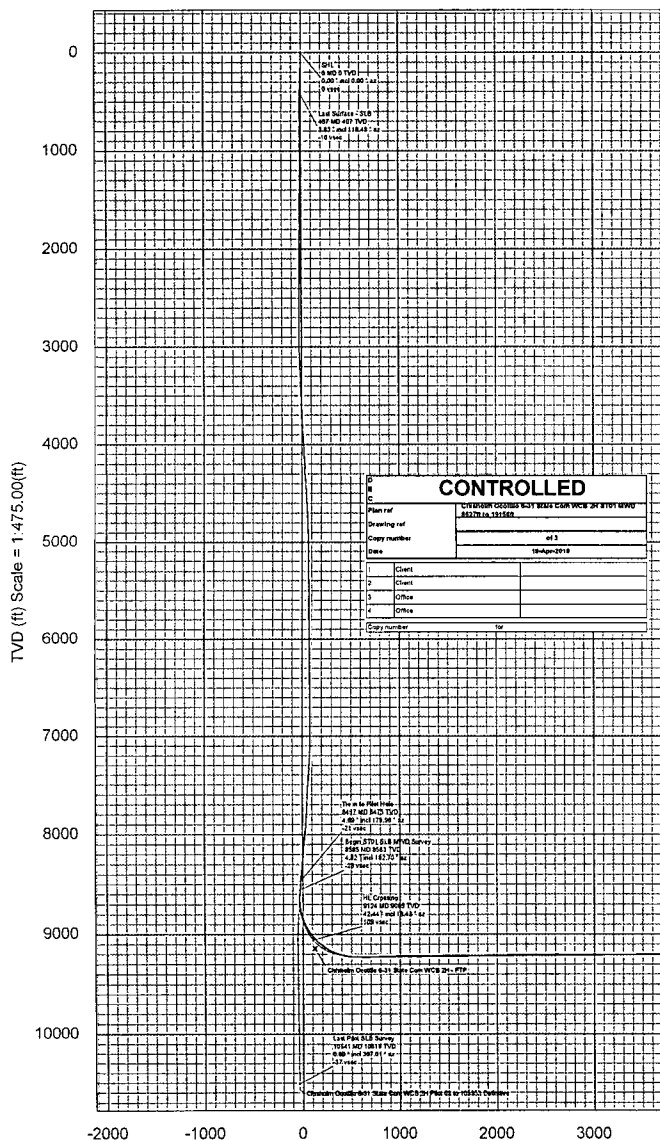
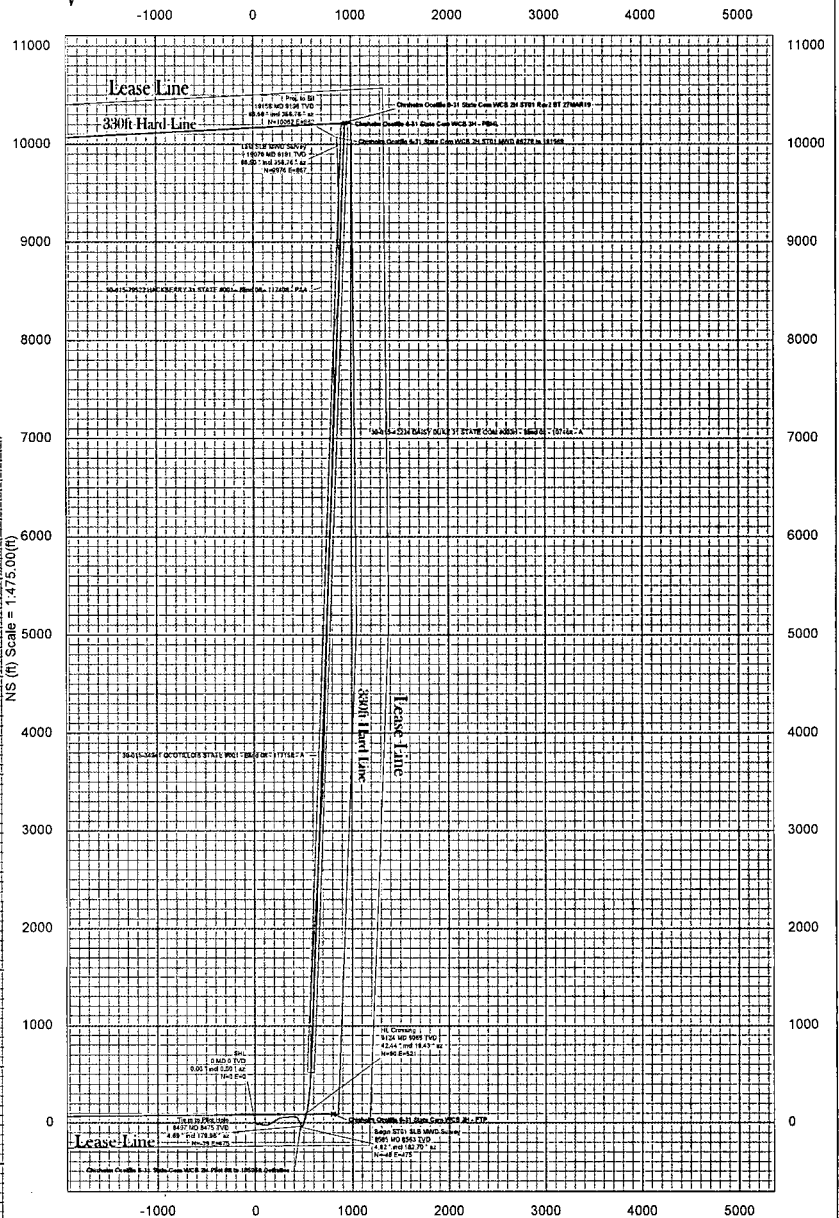
Borehole: ST01		Well: Chisholm Ocotillo 6-31 State Com WCB 2H		Field: NM Eddy County (NAD 83)		Structure: Chisholm Ocotillo 6-31 State Com WCB 2H	
Gravity & Magnetic Parameters		Surface Location		Miscellaneous			
Model: HDGM 2019	Dip: 59.969°	Date: 28-Mar-2019	NAD83 New Mexico State Plane, Eastern Zone, US Feet	North: 487673.57RUS	Grid Conv: 0.0027°	Slot: Ocotillo 6-31	TVD Ref: RKB = 32 ft (JDC 12)(3442.9ft above MSL)
MagDec: 7.307°	FS: 47885.205nT	Gravity FS: 998.485mgN (9.80665 Based)	Lat: N 32 19 36.99	East: 542913.39RUS	Scale Fact: 0.99990909	Plan: Chisholm Ocotillo 6-31 State Com WCB 2H ST01 MWD 8627ft to 19156ft	

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
Tie in to Pilot Hole	8497.00	4.69	179.96	8474.83	-21.14	-39.15	474.84	
Begin ST01 SLB MWD Survey	8585.00	4.82	182.70	8562.53	-28.43	-46.44	474.67	0.30
HL Crossing	9123.50	42.44	18.43	9064.77	109.40	89.73	521.25	13.37
Last SLB MWD Survey	19070.00	86.50	356.76	9191.07	10001.55	9975.87	867.21	0.88
Proj. to Bit	19156.00	86.50	356.76	9196.32	10087.01	10061.57	862.36	0.00



Grid (NAD83)
Tie Cor (9449.7304')
Mag Dec (7.307°)
Grid Conv (0.0027°)



Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive Survey Geodetic Report (Def Survey)

Report Date: April 18, 2019 - 11:37 AM
 Client: Chisholm Energy Operating, LLC
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Chisholm Ocotillo 6-31 State Com WCB 2H / Chisholm Ocotillo 6-31 State Com WCB 2H
 Well: Chisholm Ocotillo 6-31 State Com WCB 2H
 Borehole: Pilot Hole
 UWI / API#: Unknown / 30-015-44835-01
 Survey Name: Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive
 Survey Date: February 22, 2019
 Tort / AHD / DDI / ERD Ratio: 68.248 * / 618.224 ft / 4.626 / 0.058
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 19' 36.98989", W 104° 19' 41.63316"
 Location Grid N/E Y/X: N 482673.570 rUS, E 542913.390 rUS
 CRS Grid Convergence Angle: 0.0027 °
 Grid Scale Factor: 0.99990909
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 2.170 ° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB = 32 ft (JDC 12)
 TVD Reference Elevation: 3442.900 ft above MSL
 Seabed / Ground Elevation: 3410.900 ft above MSL
 Magnetic Declination: 7.317 °
 Total Gravity Field Strength: 998.4648mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47895.276 nT
 Magnetic Dip Angle: 59.972 °
 Declination Date: February 22, 2019
 Magnetic Declination Model: HDGM 2019
 North Reference: Grid North
 Grid Convergence Used: 0.0027 °
 Total Corr Mag North->Grid North: 7.3142 °
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (rUS)	Easting (rUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	482673.57	542913.39	N 32 19 36.99	W 104 19 41.63
	144.00	2.18	140.15	143.97	-2.03	-2.10	1.76	1.51	482671.47	542915.15	N 32 19 36.97	W 104 19 41.61
	237.00	2.67	135.80	236.88	-4.84	-5.01	4.40	0.56	482668.56	542917.79	N 32 19 36.94	W 104 19 41.58
	330.00	3.44	127.31	329.75	-7.94	-8.26	8.13	0.96	482665.31	542921.52	N 32 19 36.91	W 104 19 41.54
Last Surface - SLB	407.00	3.83	118.48	406.59	-10.41	-10.88	12.23	0.88	482662.69	542925.61	N 32 19 36.88	W 104 19 41.49
	486.00	3.99	113.20	485.41	-12.57	-13.23	17.07	0.50	482660.35	542930.46	N 32 19 36.86	W 104 19 41.43
	577.00	3.34	86.15	576.23	-13.43	-14.29	22.63	2.01	482659.28	542936.01	N 32 19 36.85	W 104 19 41.37
	670.00	2.79	74.31	669.10	-12.45	-13.50	27.51	0.90	482660.07	542940.90	N 32 19 36.86	W 104 19 41.31
	769.00	2.37	73.49	768.00	-11.05	-12.27	31.79	0.43	482661.30	542945.18	N 32 19 36.87	W 104 19 41.26
	864.00	1.90	76.91	862.93	-10.01	-11.35	35.21	0.51	482662.22	542948.60	N 32 19 36.88	W 104 19 41.22
	959.00	1.14	62.60	957.90	-9.13	-10.56	37.58	0.89	482663.01	542950.97	N 32 19 36.89	W 104 19 41.20
	1052.00	1.43	74.57	1050.88	-8.32	-9.83	39.52	0.42	482663.74	542952.91	N 32 19 36.89	W 104 19 41.17
	1147.00	1.93	101.85	1145.84	-8.23	-9.84	42.23	0.98	482663.73	542955.62	N 32 19 36.89	W 104 19 41.14
	1242.00	2.73	108.04	1240.76	-9.12	-10.87	45.95	0.88	482662.70	542959.33	N 32 19 36.88	W 104 19 41.10
	1336.00	3.04	113.24	1334.64	-10.63	-12.55	50.37	0.43	482661.03	542963.75	N 32 19 36.87	W 104 19 41.05
	1527.00	2.64	107.97	1525.40	-13.65	-15.90	59.20	0.25	482657.67	542972.59	N 32 19 36.83	W 104 19 40.94
	1594.00	2.51	97.18	1592.34	-14.20	-16.56	62.13	0.75	482657.01	542975.51	N 32 19 36.83	W 104 19 40.91
	1726.00	1.90	99.83	1724.24	-14.74	-17.30	67.15	0.47	482656.28	542980.53	N 32 19 36.82	W 104 19 40.85
	1821.00	2.09	104.09	1819.18	-15.31	-17.99	70.38	0.25	482655.59	542983.77	N 32 19 36.81	W 104 19 40.81
	1916.00	2.16	100.22	1914.11	-15.92	-18.73	73.82	0.17	482654.85	542987.21	N 32 19 36.80	W 104 19 40.77
	2012.00	2.12	99.73	2010.05	-16.40	-19.35	77.36	0.05	482654.23	542990.74	N 32 19 36.80	W 104 19 40.73
	2106.00	1.97	103.57	2103.99	-16.95	-20.02	80.64	0.22	482653.55	542994.02	N 32 19 36.79	W 104 19 40.69
	2202.00	2.01	104.31	2199.93	-17.63	-20.82	83.87	0.05	482652.75	542997.26	N 32 19 36.78	W 104 19 40.66
	2295.00	1.80	97.98	2292.88	-18.12	-21.43	86.90	0.32	482652.14	543000.28	N 32 19 36.78	W 104 19 40.62
	2389.00	1.77	95.94	2386.83	-18.37	-21.78	89.81	0.07	482651.79	543003.19	N 32 19 36.77	W 104 19 40.59
	2483.00	1.80	94.59	2480.79	-18.53	-22.05	92.72	0.05	482651.52	543006.10	N 32 19 36.77	W 104 19 40.55
	2578.00	1.79	95.01	2575.74	-18.66	-22.30	95.69	0.02	482651.27	543009.07	N 32 19 36.77	W 104 19 40.52
	2673.00	1.81	98.81	2670.69	-18.91	-22.66	98.65	0.13	482650.91	543012.03	N 32 19 36.77	W 104 19 40.48
	2768.00	1.79	94.27	2765.65	-19.14	-23.00	101.61	0.15	482650.57	543014.99	N 32 19 36.76	W 104 19 40.45
	2863.00	1.70	98.27	2860.60	-19.34	-23.31	104.49	0.16	482650.26	543017.87	N 32 19 36.76	W 104 19 40.42
	2958.00	1.58	101.35	2955.56	-19.70	-23.77	107.16	0.16	482649.80	543020.54	N 32 19 36.75	W 104 19 40.38
	3052.00	2.53	80.58	3049.50	-19.49	-23.69	110.48	1.27	482649.88	543023.86	N 32 19 36.76	W 104 19 40.35
	3147.00	4.39	74.62	3144.33	-17.97	-22.38	116.06	1.99	482651.19	543029.44	N 32 19 36.77	W 104 19 40.28
	3242.00	5.29	69.40	3238.99	-15.18	-19.88	123.66	1.05	482653.69	543037.04	N 32 19 36.79	W 104 19 40.19
	3337.00	5.02	69.57	3333.60	-11.89	-16.89	131.66	0.28	482656.69	543045.03	N 32 19 36.82	W 104 19 40.10
	3432.00	4.55	66.10	3428.27	-8.63	-13.91	139.00	0.58	482659.66	543052.37	N 32 19 36.85	W 104 19 40.01
	3527.00	4.16	65.67	3523.00	-5.44	-10.96	145.58	0.41	482662.61	543058.96	N 32 19 36.88	W 104 19 39.94
	3620.00	5.66	62.59	3615.65	-1.67	-7.46	152.73	1.64	482666.11	543066.10	N 32 19 36.92	W 104 19 39.85
	3715.00	6.10	62.00	3710.15	3.18	-2.93	161.34	0.47	482670.64	543074.72	N 32 19 36.96	W 104 19 39.75
	3810.00	5.88	61.44	3804.63	8.20	1.76	170.07	0.24	482675.33	543083.45	N 32 19 37.01	W 104 19 39.65
	3904.00	5.77	59.53	3898.15	13.21	6.46	178.37	0.24	482680.03	543091.75	N 32 19 37.05	W 104 19 39.55
	4000.00	5.69	58.89	3993.67	18.42	11.37	186.61	0.11	482684.94	543099.98	N 32 19 37.10	W 104 19 39.46
	4095.00	5.58	60.26	4088.21	23.45	16.09	194.65	0.18	482689.66	543108.02	N 32 19 37.15	W 104 19 39.36
	4190.00	5.57	58.30	4182.76	28.46	20.80	202.58	0.20	482694.37	543115.95	N 32 19 37.20	W 104 19 39.27
	4285.00	5.71	57.81	4277.30	33.70	25.74	210.50	0.16	482699.31	543123.88	N 32 19 37.24	W 104 19 39.18
	4380.00	5.50	57.00	4371.85	38.99	30.74	218.32	0.24	482704.31	543131.69	N 32 19 37.29	W 104 19 39.09
	4474.00	5.49	53.28	4465.42	44.40	35.88	225.70	0.38	482709.45	543139.07	N 32 19 37.34	W 104 19 39.00
	4568.00	5.63	58.82	4558.97	49.76	40.96	233.25	0.59	482714.53	543146.62	N 32 19 37.40	W 104 19 38.91
	4663.00	5.62	58.43	4653.52	54.91	45.81	241.20	0.04	482719.37	543154.57	N 32 19 37.44	W 104 19 38.82
	4756.00	5.95	65.78	4746.04	59.58	50.17	249.48	0.87	482723.73	543162.85	N 32 19 37.49	W 104 19 38.73
	4851.00	5.77	77.60	4840.55	62.97	53.21	258.63	1.28	482728.78	543172.00	N 32 19 37.52	W 104 19 38.62
	4946.00	5.72	80.49	4835.07	65.13	55.02	267.97	0.31	482728.59	543181.33	N 32 19 37.53	W 104 19 38.51
	5041.00	5.34	81.20	5029.63	66.93	56.48	277.01	0.41	482730.05	543190.37	N 32 19 37.55	W 104 19 38.40
	5136.00	5.20	84.57	5124.23	68.34	57.56	285.66	0.36	482731.13	543198.02	N 32 19 37.56	W 104 19 38.30
	5231.00	4.88	84.90	5218.86	69.42	58.33	293.97	0.34	482731.90	543207.33	N 32 19 37.57	W 104 19 38.21
	5326.00	4.68	90.04	5313.53	70.08	58.69	301.87	0.50	482732.25	543215.23	N 32 19 37.57	W 104 19 38.12
	5421.00	4.66	89.81	5408.22	70.38	58.70	309.61	0.03	482732.26	543222.97	N 32 19 37.57	W 104 19 38.03
	5517.00	4.31	87.81	5503.92	70.81	58.85	317.11	0.40	482732.41	543230.47	N 32 19 37.57	W 104 19 37.94
	5596.00	3.59	86.00	5582.74	71.31	59.13	322.54	0.92	482732.70	543235.90	N 32 19 37.57	W 104 19 37.87
	5691.00	3.15	88.20	5677.57	71.81	59.42	328.12	0.48	482732.99	543241.48	N 32 19 37.58	W 104 19 37.81
	5786.00	4.08	82.20	5772.38	72.57	59.96	334.08	1.06	482733.53	543247.44	N 32 19 37.58	W 104 19 37.74
	5881.00	4.14	82.24	5867.14	73.75	60.89	340.82	0.06	482734.45	543254.18	N 32 19 37.59	W 104 19 37.66
	5975.00	4.57	81.56	5960.87	75.02	61.89	347.89	0.46	482735.46	543261.25	N 32 19 37.60	W 104 19 37.58
	6070.00	5.02	83.40	6055.53	76.35	62.93	355.76	0.50	482736.49	543268.12	N 32 19 37.61	W 104 19 37.49
	6165.00	4.93	84.59	6150.17	77.53	63.79	363.95	0.14	482737.35	543277.31	N 32 19 37.62	W 104 19 37.39
	6260.00	4.95	87.00	6244.82	78.43	64.39	372.11	0.22	482737.95	543285.47	N 32 19 37.63	W 104 19 37.30
	6355.00	4.94	90.70	6339.47	78.91	64.55	380.29	0.34	482738.12	543293.65	N 32 19 37.63	W 104 19 37.20
	6449.00	4.77	93.16	6433.13	78.94	64.29	388.24	0.29	482737.85	543301.60	N 32 19 37.63	W 104 19 37.11
	6543.00	4.78	95.36	6528.80	78.66	63.71	396.05	0.20	482737.27	543309.40	N 32 19 37.62	W 104 19 37.02
	6637.00	4.55	97.36	6620.49	78.10	62.86	403.64	0.30	482736.43	543317.00	N 32 19 37.61	W 104 19 36.93
	6732.00	3.67	96.63	6715.25	77.53	62.03	410.40	0.93	482735.59	543323.75	N 32 19 37.60	W 104 19 36.85
	6828.00	2.62	94.67	6811.10	77.19	61.50	415.64	1.10	482735.06	543328.99	N 32 19 37.60	W 104 19 36.79
	6860.00											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7017.00	1.00	71.89	6999.99	77.35	61.42	421.90	1.00	482734.99	543335.25	N 32 19 37.60	W 104 19 36.72
	7111.00	1.75	119.85	7093.96	76.97	60.96	423.93	1.39	482734.53	543337.28	N 32 19 37.59	W 104 19 36.69
	7206.00	2.59	129.62	7188.90	74.99	58.87	426.84	0.96	482732.44	543340.19	N 32 19 37.57	W 104 19 36.66
	7300.00	3.81	136.67	7282.75	71.51	55.24	430.62	1.36	482728.81	543343.97	N 32 19 37.54	W 104 19 36.61
	7394.00	5.03	147.39	7376.47	65.94	49.50	434.98	1.56	482723.07	543348.33	N 32 19 37.48	W 104 19 36.56
	7489.00	5.01	158.34	7471.11	58.72	42.14	438.76	1.01	482715.70	543352.11	N 32 19 37.41	W 104 19 36.52
	7584.00	3.20	170.24	7565.86	52.33	35.67	440.74	2.10	482709.24	543354.09	N 32 19 37.34	W 104 19 36.50
	7679.00	3.34	170.49	7660.71	47.03	30.33	441.64	0.15	482703.89	543354.99	N 32 19 37.29	W 104 19 36.49
	7775.00	3.89	128.74	7756.53	42.35	25.53	444.65	2.73	482699.10	543357.99	N 32 19 37.24	W 104 19 36.45
	7870.00	4.93	151.81	7851.26	36.90	19.91	449.09	2.14	482693.48	543362.44	N 32 19 37.19	W 104 19 36.40
	7964.00	6.49	147.51	7944.79	29.05	11.87	453.85	1.72	482685.44	543367.20	N 32 19 37.11	W 104 19 36.34
	8061.00	6.64	150.90	8041.15	19.75	2.35	459.52	0.43	482675.92	543372.87	N 32 19 37.01	W 104 19 36.28
	8155.00	6.46	153.61	8134.54	10.46	-7.14	464.52	0.38	482666.43	543377.86	N 32 19 36.92	W 104 19 36.22
	8250.00	6.16	156.08	8228.96	1.19	-16.58	468.96	0.43	482656.99	543382.30	N 32 19 36.83	W 104 19 36.17
	8345.00	5.67	160.84	8323.46	-7.76	-25.68	472.56	0.73	482647.90	543385.91	N 32 19 36.74	W 104 19 36.13
	8441.00	5.09	173.92	8419.04	-16.40	-34.39	474.57	1.41	482639.18	543387.92	N 32 19 36.65	W 104 19 36.10
	8497.00	4.69	179.96	8474.83	-21.14	-38.15	474.84	1.16	482634.42	543388.19	N 32 19 36.60	W 104 19 36.10
	8627.00	3.94	184.96	8604.46	-30.91	-48.91	474.45	0.64	482624.66	543387.80	N 32 19 36.51	W 104 19 36.10
	8722.00	3.96	184.65	8699.24	-37.45	-55.44	473.91	0.03	482618.14	543387.25	N 32 19 36.44	W 104 19 36.11
	8817.00	3.04	194.27	8794.06	-43.19	-61.15	473.02	1.15	482612.43	543386.37	N 32 19 36.38	W 104 19 36.12
	8913.00	2.49	200.01	8889.95	-47.67	-65.57	471.68	0.64	482608.00	543385.02	N 32 19 36.34	W 104 19 36.14
	9007.00	2.50	207.52	8983.86	-51.46	-69.31	470.03	0.35	482604.27	543383.38	N 32 19 36.30	W 104 19 36.16
	9102.00	0.65	3.68	9078.83	-52.80	-70.61	469.11	3.27	482602.97	543382.46	N 32 19 36.29	W 104 19 36.17
	9196.00	0.73	348.76	9172.83	-51.68	-69.49	469.03	0.21	482604.09	543382.37	N 32 19 36.30	W 104 19 36.17
	9290.00	0.66	323.95	9266.82	-50.67	-68.47	468.59	0.33	482605.11	543381.94	N 32 19 36.31	W 104 19 36.17
	9384.00	0.32	37.06	9360.82	-50.03	-67.82	468.43	0.69	482605.76	543381.78	N 32 19 36.32	W 104 19 36.17
	9479.00	0.28	26.31	9455.82	-49.60	-67.40	468.69	0.07	482606.18	543382.04	N 32 19 36.32	W 104 19 36.17
	9573.00	0.28	310.87	9549.82	-49.25	-67.04	468.62	0.36	482606.53	543381.97	N 32 19 36.33	W 104 19 36.17
	9669.00	0.40	263.43	9645.81	-49.15	-66.93	468.11	0.31	482606.65	543381.46	N 32 19 36.33	W 104 19 36.18
	9763.00	1.19	15.47	9739.81	-48.25	-66.02	468.05	1.48	482607.55	543381.39	N 32 19 36.34	W 104 19 36.18
	9857.00	0.89	357.65	9833.79	-46.58	-64.35	468.28	0.47	482609.22	543381.62	N 32 19 36.35	W 104 19 36.18
	9951.00	0.82	316.54	9927.78	-45.38	-63.14	467.78	0.64	482610.44	543381.13	N 32 19 36.36	W 104 19 36.18
	10045.00	0.98	311.99	10021.77	-44.39	-62.11	466.72	0.19	482611.47	543380.07	N 32 19 36.38	W 104 19 36.19
	10140.00	1.27	8.65	10116.76	-42.83	-60.53	466.28	1.16	482613.05	543379.63	N 32 19 36.39	W 104 19 36.20
	10233.00	0.86	353.89	10209.74	-41.11	-58.81	466.36	0.53	482614.76	543379.71	N 32 19 36.41	W 104 19 36.20
	10327.00	0.83	325.02	10303.73	-39.87	-57.55	465.89	0.45	482616.02	543379.24	N 32 19 36.42	W 104 19 36.20
	10421.00	1.07	321.12	10397.72	-38.67	-56.31	464.95	0.26	482617.26	543378.30	N 32 19 36.43	W 104 19 36.21
	10516.00	0.84	310.80	10492.70	-37.56	-55.17	463.87	0.30	482618.41	543377.22	N 32 19 36.44	W 104 19 36.23
Last Pilot SLB	10541.00	0.80	307.01	10517.70	-37.35	-54.94	463.59	0.27	482618.63	543376.94	N 32 19 36.45	W 104 19 36.23
Survey Proj. to Bit	10595.00	0.80	307.01	10571.70	-36.92	-54.49	462.99	0.00	482619.09	543376.34	N 32 19 36.45	W 104 19 36.24

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	32.000	1/98.425	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive
	1	32.000	32.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive
	1	32.000	10595.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to

...Pilot Hole\Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive

Chisholm Ocotillo 6-31 State Com WCB 2H ST01 MWD 8627ft to 19156ft

Survey Geodetic Report

(Def Survey)



Report Date: April 19, 2019 - 03:11 PM
 Client: Chisholm Energy Operating, LLC
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Chisholm Ocotillo 6-31 State Com WCB 2H / Chisholm Ocotillo 6-31 State Com WCB 2H
 Well: Chisholm Ocotillo 6-31 State Com WCB 2H
 Borehole: ST01
 UWI / API#: Unknown / 30-015-44835-01
 Survey Name: Chisholm Ocotillo 6-31 State Com WCB 2H ST01 MWD 8627ft to 19156ft
 Survey Date: March 28, 2019
 Tort / AHD / DDI / ERD Ratio: 268.532' / 10716.158 ft / 6.776' / 1.161
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 19' 36.98989", W 104° 19' 41.63316"
 Location Grid N/E Y/X: N 482673.570 RUS, E 542913.390 RUS
 CRS Grid Convergence Angle: 0.0027°
 Grid Scale Factor: 0.99990909
 Version / Patch: 2.10.753.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 2.170° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB = 32 ft (JDC 12)
 TVD Reference Elevation: 3442.900 ft above MSL
 Seabed / Ground Elevation: 3410.900 ft above MSL
 Magnetic Declination: 7.307°
 Total Gravity Field Strength: 998.4648mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 47885.205 nT
 Magnetic Dip Angle: 59.969°
 Declination Date: March 28, 2019
 Magnetic Declination Model: HDGM 2019
 North Reference: Grid North
 Grid Convergence Used: 0.0027°
 Total Corr Mag North->Grid: 7.3043°
 North: 7.3043°
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ° °)	Longitude (E/W ° ° °)
SHL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	482673.57	542913.39	N 32 19 36.99	W 104 19 41.63
	144.00	2.18	140.15	143.97	-2.03	-2.10	1.76	1.51	482671.47	542915.15	N 32 19 36.97	W 104 19 41.61
	237.00	2.67	135.80	236.88	-4.84	-5.01	4.40	0.56	482668.56	542917.79	N 32 19 36.94	W 104 19 41.58
	330.00	3.44	127.31	329.75	-7.94	-8.26	8.13	0.96	482665.31	542921.52	N 32 19 36.91	W 104 19 41.54
Last Surface - SLB	407.00	3.83	118.48	406.59	-10.41	-10.88	12.23	0.88	482662.69	542925.61	N 32 19 36.88	W 104 19 41.49
	486.00	3.99	113.20	485.41	-12.57	-13.23	17.07	0.50	482660.35	542930.46	N 32 19 36.86	W 104 19 41.43
	577.00	3.34	86.15	576.23	-13.43	-14.29	22.63	2.01	482659.28	542936.01	N 32 19 36.85	W 104 19 41.37
	670.00	2.79	74.31	669.10	-12.45	-13.50	27.51	0.90	482660.07	542940.90	N 32 19 36.86	W 104 19 41.31
	769.00	2.37	73.49	768.00	-11.05	-12.27	31.79	0.43	482661.30	542945.18	N 32 19 36.87	W 104 19 41.26
	864.00	1.90	76.91	862.93	-10.01	-11.35	35.21	0.51	482662.22	542948.60	N 32 19 36.88	W 104 19 41.22
	959.00	1.14	62.60	957.90	-9.13	-10.56	37.58	0.89	482663.01	542950.97	N 32 19 36.89	W 104 19 41.20
	1052.00	1.43	74.57	1050.88	-8.32	-9.83	39.52	0.42	482663.74	542952.91	N 32 19 36.89	W 104 19 41.17
	1147.00	1.93	101.85	1145.84	-8.23	-9.84	42.23	0.98	482663.73	542955.62	N 32 19 36.89	W 104 19 41.14
	1242.00	2.73	108.04	1240.76	-9.12	-10.87	45.95	0.88	482662.70	542959.33	N 32 19 36.88	W 104 19 41.10
	1336.00	3.04	113.24	1334.64	-10.63	-12.55	50.37	0.43	482661.03	542963.75	N 32 19 36.87	W 104 19 41.05
	1527.00	2.64	107.97	1525.40	-13.65	-15.90	59.20	0.25	482657.67	542972.59	N 32 19 36.83	W 104 19 40.94
	1594.00	2.51	97.18	1592.34	-14.20	-16.56	62.13	0.75	482657.01	542975.51	N 32 19 36.83	W 104 19 40.91
	1726.00	1.90	99.83	1724.24	-14.74	-17.30	67.15	0.47	482656.28	542980.53	N 32 19 36.82	W 104 19 40.85
	1821.00	2.09	104.09	1819.18	-15.31	-17.99	70.38	0.25	482655.59	542983.77	N 32 19 36.81	W 104 19 40.81
	1916.00	2.16	100.22	1914.11	-15.92	-18.73	73.82	0.17	482654.85	542987.21	N 32 19 36.80	W 104 19 40.77
	2012.00	2.12	99.73	2010.05	-16.40	-19.35	77.36	0.05	482654.23	542990.74	N 32 19 36.80	W 104 19 40.73
	2106.00	1.97	103.57	2103.99	-16.95	-20.02	80.64	0.22	482653.55	542994.02	N 32 19 36.79	W 104 19 40.69
	2202.00	2.01	104.31	2199.93	-17.63	-20.82	83.87	0.05	482652.75	542997.26	N 32 19 36.78	W 104 19 40.66
	2295.00	1.80	97.98	2292.88	-18.12	-21.43	86.90	0.32	482652.14	543000.28	N 32 19 36.78	W 104 19 40.62
	2389.00	1.77	95.94	2386.83	-18.37	-21.78	89.81	0.07	482651.79	543003.19	N 32 19 36.77	W 104 19 40.59
	2483.00	1.80	94.59	2480.79	-18.53	-22.05	92.72	0.05	482651.52	543006.10	N 32 19 36.77	W 104 19 40.55
	2578.00	1.79	95.01	2575.74	-18.66	-22.30	95.69	0.02	482651.27	543009.07	N 32 19 36.77	W 104 19 40.52
	2673.00	1.81	98.81	2670.69	-18.91	-22.66	98.65	0.13	482650.91	543012.03	N 32 19 36.77	W 104 19 40.48
	2768.00	1.79	94.27	2765.65	-19.14	-23.00	101.61	0.15	482650.57	543014.99	N 32 19 36.76	W 104 19 40.45
	2863.00	1.70	98.27	2860.60	-19.34	-23.31	104.49	0.16	482650.26	543017.87	N 32 19 36.76	W 104 19 40.42
	2958.00	1.58	101.35	2955.56	-19.70	-23.77	107.16	0.16	482649.80	543020.54	N 32 19 36.75	W 104 19 40.38
	3052.00	2.53	80.58	3049.50	-19.49	-23.69	110.48	1.27	482649.88	543023.86	N 32 19 36.76	W 104 19 40.35
	3147.00	4.39	74.62	3144.33	-17.97	-22.38	116.06	1.99	482651.19	543029.44	N 32 19 36.77	W 104 19 40.28
	3242.00	5.29	69.40	3238.99	-15.18	-19.88	123.66	1.05	482653.69	543037.04	N 32 19 36.79	W 104 19 40.19
	3337.00	5.02	69.57	3333.60	-11.89	-16.89	131.66	0.28	482656.69	543045.03	N 32 19 36.82	W 104 19 40.10
	3432.00	4.55	66.10	3428.27	-8.63	-13.91	139.00	0.58	482659.66	543052.37	N 32 19 36.85	W 104 19 40.01
	3527.00	4.16	65.67	3523.00	-5.44	-10.96	145.58	0.41	482662.61	543058.96	N 32 19 36.88	W 104 19 39.94
	3620.00	5.66	62.59	3615.65	-1.67	-7.46	152.73	1.64	482666.11	543066.10	N 32 19 36.92	W 104 19 39.85
	3715.00	6.10	62.00	3710.15	3.18	-2.93	161.34	0.47	482670.64	543074.72	N 32 19 36.96	W 104 19 39.75
	3810.00	5.88	61.44	3804.63	8.20	1.76	170.07	0.24	482675.33	543083.45	N 32 19 37.01	W 104 19 39.65
	3904.00	5.77	59.53	3898.15	13.21	6.46	178.37	0.24	482680.03	543091.75	N 32 19 37.05	W 104 19 39.55
	4000.00	5.69	58.89	3993.67	18.42	11.37	186.61	0.11	482684.94	543099.98	N 32 19 37.10	W 104 19 39.46
	4095.00	5.58	60.26	4088.21	23.45	16.09	194.65	0.18	482689.66	543108.02	N 32 19 37.15	W 104 19 39.36
	4190.00	5.57	58.30	4182.76	28.46	20.80	202.58	0.20	482694.37	543115.95	N 32 19 37.20	W 104 19 39.27
	4285.00	5.71	57.81	4277.30	33.70	25.74	210.50	0.16	482699.31	543123.88	N 32 19 37.24	W 104 19 39.18
	4380.00	5.50	57.00	4371.85	38.99	30.74	218.32	0.24	482704.31	543131.69	N 32 19 37.29	W 104 19 39.09
	4474.00	5.49	53.28	4465.42	44.40	35.88	225.70	0.38	482709.45	543139.07	N 32 19 37.34	W 104 19 39.00
	4568.00	5.63	58.82	4558.97	49.76	40.96	233.25	0.59	482714.53	543146.62	N 32 19 37.40	W 104 19 38.91
	4663.00	5.62	58.43	4653.52	54.91	45.81	241.20	0.04	482719.37	543154.57	N 32 19 37.44	W 104 19 38.82
	4756.00	5.95	65.78	4746.04	59.58	50.17	249.48	0.87	482723.73	543162.85	N 32 19 37.49	W 104 19 38.73
	4851.00	5.77	77.60	4840.55	62.97	53.21	258.63	1.28	482728.78	543172.00	N 32 19 37.52	W 104 19 38.62
	4946.00	5.72	80.49	4935.07	65.13	55.02	267.97	0.31	482733.69	543181.33	N 32 19 37.53	W 104 19 38.51
	5041.00	5.34	81.20	5029.63	66.93	56.48	277.01	0.41	482738.05	543190.37	N 32 19 37.55	W 104 19 38.40
	5136.00	5.20	84.57	5124.23	68.34	57.56	285.66	0.36	482731.13	543198.02	N 32 19 37.56	W 104 19 38.30
	5231.00	4.88	84.90	5218.86	69.42	58.33	293.97	0.34	482731.90	543207.33	N 32 19 37.57	W 104 19 38.21
	5326.00	4.68	90.04	5313.53	70.08	58.69	301.87	0.50	482732.25	543215.23	N 32 19 37.57	W 104 19 38.12
	5421.00	4.86	89.81	5408.22	70.38	58.70	309.61	0.03	482732.26	543222.97	N 32 19 37.57	W 104 19 38.03
	5517.00	4.31	87.81	5503.92	70.81	58.85	317.11	0.40	482732.41	543230.47	N 32 19 37.57	W 104 19 37.94
	5596.00	3.59	86.00	5582.74	71.31	59.13	322.54	0.92	482732.70	543235.90	N 32 19 37.57	W 104 19 37.87
	5691.00	3.15	88.20	5677.57	71.81	59.42	328.12	0.48	482732.99	543241.48	N 32 19 37.58	W 104 19 37.81
	5786.00	4.08	82.20	5772.38	72.57	59.96	334.08	1.06	482733.53	543247.44	N 32 19 37.58	W 104 19 37.74
	5881.00	4.14	82.24	5867.14	73.75	60.89	340.82	0.06	482734.45	543254.18	N 32 19 37.59	W 104 19 37.66
	5975.00	4.57	81.56	5960.87	75.02	61.89	347.89	0.46	482735.46	543261.25	N 32 19 37.60	W 104 19 37.58
	6070.00	5.02	83.40	6055.53	76.35	62.93	355.76	0.50	482736.49	543268.12	N 32 19 37.61	W 104 19 37.49
	6165.00	4.93	84.59	6150.17	77.53	63.79	363.95	0.14	482737.35	543277.31	N 32 19 37.62	W 104 19 37.39
	6260.00	4.95	87.00	6244.82	78.43	64.39	372.11	0.22	482737.95	543285.47	N 32 19 37.63	W 104 19 37.30
	6355.00	4.94	90.70	6339.47	78.91	64.55	380.29	0.34	482738.12	543293.65	N 32 19 37.63	W 104 19 37.20
	6449.00	4.77	93.16	6433.13	78.94	64.29	388.24	0.29	482737.85	543301.60	N 32 19 37.63	W 104 19 37.11
	6543.00	4.78	95.36	6526.80	78.66	63.71	396.05	0.20	482737.27	543309.40	N 32 19 37.62	W 104 19 37.02
	6637.00	4.55	97.36	6620.49	78.10	62.86	403.64	0.30	482736.43	543317.00	N 32 19 37.61	W 104 19 36.93
	6732.00	3.67	96.63	6715.25	77.53	62.03	410.40	0.93	482735.59	543323.75	N 32 19 37.60	W 104 19 36.85
	6828.00	2.62	94.67	6811.10	77.19	61.50	415.64	1.10	482735.06	543328.99	N 32 19	

Comments	MD (ft)	Incl (°)	Azim (°)	Grid (ft)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (NUS)	Easting (EUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	7017.00	1.00	71.89	6999.99	77.35	61.42	421.90	1.00	482734.99	543335.25	N 32 19 37.60 W 104 19 36.72		
	7111.00	1.75	119.85	7093.96	76.97	60.96	423.93	1.39	482734.53	543337.28	N 32 19 37.59 W 104 19 36.69		
	7206.00	2.59	129.62	7188.90	74.99	58.87	426.84	0.96	482732.44	543340.19	N 32 19 37.57 W 104 19 36.66		
	7300.00	3.81	136.67	7282.75	71.51	55.24	430.62	1.36	482728.81	543343.97	N 32 19 37.54 W 104 19 36.61		
	7394.00	5.03	147.39	7376.47	65.94	49.50	434.98	1.56	482723.07	543348.33	N 32 19 37.48 W 104 19 36.56		
	7489.00	5.01	158.34	7471.11	58.72	42.14	438.76	1.01	482715.70	543352.11	N 32 19 37.41 W 104 19 36.52		
	7584.00	3.20	170.24	7565.86	52.33	35.67	440.74	2.10	482709.24	543354.09	N 32 19 37.34 W 104 19 36.50		
	7679.00	3.34	170.49	7660.71	47.03	30.33	441.64	0.15	482703.89	543354.99	N 32 19 37.29 W 104 19 36.49		
	7775.00	3.89	128.74	7756.53	42.35	25.53	444.65	2.73	482699.10	543357.99	N 32 19 37.24 W 104 19 36.45		
	7870.00	4.93	151.81	7844.19	36.80	19.91	449.09	2.14	482693.48	543362.44	N 32 19 37.19 W 104 19 36.40		
	7964.00	6.49	147.51	7944.79	29.05	11.87	453.85	1.72	482685.44	543367.20	N 32 19 37.11 W 104 19 36.34		
	8061.00	6.64	150.90	8041.15	19.75	2.35	459.52	0.43	482675.92	543372.87	N 32 19 37.01 W 104 19 36.28		
	8155.00	6.46	153.61	8134.54	10.46	-7.14	464.52	0.38	482666.43	543377.86	N 32 19 36.92 W 104 19 36.22		
	8250.00	6.16	156.08	8228.96	1.19	-16.58	468.96	0.43	482656.99	543382.30	N 32 19 36.83 W 104 19 36.17		
	8345.00	5.67	160.84	8323.46	-7.76	-25.68	472.56	0.73	482647.90	543385.91	N 32 19 36.74 W 104 19 36.13		
	8441.00	5.09	173.92	8419.04	-16.40	-34.39	474.57	1.41	482639.18	543387.92	N 32 19 36.65 W 104 19 36.10		
Tie in to Pilot Hole	8497.00	4.69	179.96	8474.83	-21.14	-39.15	474.84	1.16	482634.42	543388.18	N 32 19 36.60 W 104 19 36.10		
Begin ST01 SLB MWD Survey	8585.00	4.82	182.70	8562.53	-28.43	-46.44	474.67	0.30	482627.13	543388.01	N 32 19 36.53 W 104 19 36.10		
	8698.00	2.60	92.71	8675.36	-33.21	-51.31	477.00	4.84	482622.27	543390.35	N 32 19 36.48 W 104 19 36.07		
	8707.00	3.31	54.25	8707.32	-32.65	-50.80	478.48	6.43	482622.77	543391.82	N 32 19 36.49 W 104 19 36.06		
	8762.00	5.83	30.65	8739.22	-30.65	-48.87	480.06	9.65	482624.71	543393.41	N 32 19 36.51 W 104 19 36.04		
	8793.00	9.61	13.73	8769.93	-26.73	-44.99	481.47	14.17	482628.58	543394.82	N 32 19 36.54 W 104 19 36.02		
	8825.00	13.70	10.15	8801.27	-20.36	-38.66	482.76	12.95	482634.91	543396.11	N 32 19 36.61 W 104 19 36.01		
	8856.00	16.83	11.65	8831.17	-12.29	-30.65	484.32	10.18	482642.92	543397.66	N 32 19 36.69 W 104 19 35.99		
	8888.00	18.93	14.30	8861.62	-2.65	-21.09	486.54	7.04	482652.49	543399.88	N 32 19 36.78 W 104 19 35.96		
	8919.00	22.39	14.80	8890.63	8.03	-10.50	489.29	11.18	482663.07	543402.63	N 32 19 36.89 W 104 19 35.93		
	8951.00	24.22	16.72	8920.01	20.33	1.68	492.73	6.19	482675.25	543406.08	N 32 19 37.01 W 104 19 35.89		
	8983.00	27.49	17.45	8948.81	33.82	15.01	496.84	10.27	482688.58	543410.18	N 32 19 37.14 W 104 19 35.84		
	9014.00	30.23	17.62	8975.95	48.24	29.28	501.35	8.84	482702.85	543414.69	N 32 19 37.28 W 104 19 35.79		
	9047.00	32.38	17.60	9004.15	64.77	45.62	506.53	6.52	482719.19	543419.88	N 32 19 37.44 W 104 19 35.73		
	9079.00	36.75	18.27	9030.49	82.23	62.89	512.13	13.71	482736.45	543425.47	N 32 19 37.61 W 104 19 35.66		
	9110.00	40.71	19.21	9054.67	100.82	81.25	518.36	12.91	482754.81	543431.71	N 32 19 37.79 W 104 19 35.59		
	9142.00	44.82	17.45	9078.16	121.68	101.87	525.18	13.37	482775.43	543438.52	N 32 19 38.00 W 104 19 35.51		
	9235.00	58.77	10.69	9135.58	193.03	172.61	542.48	16.04	482846.17	543455.82	N 32 19 38.70 W 104 19 35.31		
	9266.00	61.30	10.72	9151.06	219.59	199.00	547.47	8.16	482872.55	543460.81	N 32 19 38.96 W 104 19 35.25		
	9298.00	63.28	8.39	9165.94	247.68	226.93	552.17	8.93	482900.48	543465.51	N 32 19 39.24 W 104 19 35.20		
	9329.00	66.78	6.44	9179.03	275.66	254.79	555.79	12.65	482928.34	543469.13	N 32 19 39.51 W 104 19 35.16		
	9361.00	71.39	4.78	9190.45	305.49	284.53	558.70	15.20	482958.08	543472.04	N 32 19 39.81 W 104 19 35.12		
	9392.00	75.55	3.55	9199.27	335.18	314.17	560.86	13.95	482987.71	543474.20	N 32 19 40.10 W 104 19 35.10		
	9423.00	79.18	3.54	9206.05	365.41	344.35	562.73	11.71	483017.89	543476.07	N 32 19 40.40 W 104 19 35.07		
	9455.00	80.09	3.98	9211.80	396.88	375.76	564.79	3.15	483049.30	543478.13	N 32 19 40.71 W 104 19 35.05		
	9487.00	80.19	4.30	9217.28	428.39	407.21	567.07	1.03	483080.74	543480.41	N 32 19 41.02 W 104 19 35.02		
	9518.00	81.51	4.49	9222.21	458.97	437.72	569.41	4.30	483111.25	543482.75	N 32 19 41.32 W 104 19 35.00		
	9611.00	88.83	0.95	9230.04	551.56	530.21	573.79	8.74	483203.73	543487.13	N 32 19 42.24 W 104 19 34.95		
	9705.00	89.69	0.50	9231.25	645.52	624.20	574.98	1.03	483297.71	543488.32	N 32 19 43.17 W 104 19 34.93		
	9799.00	93.65	0.09	9228.51	739.41	718.14	575.47	4.24	483391.64	543488.80	N 32 19 44.10 W 104 19 34.93		
	9894.00	92.34	1.67	9223.55	834.25	812.99	576.92	2.16	483486.48	543490.26	N 32 19 45.03 W 104 19 34.91		
	9998.00	92.67	359.74	9219.01	938.11	916.88	578.20	1.88	483590.36	543491.54	N 32 19 46.06 W 104 19 34.89		
	10094.00	90.69	359.52	9216.19	1033.97	1012.83	577.58	2.08	483686.30	543490.92	N 32 19 47.01 W 104 19 34.90		
	10190.00	89.83	359.55	9215.76	1129.87	1108.82	576.80	0.90	483782.29	543490.14	N 32 19 47.96 W 104 19 34.91		
	10284.00	90.03	0.14	9215.87	1223.79	1202.82	576.55	0.66	483876.28	543489.89	N 32 19 48.89 W 104 19 34.91		
	10379.00	89.74	2.41	9216.06	1318.77	1297.79	578.66	2.41	483971.24	543492.00	N 32 19 49.83 W 104 19 34.89		
	10472.00	90.66	2.62	9215.74	1411.77	1390.70	582.74	1.01	484064.14	543496.08	N 32 19 50.75 W 104 19 34.84		
	10567.00	90.06	3.23	9215.14	1506.76	1485.58	587.59	0.90	484159.01	543500.93	N 32 19 51.69 W 104 19 34.78		
	10662.00	90.09	3.07	9215.01	1601.74	1580.43	592.81	0.17	484253.85	543506.15	N 32 19 52.63 W 104 19 34.72		
	10758.00	90.94	3.67	9214.15	1697.72	1676.26	598.45	1.08	484349.67	543511.79	N 32 19 53.58 W 104 19 34.66		
	10852.00	90.52	3.03	9212.95	1791.69	1770.09	603.95	0.81	484443.50	543517.28	N 32 19 54.50 W 104 19 34.59		
	10947.00	91.46	3.23	9211.31	1886.66	1864.93	609.13	1.01	484538.33	543522.47	N 32 19 55.44 W 104 19 34.53		
	11042.00	90.72	3.79	9209.51	1981.62	1959.74	614.95	0.98	484633.13	543528.28	N 32 19 56.38 W 104 19 34.47		
	11138.00	90.23	2.51	9208.71	2077.60	2055.59	620.22	1.43	484728.97	543533.56	N 32 19 57.33 W 104 19 34.40		
	11233.00	90.77	4.61	9207.88	2172.56	2150.39	626.12	2.28	484823.77	543539.45	N 32 19 58.27 W 104 19 34.33		
	11328.00	90.60	3.62	9206.75	2267.50	2245.14	632.94	1.06	484918.50	543546.27	N 32 19 59.21 W 104 19 34.26		
	11423.00	90.83	3.26	9205.56	2362.47	2339.96	638.64	0.45	485013.32	543551.97	N 32 20 0.14 W 104 19 34.19		
	11519.00	91.49	3.38	9203.62	2458.43	2435.78	644.20	0.70	485109.13	543557.53	N 32 20 1.09 W 104 19 34.12		
	11613.00	90.23	3.39	9202.21	2552.39	2529.61	649.75	1.34	485202.94	543563.08	N 32 20 2.02 W 104 19 34.06		
	11708.00	89.83	3.21	9202.16	2647.38	2624.45	655.21	0.46	485297.77	543568.54	N 32 20 2.96 W 104 19 34.00		
	11802.00	89.40	3.22	9202.79	2741.36	2718.30	660.49	0.46	485391.61	543573.81	N 32 20 3.89 W 104 19 33.93		
	11897.00	89.46	3.22	9203.73	2836.34	2813.14	665.82	0.06	485486.45	543579.15	N 32 20 4.83 W 104 19 33.87		
	11992.00	89.48	3.16	9204.61	2931.32	2907.99	671.11	0.07	485581.29	543584.44	N 32 20 5.76 W 104 19 33.81		
	12087.00	90.17	3.80	9204.90	3026.29	3002.81	676.87	0.99	485676.11	543589.20	N 32 20 6.70 W 104 19 33.74		
	12181.00	90.26	3.65	9204.55	3120.26	3098.62	682.88	0.19	485769.90	543596.31	N 32 20 7.63 W 104 19 33.67		
	12275.00	90.34	3.25	9204.06	3214.23	3190.44	688.64	0.43	485863.72	543603.96	N 32 20 8.56 W 104 19 33.61		
	12369.00	90.00	3.08	9203.78	3307.22	3283.30	693.77	0.41	485956.57	543607.10	N 32 20 9.48 W 104 19 33.55		
	12464.00	91.06	2.90	9202.89	3403.20	3379.16	698.78	1.12	486052.42	543612.10	N 32 20 10.43 W 104 19 33.49		
	12558.00	90.86	2.95	9201.32	3497.18	3473.03	703.58	0.22	486146.28	543616.90	N 32 20 11.36 W 104 19 33.43		
	12654.00	90.40	3.55	9200.26	3593.1								

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	15581.00	90.74	1.83	9183.23	6519.74	6494.14	799.15	2.05	489167.10	543712.46	N 32 20 41.25	W 104 19 32.31
	15676.00	90.60	1.32	9182.12	6614.73	6589.09	801.76	0.56	489262.05	543715.07	N 32 20 42.19	W 104 19 32.28
	15771.00	89.91	1.47	9181.70	6709.72	6684.06	804.07	0.74	489357.01	543717.39	N 32 20 43.13	W 104 19 32.26
	15864.00	90.43	1.02	9181.42	6802.70	6777.04	806.09	0.74	489449.98	543719.41	N 32 20 44.05	W 104 19 32.23
	15958.00	90.95	3.00	9180.29	6896.69	6870.97	809.39	2.18	489543.90	543722.70	N 32 20 44.98	W 104 19 32.19
	16053.00	90.46	1.90	9179.12	6991.68	6965.88	813.45	1.27	489638.80	543726.76	N 32 20 45.92	W 104 19 32.15
	16148.00	90.72	1.03	9178.14	7086.67	7060.84	815.88	0.96	489733.75	543729.19	N 32 20 46.86	W 104 19 32.12
	16244.00	90.86	1.86	9176.82	7182.65	7156.80	818.30	0.88	489829.70	543731.61	N 32 20 47.81	W 104 19 32.09
	16337.00	90.43	1.20	9175.77	7275.64	7249.76	820.78	0.85	489922.55	543734.09	N 32 20 48.73	W 104 19 32.06
	16431.00	91.37	2.01	9174.29	7369.62	7343.71	823.41	1.32	490016.50	543736.73	N 32 20 49.66	W 104 19 32.03
	16526.00	92.41	1.22	9171.16	7464.56	7438.62	826.09	1.37	490111.49	543739.40	N 32 20 50.59	W 104 19 32.00
	16620.00	93.01	1.21	9166.72	7558.44	7532.49	828.08	0.64	490205.36	543741.39	N 32 20 51.52	W 104 19 31.98
	16713.00	93.47	0.09	9161.46	7651.26	7625.33	829.13	1.30	490298.19	543742.45	N 32 20 52.44	W 104 19 31.96
	16808.00	94.10	359.94	9155.19	7745.98	7720.13	829.16	0.68	490392.98	543742.47	N 32 20 53.38	W 104 19 31.96
	16901.00	94.39	359.58	9148.30	7838.65	7812.87	828.77	0.50	490485.71	543742.08	N 32 20 54.30	W 104 19 31.97
	16997.00	89.91	357.97	9144.70	7934.38	7908.75	826.72	4.96	490581.59	543740.03	N 32 20 55.25	W 104 19 31.99
	17092.00	89.28	0.77	9145.37	8029.26	8003.73	825.67	3.02	490676.56	543738.99	N 32 20 56.19	W 104 19 32.00
	17187.00	89.60	6.59	9146.30	8124.18	8098.49	831.77	6.14	490771.31	543745.08	N 32 20 57.12	W 104 19 31.93
	17282.00	90.34	10.57	9146.35	8218.57	8192.41	845.94	4.26	490865.22	543759.25	N 32 20 58.05	W 104 19 31.77
	17377.00	89.51	11.07	9146.48	8312.48	8285.72	863.77	1.02	490958.52	543777.08	N 32 20 58.98	W 104 19 31.56
	17472.00	88.54	7.39	9148.10	8406.73	8378.46	879.00	4.01	491052.25	543792.31	N 32 20 59.90	W 104 19 31.38
	17568.00	89.26	2.08	9149.94	8502.58	8475.08	886.92	5.58	491147.86	543800.23	N 32 21 0.85	W 104 19 31.29
	17663.00	89.23	0.12	9151.19	8597.55	8570.05	888.75	2.06	491242.82	543802.05	N 32 21 1.79	W 104 19 31.27
	17755.00	89.00	359.29	9152.61	8689.46	8662.04	888.27	0.94	491334.80	543801.58	N 32 21 2.70	W 104 19 31.27
	17851.00	89.14	357.99	9154.17	8785.26	8757.99	886.00	1.36	491430.75	543799.30	N 32 21 3.65	W 104 19 31.30
	17946.00	88.94	357.79	9155.76	8879.98	8852.92	882.50	0.30	491525.66	543795.81	N 32 21 4.59	W 104 19 31.34
	18040.00	89.00	358.11	9157.45	8973.71	8946.84	879.14	0.35	491619.58	543792.44	N 32 21 5.52	W 104 19 31.38
	18135.00	88.40	1.14	9159.61	9068.58	9041.80	878.51	3.25	491714.53	543791.82	N 32 21 6.46	W 104 19 31.39
	18231.00	89.06	1.11	9161.74	9164.54	9137.76	880.40	0.69	491810.48	543793.71	N 32 21 7.41	W 104 19 31.37
	18326.00	89.11	0.36	9163.25	9259.50	9232.74	881.62	0.79	491905.45	543794.93	N 32 21 8.35	W 104 19 31.35
	18421.00	89.20	0.49	9164.65	9354.45	9327.73	882.32	0.17	492000.43	543795.63	N 32 21 9.29	W 104 19 31.34
	18517.00	88.68	359.87	9166.43	9450.37	9423.71	882.62	0.84	492096.40	543795.93	N 32 21 10.24	W 104 19 31.34
	18611.00	87.57	358.94	9169.51	9544.21	9517.65	881.65	1.54	492190.34	543794.96	N 32 21 11.17	W 104 19 31.35
	18706.00	87.05	358.91	9173.96	9638.95	9612.53	879.87	0.55	492285.21	543793.18	N 32 21 12.10	W 104 19 31.37
	18801.00	87.94	358.71	9178.12	9733.70	9707.42	877.90	0.96	492380.08	543791.21	N 32 21 13.04	W 104 19 31.39
	18897.00	87.57	357.93	9181.88	9829.41	9803.30	875.08	0.90	492475.96	543788.39	N 32 21 13.99	W 104 19 31.43
	18992.00	86.82	357.37	9186.53	9924.00	9898.11	871.19	0.98	492570.76	543784.50	N 32 21 14.93	W 104 19 31.47
Last SLB Survey	19070.00	86.50	356.76	9191.07	10001.55	9975.87	867.21	0.88	492648.51	543780.52	N 32 21 15.70	W 104 19 31.52
Proj. to Bit	19156.00	86.50	356.76	9196.32	10087.01	10061.57	862.36	0.00	492734.21	543775.67	N 32 21 16.55	W 104 19 31.57

Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	32.000	1/98.425	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive
	1	32.000	32.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG-Depth Only	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to 10595ft Definitive
	1	32.000	8497.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG	Pilot Hole / Chisholm Ocotillo 6-31 State Com WCB 2H Pilot 0ft to ST01 / Chisholm Ocotillo 6-31
	1	8497.000	19156.000	Act Stns	30.000	30.000	NAL_MWD_1.0_DEG	State Com WCB 2H ST01 MWD