

Final Survey XTO James Ranch Unit DI 2 #193H MWD 0ft-25633ft Geodetic Report

(Def Survey)



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DISTRICT II-ARTESIA O.C.D.

Report Date: June 18, 2018 - 08:44 AM
 Client: XTO
 Field: NM Eddy County (NAD 27)
 Structure / Slot: XTO James Ranch Unit DI 2 #193H / XTO James Ranch Unit DI 2 #193H
 Well: XTO James Ranch Unit DI 2 #193H
 Borehole: Original Borehole
 UWI / API#: Unknown / 30-015-43368
 Survey Name: Final Survey XTO James Ranch Unit DI 2 #193H MWD 0ft-25633ft
 Survey Date: May 02, 2018
 Tort / AHD / DDI / ERD Ratio: 222.590' / 15171.083 ft / 6.899 / 1.390
 Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 21' 44.83578", W 103° 50' 10.55346"
 Location Grid N/E Y/X: N 495932.600 ftUS, E 653480.200 ftUS
 CRS Grid Convergence Angle: 0.2661°
 Grid Scale Factor: 0.99993607
 Version / Patch: 2.10.696.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 269.345° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3369.000 ft above MSL
 Seabed / Ground Elevation: 3344.000 ft above MSL
 Magnetic Declination: 7.069°
 Total Gravity Field Strength: 998.4606mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48112.038 nT
 Magnetic Dip Angle: 60.152°
 Declination Date: May 02, 2018
 Magnetic Declination Model: HDGM 2017
 North Reference: Grid North
 Grid Convergence Used: 0.2661°
 Total Corr Mag North->Grid: 6.8028°
 North:
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/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	495932.60	653480.20	N 32 21 44.84	W 103 50 10.55
	98.00	0.50	125.00	98.00	-0.35	-0.25	0.35	0.51	495932.35	653480.55	N 32 21 44.83	W 103 50 10.55
	200.00	0.20	310.00	200.00	-0.57	-0.39	0.58	0.69	495932.21	653480.78	N 32 21 44.83	W 103 50 10.55
	300.00	0.30	234.00	300.00	-0.23	-0.43	0.23	0.32	495932.17	653480.43	N 32 21 44.83	W 103 50 10.55
	400.00	0.00	17.00	400.00	-0.01	-0.58	0.02	0.30	495932.02	653480.22	N 32 21 44.83	W 103 50 10.55
	500.00	0.40	12.00	500.00	-0.09	-0.24	0.09	0.40	495932.36	653480.29	N 32 21 44.83	W 103 50 10.55
13 3/8" Casing Point	589.00	0.50	261.00	588.99	0.23	0.00	-0.23	0.84	495932.60	653479.97	N 32 21 44.84	W 103 50 10.56
	664.00	0.56	312.20	663.99	0.82	0.20	-0.82	0.61	495932.80	653479.38	N 32 21 44.84	W 103 50 10.56
	744.00	0.64	320.54	743.99	1.38	0.81	-1.39	0.15	495933.41	653478.81	N 32 21 44.84	W 103 50 10.57
	933.00	0.71	334.84	932.97	2.53	2.68	-2.56	0.10	495935.28	653477.64	N 32 21 44.86	W 103 50 10.58
	1027.00	0.52	330.40	1026.97	2.98	3.58	-3.02	0.21	495936.18	653477.18	N 32 21 44.87	W 103 50 10.59
	1121.00	0.52	329.96	1120.96	3.40	4.32	-3.44	0.00	495936.92	653476.76	N 32 21 44.88	W 103 50 10.59
	1215.00	0.48	337.06	1214.96	3.75	5.05	-3.81	0.08	495937.65	653476.39	N 32 21 44.89	W 103 50 10.60
	1310.00	0.43	343.83	1309.96	4.00	5.76	-4.07	0.08	495938.36	653476.13	N 32 21 44.89	W 103 50 10.60
	1498.00	0.45	329.07	1497.95	4.56	7.07	-4.64	0.06	495939.67	653475.56	N 32 21 44.91	W 103 50 10.61
	1592.00	0.46	328.73	1591.95	4.94	7.71	-5.03	0.01	495940.31	653475.17	N 32 21 44.91	W 103 50 10.61
	1686.00	0.06	95.21	1685.95	5.08	8.03	-5.17	0.53	495940.63	653475.03	N 32 21 44.92	W 103 50 10.61
	1780.00	0.40	313.79	1779.95	5.27	8.25	-5.36	0.48	495940.85	653474.84	N 32 21 44.92	W 103 50 10.62
	1875.00	0.30	327.67	1874.95	5.64	8.69	-5.73	0.14	495941.29	653474.47	N 32 21 44.92	W 103 50 10.62
	1969.00	0.41	308.35	1968.94	6.03	9.11	-6.13	0.17	495941.71	653474.07	N 32 21 44.93	W 103 50 10.62
	2064.00	0.41	306.20	2063.94	6.56	9.52	-6.67	0.02	495942.12	653473.53	N 32 21 44.93	W 103 50 10.63
	2158.00	0.28	314.46	2157.94	6.99	9.88	-7.11	0.15	495942.48	653473.09	N 32 21 44.93	W 103 50 10.64
	2253.00	0.18	286.43	2252.94	7.30	10.08	-7.42	0.16	495942.68	653472.79	N 32 21 44.94	W 103 50 10.64
	2347.00	0.18	341.08	2346.94	7.49	10.26	-7.60	0.18	495942.86	653472.60	N 32 21 44.94	W 103 50 10.64
	2442.00	0.28	285.12	2441.94	7.76	10.47	-7.88	0.25	495943.06	653472.32	N 32 21 44.94	W 103 50 10.64
	2536.00	0.62	171.11	2535.94	7.91	10.62	-8.02	0.83	495942.62	653472.18	N 32 21 44.94	W 103 50 10.65
	2632.00	0.91	179.68	2631.93	7.84	8.75	-7.94	0.32	495941.35	653472.26	N 32 21 44.92	W 103 50 10.65
	2726.00	1.26	178.23	2725.91	7.82	6.97	-7.90	0.37	495939.57	653472.30	N 32 21 44.91	W 103 50 10.65
	2821.00	2.13	205.71	2820.87	8.58	4.33	-8.63	1.23	495936.93	653471.57	N 32 21 44.88	W 103 50 10.65
	2915.00	0.91	209.85	2914.84	9.74	2.11	-9.76	1.30	495934.71	653470.44	N 32 21 44.86	W 103 50 10.67
	3010.00	0.89	137.64	3009.83	9.63	0.91	-9.64	1.12	495933.51	653470.56	N 32 21 44.85	W 103 50 10.67
	3103.00	1.46	134.86	3102.81	8.32	-0.46	-8.31	0.62	495932.14	653471.89	N 32 21 44.83	W 103 50 10.65
	3198.00	0.79	121.08	3197.79	6.91	-1.65	-6.90	0.76	495930.95	653473.30	N 32 21 44.82	W 103 50 10.63
	3293.00	0.64	51.60	3292.78	5.94	-1.66	-5.92	0.87	495930.94	653474.28	N 32 21 44.82	W 103 50 10.62
	3387.00	1.09	85.35	3386.77	4.63	-1.26	-4.62	0.70	495931.34	653475.58	N 32 21 44.82	W 103 50 10.61
	3482.00	0.56	103.19	3481.76	3.28	-1.29	-3.26	0.61	495931.31	653476.94	N 32 21 44.82	W 103 50 10.59
	3576.00	0.38	93.98	3575.76	2.52	-1.42	-2.51	0.21	495931.18	653477.69	N 32 21 44.82	W 103 50 10.58
	3671.00	0.64	154.11	3670.75	1.98	-1.92	-1.96	0.59	495930.68	653478.24	N 32 21 44.82	W 103 50 10.58
	3765.00	0.44	149.75	3764.75	1.58	-2.70	-1.55	0.22	495929.90	653478.65	N 32 21 44.81	W 103 50 10.57
	3860.00	0.56	156.98	3859.75	1.22	-3.44	-1.18	0.14	495929.16	653479.02	N 32 21 44.80	W 103 50 10.57
	3956.00	0.64	166.96	3955.74	0.93	-4.40	-0.88	0.14	495928.20	653479.32	N 32 21 44.79	W 103 50 10.56
	4051.00	0.46	276.92	4050.74	1.19	-4.87	-1.14	0.95	495927.73	653479.06	N 32 21 44.79	W 103 50 10.57
	4145.00	0.56	285.34	4144.74	2.01	-4.70	-1.96	0.13	495927.90	653478.24	N 32 21 44.79	W 103 50 10.58
	4239.00	0.56	278.25	4238.73	2.90	-4.51	-2.85	0.07	495928.09	653477.35	N 32 21 44.79	W 103 50 10.59
	4334.00	0.81	279.86	4333.72	4.02	-4.33	-3.97	0.26	495928.27	653476.23	N 32 21 44.79	W 103 50 10.60
	4430.00	0.82	273.38	4429.71	5.38	-4.18	-5.33	0.10	495928.42	653474.87	N 32 21 44.79	W 103 50 10.62
	4524.00	1.03	279.99	4523.70	6.88	-3.99	-6.83	0.25	495928.61	653473.37	N 32 21 44.80	W 103 50 10.63
	4619.00	0.93	272.03	4618.69	8.49	-3.81	-8.44	0.18	495928.79	653471.76	N 32 21 44.80	W 103 50 10.65
	4713.00	1.02	272.71	4712.67	10.08	-3.75	-10.04	0.10	495928.85	653470.16	N 32 21 44.80	W 103 50 10.67
	4808.00	0.96	287.61	4807.66	11.68	-3.47	-11.64	0.28	495929.13	653468.56	N 32 21 44.80	W 103 50 10.69
	4902.00	1.16	274.60	4901.64	13.38	-3.15	-13.34	0.33	495929.45	653466.86	N 32 21 44.81	W 103 50 10.71
	4997.00	0.36	2.41	4996.64	14.32	-2.78	-14.29	1.26	495929.82	653465.91	N 32 21 44.81	W 103 50 10.72
	5092.00	0.76	46.61	5091.63	13.84	-2.05	-13.82	0.59	495930.55	653466.38	N 32 21 44.82	W 103 50 10.71
	5187.00	1.08	44.52	5186.62	12.74	-0.98	-12.73	0.34	495931.62	653467.47	N 32 21 44.83	W 103 50 10.70
	5281.00	1.03	43.86	5280.60	11.52	0.27	-11.53	0.05	495932.87	653468.67	N 32 21 44.84	W 103 50 10.69
	5376.00	0.85	42.59	5375.59	10.44	1.40	-10.46	0.19	495934.00	653469.74	N 32 21 44.85	W 103 50 10.68
	5471.00	0.86	45.58	5470.58	9.44	2.42	-9.47	0.05	495935.02	653470.73	N 32 21 44.86	W 103 50 10.66
5566.00	0.75	38.86	5565.57	8.53	3.40	-8.57	0.15	495936.00	653471.63	N 32 21 44.87	W 103 50 10.65	
5660.00	0.85	40.87	5659.56	7.68	4.41	-7.73	0.11	495937.01	653472.47	N 32 21 44.88	W 103 50 10.64	
5755.00	0.78	42.10	5754.55	6.77	5.42	-6.84	0.08	495938.02	653473.36	N 32 21 44.89	W 103 50 10.63	
5849.00	0.84	35.74	5848.54	5.93	6.45	-6.00	0.11	495939.05	653474.20	N 32 21 44.90	W 103 50 10.62	
5944.00	0.88	37.48	5943.53	5.07	7.60	-5.15	0.05	495940.20	653475.05	N 32 21 44.91	W 103 50 10.61	
6038.00	0.41	111.59	6037.53	4.31	8.05	-4.40	0.92	495940.65	653475.80	N 32 21 44.92	W 103 50 10.60	
6133.00	0.51	157.19	6132.53	3.84	7.53	-3.92	0.39	495940.13	653476.28	N 32 21 44.91	W 103 50 10.60	
6228.00	0.56	163.36	6227.52	3.55	6.70	-3.63	0.08	495939.30	653476.58	N 32 21 44.90	W 103 50 10.60	
6322.00	0.55	160.24	6321.52	3.27	5.83	-3.34	0.03	495938.43	653476.86	N 32 21 44.89	W 103 50 10.59	
6417.00	0.41	160.89	6416.51	3.02	5.08	-3.08	0.15	495937.68	653477.12	N 32 21 44.88	W 103 50 10.59	
6511.00	0.71	107.44	6510.51	2.36	4.59	-2.41	0.61	495937.19	653477.79	N 32 21 44.89	W 103 50 10.58	
6606.00	0.41	107.50	6605.50	1.47	4.31	-1.52	0.32	495936.91	653478.68	N 32 21 44.88	W 103 50 10.57	
6700.00	0.53	116.95	6699.50	0.77	4.01	-0.82	0.15	495936.61	653479.38	N 32 21 44.88	W 103 50 10.56	
6794.00	0.53	117.99	6793.50	0.00	3.61	-0.04	0.01	495936.21	653480.16	N 32 21 44.87	W 103 50 10.55	
6889.00	0.68	118.69	6888.49	-0.87	3.14	-0.84	0.16	495935.74	653481.04	N 32 21 44.87	W 103 50 10.54	
6984.00	0.80	115.24	6983.48	-1.96	2.58	1.93	0.13	495935.18	653482.13	N 32 21 44.86	W 103 50 10.53	
7078.00	0.73	122.52	7077.48	-3.05	1.98	3.03	0.13	495934.58	653483.23	N 32 21 44.86	W 103 50 10.52	
7173.00	0.69	117.96	7172.47	-4.06	1.39	4.05	0.07	495933.99	653484.25	N 32 21 44.85	W 103 50 10.51	
7267.00	0.62	120.50	7266.46	-4.99	0.86	4.98	0.08</					

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (ft/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7362.00	0.34	129.07	7361.46	-5.65	0.42	5.65	0.30	495933.02	653485.85	N 32 21 44.84	W 103 50 10.49
	7457.00	0.48	151.03	7456.46	-6.06	-0.10	6.06	0.22	495932.50	653486.26	N 32 21 44.83	W 103 50 10.48
	7552.00	0.63	156.37	7551.45	-6.45	-0.93	6.46	0.17	495931.67	653486.66	N 32 21 44.83	W 103 50 10.48
	7647.00	0.62	167.05	7646.45	-6.76	-1.91	6.78	0.12	495930.69	653486.98	N 32 21 44.82	W 103 50 10.47
	7742.00	0.46	178.10	7741.44	-6.88	-2.79	6.91	0.20	495929.81	653487.11	N 32 21 44.81	W 103 50 10.47
	7836.00	0.68	192.66	7835.44	-6.76	-3.71	6.80	0.28	495928.89	653487.00	N 32 21 44.80	W 103 50 10.47
	7930.00	0.71	193.11	7929.43	-6.49	-4.82	6.55	0.03	495927.78	653486.75	N 32 21 44.79	W 103 50 10.48
	8025.00	0.81	196.13	8024.42	-6.16	-6.04	6.23	0.11	495926.56	653486.43	N 32 21 44.78	W 103 50 10.48
	8120.00	0.96	201.64	8119.41	-5.66	-7.42	5.75	0.18	495925.18	653485.95	N 32 21 44.76	W 103 50 10.49
	8214.00	1.41	212.07	8213.39	-4.74	-9.14	4.84	0.53	495923.46	653485.04	N 32 21 44.75	W 103 50 10.50
	8309.00	1.97	228.82	8308.35	-2.87	-11.20	2.99	0.78	495921.40	653483.19	N 32 21 44.72	W 103 50 10.52
	8320.00	2.06	231.20	8319.34	-2.57	-11.45	2.70	1.12	495921.15	653482.90	N 32 21 44.72	W 103 50 10.52
9 5/8" Casing Point	8374.00	2.15	229.38	8373.31	-1.03	-12.72	1.17	0.21	495919.88	653481.37	N 32 21 44.71	W 103 50 10.54
	8434.00	2.26	227.54	8433.26	0.72	-14.25	-0.56	0.21	495918.35	653479.64	N 32 21 44.69	W 103 50 10.56
	8529.00	1.87	218.04	8528.20	3.09	-16.74	-2.89	0.54	495915.86	653477.31	N 32 21 44.67	W 103 50 10.59
	8624.00	1.37	218.91	8623.16	4.78	-18.84	-4.56	0.53	495913.76	653475.64	N 32 21 44.65	W 103 50 10.61
	8718.00	1.08	201.01	8717.14	5.82	-20.54	-5.59	0.51	495912.06	653474.61	N 32 21 44.63	W 103 50 10.62
	8813.00	0.84	252.92	8812.13	6.82	-21.58	-6.57	0.91	495911.02	653473.63	N 32 21 44.62	W 103 50 10.63
	8907.00	0.75	249.81	8906.12	8.06	-22.00	-7.81	0.11	495910.60	653472.39	N 32 21 44.62	W 103 50 10.65
	9002.00	0.74	34.29	9001.12	8.29	-21.71	-8.05	1.49	495910.90	653472.15	N 32 21 44.62	W 103 50 10.65
	9096.00	1.23	59.42	9095.10	7.07	-20.69	-6.84	0.68	495911.91	653473.36	N 32 21 44.63	W 103 50 10.63
	9191.00	1.55	84.61	9190.08	4.91	-20.05	-4.68	0.72	495912.55	653475.52	N 32 21 44.64	W 103 50 10.61
	9286.00	2.09	91.03	9285.03	1.90	-19.96	-1.67	0.61	495912.64	653478.53	N 32 21 44.64	W 103 50 10.57
	9381.00	2.71	94.77	9379.94	-2.07	-20.18	2.30	0.67	495912.42	653482.50	N 32 21 44.64	W 103 50 10.53
	9476.00	2.56	109.37	9474.84	-6.30	-21.07	6.54	0.72	495911.53	653486.74	N 32 21 44.63	W 103 50 10.48
	9570.00	1.79	108.44	9568.78	-9.66	-22.23	9.91	0.82	495910.37	653490.11	N 32 21 44.62	W 103 50 10.44
	9665.00	0.61	90.76	9663.75	-11.57	-22.71	11.83	1.29	495909.89	653492.03	N 32 21 44.61	W 103 50 10.42
	9760.00	0.57	29.06	9758.75	-12.31	-22.30	12.56	0.64	495910.30	653492.76	N 32 21 44.61	W 103 50 10.41
	9854.00	0.73	31.30	9852.74	-12.86	-21.38	13.10	0.17	495911.22	653493.30	N 32 21 44.62	W 103 50 10.40
	9949.00	0.36	207.36	9947.74	-13.04	-21.13	13.28	1.15	495911.47	653493.48	N 32 21 44.63	W 103 50 10.40
	10043.00	0.98	221.85	10041.74	-12.35	-21.99	12.61	0.68	495910.61	653492.81	N 32 21 44.62	W 103 50 10.41
	10096.00	1.31	222.43	10094.72	-11.63	-22.77	11.90	0.62	495909.83	653492.09	N 32 21 44.61	W 103 50 10.42
	10160.00	1.43	225.47	10158.71	-10.56	-23.87	10.83	0.22	495908.73	653491.03	N 32 21 44.60	W 103 50 10.43
	10192.00	3.23	238.73	10190.68	-9.50	-24.62	9.78	5.83	495907.98	653489.98	N 32 21 44.59	W 103 50 10.44
	10223.00	5.91	242.48	10221.58	-7.32	-25.81	7.62	8.69	495906.79	653487.81	N 32 21 44.58	W 103 50 10.47
	10255.00	8.24	246.61	10253.33	-3.73	-27.49	4.05	7.45	495905.12	653484.25	N 32 21 44.56	W 103 50 10.51
	10286.00	10.96	255.85	10283.90	1.18	-29.09	-0.85	10.06	495903.51	653479.35	N 32 21 44.55	W 103 50 10.56
	10318.00	13.52	261.95	10315.17	7.85	-30.36	-7.50	8.95	495902.25	653472.70	N 32 21 44.54	W 103 50 10.64
	10349.00	15.75	266.00	10345.16	15.64	-31.16	-15.29	7.91	495901.45	653464.91	N 32 21 44.53	W 103 50 10.73
	10381.00	17.66	265.65	10375.81	24.83	-31.83	-24.46	5.98	495900.77	653455.74	N 32 21 44.52	W 103 50 10.84
	10412.00	19.54	265.02	10405.19	34.69	-32.63	-34.32	6.10	495899.97	653445.89	N 32 21 44.51	W 103 50 10.96
	10444.00	21.74	263.44	10435.13	45.92	-33.78	-45.54	7.09	495898.83	653434.67	N 32 21 44.50	W 103 50 11.09
	10475.00	24.26	260.69	10463.67	57.93	-35.46	-57.53	8.84	495897.14	653422.68	N 32 21 44.49	W 103 50 11.23
	10506.00	26.28	258.10	10491.70	70.96	-37.91	-70.53	7.43	495894.69	653409.67	N 32 21 44.46	W 103 50 11.38
	10537.00	26.98	255.38	10519.41	84.51	-41.10	-84.05	4.53	495891.50	653396.16	N 32 21 44.43	W 103 50 11.54
	10569.00	28.10	254.77	10547.79	98.85	-44.91	-98.35	3.61	495887.69	653381.86	N 32 21 44.40	W 103 50 11.70
	10600.00	29.38	255.25	10574.97	113.29	-48.76	-112.74	4.20	495883.84	653367.46	N 32 21 44.36	W 103 50 11.87
	10632.00	31.82	256.75	10602.51	129.14	-52.70	-128.55	7.99	495879.91	653351.66	N 32 21 44.32	W 103 50 12.05
	10663.00	34.26	255.66	10628.49	145.60	-56.73	-144.96	8.10	495875.87	653335.25	N 32 21 44.28	W 103 50 12.25
	10694.00	37.14	255.57	10653.67	163.17	-61.23	-162.48	9.29	495871.38	653317.73	N 32 21 44.24	W 103 50 12.45
	10725.00	39.37	255.61	10678.01	181.81	-66.00	-181.07	7.19	495866.60	653299.14	N 32 21 44.19	W 103 50 12.67
	10757.00	42.54	255.83	10702.17	202.19	-71.17	-201.40	9.92	495861.43	653278.82	N 32 21 44.14	W 103 50 12.91
	10788.00	45.93	257.40	10724.38	223.29	-76.17	-222.43	11.49	495856.43	653257.78	N 32 21 44.09	W 103 50 13.15
	10819.00	49.11	258.95	10745.31	245.71	-80.85	-244.81	10.90	495851.76	653235.41	N 32 21 44.05	W 103 50 13.41
	10851.00	51.61	260.16	10765.73	270.00	-85.31	-269.04	8.34	495847.30	653211.18	N 32 21 44.00	W 103 50 13.69
	10882.00	54.01	261.55	10784.46	294.42	-89.23	-293.42	8.53	495843.38	653186.80	N 32 21 43.97	W 103 50 13.98
	10914.00	56.97	261.72	10802.59	320.55	-93.06	-319.50	9.26	495839.54	653160.72	N 32 21 43.93	W 103 50 14.28
	10946.00	60.14	261.70	10819.28	347.60	-97.00	-346.52	9.91	495835.61	653133.71	N 32 21 43.89	W 103 50 14.60
	10977.00	62.76	261.55	10834.10	374.58	-100.97	-373.45	8.46	495831.64	653106.77	N 32 21 43.85	W 103 50 14.91
	11009.00	64.75	260.50	10848.25	402.98	-105.45	-401.80	6.88	495827.16	653078.43	N 32 21 43.81	W 103 50 15.24
	11040.00	67.52	260.09	10860.79	430.97	-110.23	-429.74	9.02	495822.38	653050.49	N 32 21 43.76	W 103 50 15.57
	11072.00	70.80	260.33	10872.17	460.50	-115.31	-459.21	10.27	495817.30	653021.02	N 32 21 43.72	W 103 50 15.91
	11103.00	73.81	261.10	10881.59	489.69	-120.07	-488.35	9.99	495812.54	652991.88	N 32 21 43.67	W 103 50 16.25
	11135.00	76.07	261.80	10889.91	520.30	-124.67	-518.91	7.37	495807.94	652961.33	N 32 21 43.63	W 103 50 16.61
	11166.00	78.19	262.87	10896.81	550.29	-128.69	-548.86	7.62	495803.91	652931.38	N 32 21 43.59	W 103 50 16.96
	11197.00	80.42	263.70	10902.57	580.58	-132.26	-579.11	7.66	495800.35	652901.13	N 32 21 43.55	W 103 50 17.31
	11229.00	82.58	264.58	10907.29	612.09	-135.49	-610.59	7.28	495797.12	652869.65	N 32 21 43.52	W 103 50 17.68
	11260.00	84.38	265.43	10910.81	642.80	-138.17	-641.27	6.41	495794.44	652838.97	N 32 21 43.50	W 103 50 18.04
	11292.00	86.40	265.72	10913.39	674.63	-140.63	-673.07	6.38	495791.98	652807.18	N 32 21 43.48	W 103 50 18.41
	11324.00	87.92	266.86	10914.97	706.54	-142.70	-704.96	5.93	495789.91	652775.29	N 32 21 43.46	W 103 50 18.78
	11355.00	88.48	267.01	10915.95	737.50	-144.35	-735.90	1.87	495788.26	652744.35	N 32 21 43.44	W 103 50 19.14
	11386.00	89.04	267.20	10916.62	768.47	-145.92	-768.85	1.91	495786.69	652713.40	N 32 21 43.43	W 103 50 19.50
	11418.00	90.22	269.72	10917.23	863.45	-148.47	-861.81	2.93	495784.14	652681.45	N 32 21 43.41	W 103 50 20.61
	11576.00	89.71	271.78	10917.29	958.41	-147.23	-956.79	2.23	495785.38	652623.47	N 32 21 43.42	W 103 50 21.72
	11671.00	91.34	271.92	10916.42	1053.32	-144.16	-1051.74	1.72	495788.45	652428.53	N 32 21 43.46	W 103 50 22.82
	11765.00	92.74	270.87	10913.07	1147.19	-141.87	-1145.65	1.86	495790.74	652334.63	N 32 21 43.48	W 103 50 23.92
	11860.00	93.30	268.77	10908.07	1242.05	-142.17	-1240.51	2.28	495790.44	652239.77	N 32 21 43.49	W 103 50 25.02
	11903.00	91.51	268.96									

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ft)	Easting (ft)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')
	14403.00	90.23	267.92	10904.15	3784.46	-192.43	-3782.51	0.06	495740.18	649697.94	N 32 21 43.10	W 103 50 54.66
	14497.00	90.34	269.51	10903.68	3878.45	-194.54	-3876.48	1.70	495738.07	649693.97	N 32 21 43.09	W 103 50 55.76
	14591.00	90.51	271.35	10902.98	3972.43	-193.83	-3970.48	1.97	495738.78	649509.99	N 32 21 43.10	W 103 50 56.85
	14686.00	89.10	270.43	10903.30	4067.39	-192.36	-4065.46	1.77	495740.25	649415.01	N 32 21 43.12	W 103 50 57.96
	14781.00	90.73	271.14	10903.45	4162.36	-191.06	-4160.45	1.87	495741.56	649320.03	N 32 21 43.13	W 103 50 59.07
	14875.00	90.95	271.31	10902.07	4256.30	-189.05	-4254.42	0.30	495743.57	649226.07	N 32 21 43.16	W 103 51 0.16
	14971.00	90.73	271.20	10900.66	4352.23	-186.94	-4350.38	0.26	495745.67	649130.10	N 32 21 43.18	W 103 51 1.28
	15065.00	90.79	271.09	10899.41	4446.18	-185.07	-4444.35	0.13	495747.55	649036.14	N 32 21 43.21	W 103 51 2.38
	15160.00	90.95	271.06	10897.97	4541.12	-183.28	-4539.33	0.17	495749.33	648941.17	N 32 21 43.21	W 103 51 3.48
	15255.00	90.90	270.74	10896.44	4636.08	-181.79	-4634.30	0.34	495750.82	648846.20	N 32 21 43.25	W 103 51 4.59
	15349.00	90.90	270.84	10894.96	4730.04	-180.50	-4728.28	0.11	495752.12	648752.23	N 32 21 43.26	W 103 51 5.69
	15444.00	90.90	271.03	10893.47	4824.99	-178.95	-4823.26	0.20	495753.67	648657.29	N 32 21 43.28	W 103 51 6.79
	15538.00	90.84	270.84	10892.04	4918.94	-177.41	-4917.23	0.21	495755.20	648563.26	N 32 21 43.30	W 103 51 7.89
	15633.00	90.84	270.73	10890.65	5013.90	-176.11	-5012.22	0.12	495756.50	648468.31	N 32 21 43.32	W 103 51 9.00
	15728.00	90.34	270.30	10889.67	5108.87	-175.26	-5107.21	0.69	495757.35	648373.33	N 32 21 43.33	W 103 51 10.10
	15823.00	90.28	270.10	10889.16	5203.86	-174.93	-5202.20	0.22	495757.69	648278.34	N 32 21 43.34	W 103 51 11.21
	15917.00	90.17	270.00	10888.79	5297.85	-174.84	-5296.20	0.16	495757.77	648184.35	N 32 21 43.34	W 103 51 12.31
	16012.00	90.23	269.88	10888.46	5392.85	-174.94	-5391.20	0.14	495757.67	648089.35	N 32 21 43.35	W 103 51 13.41
	16107.00	90.51	270.26	10887.84	5487.84	-174.83	-5486.20	0.50	495757.78	647994.36	N 32 21 43.35	W 103 51 14.52
	16201.00	90.17	269.80	10887.28	5581.83	-174.78	-5580.20	0.61	495757.83	647900.37	N 32 21 43.36	W 103 51 15.62
	16294.00	89.89	270.46	10887.24	5674.82	-174.57	-5673.20	0.77	495758.04	647807.38	N 32 21 43.36	W 103 51 16.70
	16389.00	89.61	270.22	10887.65	5769.81	-174.00	-5768.19	0.39	495758.61	647712.39	N 32 21 43.37	W 103 51 17.81
	16483.00	89.89	270.34	10888.06	5863.79	-173.54	-5862.19	0.32	495759.07	647618.39	N 32 21 43.38	W 103 51 18.90
	16578.00	89.72	270.37	10888.38	5958.78	-172.96	-5957.19	0.18	495759.66	647523.40	N 32 21 43.39	W 103 51 20.01
	16673.00	89.72	270.52	10888.85	6053.76	-172.22	-6052.19	0.16	495760.39	647428.41	N 32 21 43.40	W 103 51 21.12
	16767.00	88.82	270.37	10890.05	6147.73	-171.49	-6146.17	0.97	495761.12	647334.43	N 32 21 43.42	W 103 51 22.21
	16862.00	88.88	270.35	10891.95	6242.70	-170.89	-6241.15	0.07	495761.72	647239.46	N 32 21 43.43	W 103 51 23.32
	16957.00	89.44	270.25	10893.34	6337.67	-170.39	-6336.14	0.60	495762.22	647144.48	N 32 21 43.43	W 103 51 24.43
	17051.00	90.34	270.31	10893.53	6431.66	-169.93	-6430.14	0.96	495762.68	647050.48	N 32 21 43.44	W 103 51 25.52
	17146.00	90.34	270.05	10892.96	6526.65	-169.64	-6525.14	0.27	495762.98	646955.49	N 32 21 43.45	W 103 51 26.63
	17240.00	90.28	268.64	10892.45	6620.65	-170.71	-6619.13	1.50	495761.90	646861.51	N 32 21 43.44	W 103 51 27.73
	17335.00	90.17	268.60	10892.08	6715.64	-173.00	-6714.10	0.12	495759.61	646766.54	N 32 21 43.43	W 103 51 28.84
	17429.00	90.17	268.49	10891.80	6809.63	-175.38	-6808.07	0.12	495757.23	646672.58	N 32 21 43.41	W 103 51 29.93
	17524.00	90.17	268.48	10891.52	6904.62	-177.90	-6903.03	0.01	495754.72	646577.62	N 32 21 43.39	W 103 51 31.04
	17618.00	90.11	268.60	10891.29	6998.61	-180.29	-6997.00	0.14	495752.32	646483.66	N 32 21 43.37	W 103 51 32.13
	17713.00	90.28	268.69	10890.97	7093.60	-182.54	-7091.98	0.20	495750.07	646388.69	N 32 21 43.35	W 103 51 33.24
	17807.00	90.17	268.48	10890.60	7187.59	-184.86	-7185.95	0.25	495747.75	646294.73	N 32 21 43.33	W 103 51 34.34
Section Line 34/35 Crossing	17885.00	90.45	268.37	10890.18	7265.58	-187.01	-7263.92	0.39	495745.61	646216.76	N 32 21 43.31	W 103 51 35.25
	17902.00	90.51	268.34	10890.03	7282.58	-187.50	-7280.91	0.39	495745.12	646199.77	N 32 21 43.31	W 103 51 35.44
	17996.00	91.01	268.20	10888.79	7376.55	-190.33	-7374.86	0.55	495742.28	646105.83	N 32 21 43.28	W 103 51 36.54
	18090.00	90.62	269.96	10887.45	7470.54	-191.84	-7468.83	1.92	495740.77	646011.86	N 32 21 43.27	W 103 51 37.64
	18184.00	90.79	270.37	10886.29	7564.52	-191.57	-7562.82	0.47	495741.04	645917.87	N 32 21 43.28	W 103 51 38.73
	18279.00	90.67	270.19	10885.08	7659.50	-191.11	-7657.82	0.23	495741.51	645822.89	N 32 21 43.29	W 103 51 39.84
	18373.00	90.51	270.13	10884.11	7753.48	-190.84	-7751.81	0.18	495741.77	645728.90	N 32 21 43.29	W 103 51 40.93
	18468.00	90.95	270.58	10882.90	7848.46	-190.26	-7846.80	0.66	495742.36	645633.92	N 32 21 43.30	W 103 51 42.04
	18563.00	90.17	270.23	10881.98	7943.44	-189.58	-7941.79	0.90	495743.03	645538.93	N 32 21 43.32	W 103 51 43.15
	18658.00	90.23	270.00	10881.64	8038.43	-189.39	-8036.79	0.25	495743.22	645443.94	N 32 21 43.32	W 103 51 44.26
	18752.00	90.06	269.82	10881.41	8132.43	-189.54	-8130.79	0.26	495743.07	645348.95	N 32 21 43.32	W 103 51 45.35
	18847.00	89.95	270.08	10881.40	8227.42	-189.62	-8225.79	0.30	495742.99	645254.95	N 32 21 43.33	W 103 51 46.46
	18942.00	89.72	267.05	10881.67	8322.40	-192.00	-8320.75	3.20	495740.61	645160.00	N 32 21 43.31	W 103 51 47.57
	19037.00	90.11	267.13	10881.81	8417.33	-196.83	-8415.63	0.42	495735.79	645065.13	N 32 21 43.26	W 103 51 48.67
	19131.00	89.83	266.88	10881.86	8511.25	-201.74	-8509.50	0.40	495730.88	644971.26	N 32 21 43.22	W 103 51 49.77
	19226.00	89.83	269.96	10881.77	8606.22	-204.36	-8604.45	3.28	495728.26	644876.32	N 32 21 43.20	W 103 51 50.87
	19313.00	89.66	271.04	10881.82	8693.20	-203.60	-8691.45	1.43	495729.02	644789.33	N 32 21 43.21	W 103 51 51.89
	19408.00	90.67	270.18	10881.54	8788.18	-202.59	-8786.44	1.40	495730.03	644694.34	N 32 21 43.22	W 103 51 53.00
	19502.00	90.51	269.77	10880.57	8882.17	-202.63	-8880.43	0.47	495729.99	644600.35	N 32 21 43.23	W 103 51 54.09
	19597.00	90.62	270.38	10879.64	8977.15	-202.50	-8975.43	0.65	495730.11	644505.37	N 32 21 43.23	W 103 51 55.20
	19691.00	90.45	269.98	10878.76	9071.14	-202.21	-9069.42	0.46	495730.41	644411.38	N 32 21 43.24	W 103 51 56.30
	19786.00	90.28	270.80	10878.15	9166.12	-201.56	-9164.42	0.88	495731.05	644316.39	N 32 21 43.25	W 103 51 57.40
	19881.00	90.56	271.62	10877.46	9261.07	-199.55	-9259.39	0.91	495733.06	644221.42	N 32 21 43.27	W 103 51 58.51
	19975.00	90.68	270.10	10876.44	9355.03	-198.14	-9353.37	1.62	495734.47	644127.44	N 32 21 43.29	W 103 51 59.61
	20070.00	90.40	270.18	10875.55	9450.01	-197.91	-9448.37	0.31	495734.70	644032.45	N 32 21 43.30	W 103 52 0.71
	20164.00	90.51	270.13	10874.80	9544.00	-197.66	-9542.37	0.13	495734.96	643938.46	N 32 21 43.30	W 103 52 1.81
	20258.00	90.40	269.94	10874.05	9637.99	-197.60	-9636.36	0.23	495735.01	643844.47	N 32 21 43.31	W 103 52 2.90
	20353.00	90.51	269.97	10873.30	9732.98	-197.67	-9731.36	0.12	495734.94	643749.48	N 32 21 43.31	W 103 52 4.01
	20448.00	90.45	270.11	10872.50	9827.97	-197.61	-9826.36	0.16	495735.00	643654.49	N 32 21 43.32	W 103 52 5.12
	20542.00	90.28	269.94	10871.90	9921.96	-197.57	-9920.35	0.26	495735.05	643560.50	N 32 21 43.32	W 103 52 6.22
	20637.00	90.34	269.59	10871.39	10016.96	-197.96	-10015.35	0.37	495734.66	643465.51	N 32 21 43.32	W 103 52 7.32
	20731.00	90.39	269.80	10870.79	10110.96	-198.46	-10109.35	0.23	495734.16	643371.52	N 32 21 43.32	W 103 52 8.42
	20826.00	90.39	269.77	10870.14	10205.95	-198.81	-10204.35	0.03	495733.80	643276.53	N 32 21 43.32	W 103 52 9.53
	20921.00	90.45	269.77	10869.45	10300.95	-199.19	-10299.34	0.06	495733.42	643181.54	N 32 21 43.32	W 103 52 10.63
	21015.00	90.23	269.75	10868.89	10394.94	-199.59	-10393.34	0.24	495733.02	643087.55	N 32 21 43.32	W 103 52 11.73
	21110.00	90.45	269.79	10868.33	10489.94	-199.97	-10488.34	0.24	495732.64	642992.55	N 32 21 43.32	W 103 52 12.84
	21204.00	90.56	269.99	10867.50	10583.93	-200.15	-10582.33	0.24	495732.46	642898.56	N 32 21 43.32	W 103 52 13.93
	21299.00	90.62	270.33	10866.52	10678.91							

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 ° ' ")
	24351.00	90.67	269.77	10854.04	13729.74	-208.04	-13728.26	0.32	495724.58	639752.85	N 32 21 43.38	W 103 52 50.61
	24445.00	90.73	270.09	10852.89	13823.72	-208.15	-13822.25	0.35	495724.46	639658.86	N 32 21 43.38	W 103 52 51.70
	24539.00	90.34	270.01	10852.01	13917.71	-208.07	-13916.24	0.42	495724.55	639564.87	N 32 21 43.39	W 103 52 52.80
	24634.00	90.20	269.89	10851.56	14012.71	-208.15	-14011.24	0.19	495724.46	639469.88	N 32 21 43.39	W 103 52 53.91
	24728.00	90.28	270.66	10851.17	14106.69	-207.70	-14105.24	0.82	495724.81	639375.89	N 32 21 43.40	W 103 52 55.00
	24823.00	90.11	271.42	10850.85	14201.65	-205.98	-14200.22	0.82	495726.64	639280.91	N 32 21 43.42	W 103 52 56.11
	24917.00	90.22	271.03	10850.57	14295.60	-203.97	-14294.20	0.43	495726.65	639185.94	N 32 21 43.44	W 103 52 57.21
	25012.00	90.06	269.92	10850.34	14390.58	-203.18	-14389.20	1.18	495729.43	639091.95	N 32 21 43.46	W 103 52 58.31
	25107.00	90.11	269.99	10850.20	14485.57	-203.25	-14484.20	0.09	495729.36	638996.96	N 32 21 43.46	W 103 52 59.42
	25201.00	90.22	269.85	10849.93	14579.57	-203.38	-14578.20	0.19	495729.23	638902.97	N 32 21 43.46	W 103 53 0.52
	25295.00	90.06	269.67	10849.70	14673.57	-203.76	-14672.19	0.26	495728.83	638808.97	N 32 21 43.46	W 103 53 1.61
	25389.00	90.00	269.80	10849.65	14767.56	-204.21	-14766.19	0.15	495728.40	638714.98	N 32 21 43.46	W 103 53 2.71
	25484.00	89.89	269.61	10849.74	14862.56	-204.70	-14861.19	0.23	495727.91	638619.99	N 32 21 43.46	W 103 53 3.82
LL 367' FWL (TP2)	25533.00	90.04	269.55	10849.77	14911.56	-205.06	-14910.19	0.33	495727.55	638570.99	N 32 21 43.46	W 103 53 4.39
	25539.00	90.06	269.54	10849.77	14917.56	-205.11	-14916.19	0.33	495727.50	638564.99	N 32 21 43.46	W 103 53 4.46
BHL	25633.00	90.06	269.54	10849.67	15011.56	-205.87	-15010.19	0.00	495726.75	638471.00	N 32 21 43.45	W 103 53 5.55

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 (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/98.425	17.500	13.375	NAL_MWD-NON_SLB-Depth Only	Original Borehole / Final Survey XTO James Ranch Unit DI 2 #193H MWD Off-25633ft
	1	25.000	25.000	Act Stns	17.500	13.375	NAL_MWD-NON_SLB-Depth Only	Original Borehole / Final Survey XTO James Ranch Unit DI 2 #193H MWD Off-25633ft
	1	25.000	589.000	Act Stns	17.500	13.375	NAL_MWD-NON_SLB	Original Borehole / Final Survey XTO James Ranch Unit DI 2
	1	589.000	8374.000	Act Stns	12.250	9.675	NAL_MWD_1.0_DEG	Original Borehole / Final Survey XTO James Ranch Unit DI 2
	1	8374.000	11386.000	Act Stns	8.750	5.500	NAL_MWD_1.0_DEG	Original Borehole / Final Survey XTO James Ranch Unit DI 2
	1	11386.000	25633.000	Act Stns	8.500	5.500	NAL_MWD_1.0_DEG	Original Borehole / Final Survey XTO James Ranch Unit DI 2