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DISTRICT II-ARTESIA O.C.D.

5D Survey Report

XTO Energy

Field Name: *XTO NAD 27 NME*
Site Name: *James Ranch Unit DI 1A #203H,204H,206H Pad*
Well Name: *James Ranch Unit DI 1A #204H*
File number: *13528237*
Survey: *Definitive survey*

18 January 2019





James Ranch Unit DI 1A #204H

Field Name: XTO NAD 27 NME	Map Units: US ft		Company Name: XTO Energy	
	Vertical Reference Datum (VRD): Mean Sea Level			
	Projected Coordinate System: NAD27 / New Mexico East			
	Comment:			
Site: James Ranch Unit DI 1A #203H,204H,20 6H Pad	Units: US ft	North Reference: Grid	Convergence Angle: 0.24	
	Position:	Northing: 502646.10 US ft	Latitude: 32° 22' 51.95"	
		Easting: 638042.90 US ft	Longitude: -103° 53' 10.21"	
	Elevation above MSL: 3155.00 US ft			
Comment: Eddy Co., NM				
Slot: James Ranch Unit DI 1A #204H	Position (Relative to Site Centre)			
	+N/-S: -40.00 US ft	Northing: 502606.10 US ft	Latitude: 32° 22' 51.55"	
	+E/-W: 0.10 US ft	Easting: 638043.00 US ft	Longitude: -103° 53' 10.21"	
	Elevation above MSL: 3157.00 US ft			
Comment:				
Well: James Ranch Unit DI 1A #204H	Type: Main well		UWI:	
	File Number:	Comment:		
	13528237			
	Closure Distance: 10820.3US ft		Closure Azimuth: 91.26°	
Vertical Section: Position of Origin (Relative to Slot centre)				
+N/-S: -0.00 US ft		+E/-W: -0.00 US ft	Az: 89.89°	

Drill floor: Survey Name: Definitive Survey

Rig Height (Drill Floor): 25.00US ft **Elevation above MSL:** 3182.00US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Survey Name: Definitive Survey

Date: 05/Oct/2018 **Survey Tool:** See Survey Tool Ranges below. **Comment:** **Company:**

Magnetic Model:

Model Name: bggm2018 **Date:** 20/Nov/2018 **Field Strength:** 47905.6nT **Declination:** 7.02° **Dip:** 60.09°

Tie Point:

MD: 0.00 US ft **Inclination:** 0.00° **Azimuth:** 0.00° **TVD:** 0.00 US ft **North Offset:** -0.00 US ft **East Offset:** -0.00 US ft

Survey Tool Ranges:

Name	Start MD(usft)	End MD(usft)	Source Survey
MWD	0.00	8167.00	WellBenders MWD

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Survey Tool Ranges:

Name	Start MD(usft)	End MD(usft)	Source Survey
MWD	8167.00	9759.00	WFT MWD SVY_1
MWD	9759.00	13684.00	WFT MWD SVY_2
MWD	13684.00	18444.00	WFT MWD SVY_3
MWD	18444.00	21135.00	WFT MWD SVY_4

Casing Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
8184.00	0.46	304.66	8180.30	4998.30	108.62	136.09	502714.72	638179.09	8 5/8 in

Wellpath created using minimum curvature:**Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)**

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-3182.00	0.00	-0.00	-0.00	502606.10	638043.00	0.00	
216.00	1.30	133.00	215.98	-2966.02	1.79	-1.67	1.79	502604.43	638044.79	0.60	
275.00	1.40	129.00	274.97	-2907.03	2.84	-2.58	2.84	502603.52	638045.84	0.23	
370.00	1.50	70.00	369.94	-2812.06	4.91	-2.89	4.91	502603.21	638047.91	1.51	
466.00	1.70	45.00	465.90	-2716.10	7.10	-1.45	7.10	502604.65	638050.10	0.75	
707.00	0.62	48.00	706.85	-2475.15	10.60	1.95	10.60	502608.05	638053.60	0.45	
801.00	0.31	19.90	800.85	-2381.15	11.07	2.53	11.06	502608.63	638054.06	0.40	
898.00	0.40	230.39	897.85	-2284.15	10.89	2.56	10.89	502608.66	638053.89	0.71	
1031.00	1.41	233.73	1030.83	-2151.17	9.22	1.30	9.21	502607.40	638052.21	0.76	
1125.00	2.20	231.40	1124.78	-2057.22	6.87	-0.51	6.87	502605.59	638049.87	0.84	
1221.00	1.58	219.75	1220.73	-1961.27	4.58	-2.68	4.58	502603.42	638047.58	0.76	
1314.00	1.19	199.27	1313.70	-1868.30	3.44	-4.58	3.45	502601.52	638046.45	0.67	
1410.00	1.10	109.27	1409.69	-1772.31	3.97	-5.82	3.99	502600.28	638046.99	1.69	
1503.00	2.02	76.05	1502.66	-1679.34	6.41	-5.72	6.42	502600.38	638049.42	1.35	
1596.00	2.42	77.90	1595.59	-1586.41	9.92	-4.92	9.93	502601.18	638052.93	0.44	
1694.00	2.51	70.69	1693.49	-1488.51	13.97	-3.77	13.98	502602.33	638056.98	0.33	
1788.00	2.68	70.95	1787.40	-1394.60	17.99	-2.37	18.00	502603.73	638061.00	0.18	
1882.00	2.99	73.06	1881.28	-1300.72	22.42	-0.94	22.42	502605.16	638065.42	0.35	
1977.00	2.20	73.06	1976.18	-1205.82	26.54	0.31	26.54	502606.41	638069.54	0.83	
2072.00	1.89	58.70	2071.12	-1110.88	29.62	1.66	29.62	502607.76	638072.62	0.63	
2166.00	2.02	14.97	2165.08	-1016.92	31.38	4.06	31.37	502610.16	638074.37	1.55	
2261.00	2.02	48.37	2260.02	-921.98	33.07	6.79	33.05	502612.89	638076.05	1.22	
2355.00	2.20	50.39	2353.96	-828.04	35.70	9.04	35.68	502615.14	638078.68	0.21	
2450.00	2.81	48.81	2448.86	-733.14	38.86	11.74	38.84	502617.84	638081.84	0.65	
2546.00	2.11	44.50	2544.78	-637.22	41.88	14.55	41.85	502620.65	638084.85	0.75	
2641.00	1.80	47.90	2639.72	-542.28	44.21	16.80	44.18	502622.90	638087.18	0.35	
2736.00	2.42	68.20	2734.66	-447.34	47.19	18.54	47.15	502624.64	638090.15	1.01	
2830.00	2.29	82.03	2828.58	-353.42	50.89	19.54	50.85	502625.64	638093.85	0.62	
2924.00	1.89	91.78	2922.52	-259.48	54.30	19.75	54.26	502625.85	638097.26	0.57	
3019.00	2.51	81.50	3017.45	-164.55	57.92	20.01	57.89	502626.11	638100.89	0.77	
3114.00	3.12	82.29	3112.33	-69.67	62.55	20.66	62.51	502626.76	638105.51	0.64	
3208.00	2.81	84.49	3206.20	24.20	67.38	21.23	67.33	502627.33	638110.33	0.35	
3302.00	3.12	89.59	3300.08	118.08	72.23	21.47	72.19	502627.57	638115.19	0.43	
3389.00	2.81	90.38	3386.96	204.96	76.73	21.47	76.69	502627.57	638119.69	0.36	
3484.00	2.42	72.10	3481.86	299.86	80.97	22.07	80.92	502628.17	638123.92	0.96	
3578.00	2.20	65.07	3575.79	393.79	84.49	23.44	84.45	502629.54	638127.45	0.38	
3672.00	2.51	66.21	3669.71	487.71	88.02	25.03	87.97	502631.13	638130.97	0.33	
3766.00	2.11	45.64	3763.63	581.63	91.14	27.07	91.09	502633.17	638134.09	0.97	
3862.00	1.89	41.07	3859.58	677.58	93.45	29.50	93.39	502635.60	638136.39	0.28	
3954.00	2.02	41.07	3951.52	769.52	95.51	31.87	95.45	502637.97	638138.45	0.14	
4049.00	2.02	36.06	4046.46	864.46	97.61	34.48	97.54	502640.58	638140.54	0.19	
4143.00	2.02	37.03	4140.40	958.40	99.58	37.15	99.51	502643.25	638142.51	0.04	
4239.00	2.02	37.03	4236.34	1054.34	101.63	39.85	101.55	502645.95	638144.55	0.00	
4334.00	1.71	34.04	4331.29	1149.29	103.43	42.36	103.35	502648.46	638146.35	0.34	
4427.00	1.49	29.73	4424.26	1242.26	104.81	44.56	104.73	502650.66	638147.73	0.27	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS' (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4522.00	1.49	30.17	4519.23	1337.23	106.05	46.70	105.96	502652.80	638148.96	0.01	
4617.00	1.49	28.50	4614.19	1432.19	107.26	48.85	107.17	502654.95	638150.17	0.05	
4712.00	1.71	31.58	4709.16	1527.16	108.60	51.15	108.50	502657.25	638151.50	0.25	
4807.00	1.71	24.46	4804.11	1622.11	109.93	53.64	109.83	502659.74	638152.83	0.22	
4902.00	1.80	23.84	4899.07	1717.07	111.13	56.30	111.02	502662.40	638154.02	0.10	
4997.00	1.80	11.36	4994.02	1812.02	112.03	59.13	111.92	502665.23	638154.92	0.41	
5091.00	1.58	4.68	5087.98	1905.98	112.43	61.86	112.32	502667.96	638155.32	0.31	
5186.00	1.71	5.65	5182.94	2000.94	112.69	64.58	112.56	502670.68	638155.56	0.14	
5280.00	1.58	5.04	5276.90	2094.90	112.94	67.27	112.81	502673.37	638155.81	0.14	
5374.00	1.41	2.05	5370.87	2188.87	113.10	69.71	112.97	502675.81	638155.97	0.20	
5469.00	1.58	13.56	5465.84	2283.84	113.46	72.16	113.32	502678.26	638156.32	0.36	
5563.00	1.49	4.25	5559.81	2377.81	113.86	74.63	113.71	502680.73	638156.71	0.28	
5658.00	1.71	21.21	5654.77	2472.77	114.46	77.19	114.32	502683.29	638157.32	0.55	
5753.00	1.71	20.51	5749.73	2567.73	115.48	79.84	115.33	502685.94	638158.33	0.02	
5847.00	1.41	21.30	5843.69	2661.69	116.40	82.23	116.24	502688.33	638159.24	0.32	
5941.00	1.32	20.24	5937.67	2755.67	117.19	84.32	117.03	502690.42	638160.03	0.10	
6131.00	1.49	33.78	6127.61	2945.61	119.33	88.43	119.16	502694.53	638162.16	0.20	
6225.00	1.41	36.41	6221.58	3039.58	120.70	90.37	120.53	502696.47	638163.53	0.11	
6319.00	1.49	46.70	6315.55	3133.55	122.28	92.14	122.10	502698.24	638165.10	0.29	
6414.00	1.49	45.20	6410.52	3228.52	124.06	93.86	123.88	502699.96	638166.88	0.04	
6508.00	1.32	43.88	6504.49	3322.49	125.68	95.50	125.50	502701.60	638168.50	0.18	
6603.00	1.49	39.14	6599.46	3417.46	127.22	97.25	127.04	502703.35	638170.04	0.22	
6698.00	1.32	39.58	6694.43	3512.43	128.70	99.05	128.51	502705.15	638171.51	0.18	
6792.00	1.10	47.66	6788.41	3606.41	130.06	100.49	129.87	502706.59	638172.87	0.30	
6887.00	1.01	53.55	6883.40	3701.40	131.41	101.60	131.22	502707.70	638174.22	0.15	
6981.00	1.19	53.38	6977.38	3795.38	132.86	102.68	132.67	502708.78	638175.67	0.19	
7075.00	1.10	57.16	7071.36	3889.36	134.41	103.75	134.21	502709.85	638177.21	0.12	
7168.00	0.88	57.77	7164.35	3982.35	135.76	104.61	135.56	502710.71	638178.56	0.24	
7263.00	0.70	52.41	7259.34	4077.34	136.84	105.36	136.64	502711.46	638179.64	0.20	
7357.00	0.79	56.63	7353.33	4171.33	137.84	106.06	137.64	502712.16	638180.64	0.11	
7451.00	0.62	36.59	7447.32	4265.32	138.68	106.83	138.48	502712.93	638181.48	0.32	
7545.00	0.40	34.74	7541.32	4359.32	139.18	107.51	138.97	502713.61	638181.97	0.23	
7640.00	0.22	48.98	7636.32	4454.32	139.50	107.90	139.30	502714.00	638182.30	0.20	
7735.00	0.22	334.36	7731.32	4549.32	139.56	108.18	139.36	502714.28	638182.36	0.28	
7830.00	0.31	288.04	7826.31	4644.31	139.24	108.43	139.03	502714.53	638182.03	0.24	
7925.00	0.48	273.45	7921.31	4739.31	138.60	108.53	138.39	502714.63	638181.39	0.21	
8019.00	0.62	267.39	8015.31	4833.31	137.70	108.53	137.49	502714.63	638180.49	0.16	
8112.00	0.48	266.16	8108.30	4926.30	136.81	108.48	136.60	502714.58	638179.60	0.15	
8167.00	0.40	298.15	8163.30	4981.30	136.41	108.56	136.20	502714.66	638179.20	0.46	
8184.00	0.46	304.66	8180.30	4998.30	136.30	108.62	136.09	502714.72	638179.09	0.47	Tie On WellBenders
8245.00	0.72	317.73	8241.30	5059.30	135.84	109.05	135.63	502715.15	638178.63	0.47	8 5/8 in First WFT SVY
8339.00	1.65	310.05	8335.28	5153.28	134.41	110.36	134.20	502716.46	638177.20	1.00	
8434.00	1.50	328.09	8430.24	5248.24	132.71	112.29	132.49	502718.39	638175.49	0.54	
8529.00	1.35	321.65	8525.21	5343.21	131.36	114.22	131.14	502720.32	638174.14	0.23	
8624.00	1.84	317.19	8620.18	5438.18	129.63	116.22	129.41	502722.32	638172.41	0.53	
8718.00	1.22	297.16	8714.14	5532.14	127.72	117.79	127.49	502723.89	638170.49	0.86	
8813.00	1.35	321.53	8809.12	5627.12	126.13	119.12	125.90	502725.22	638168.90	0.59	
8907.00	0.99	314.68	8903.10	5721.10	124.86	120.56	124.63	502726.66	638167.63	0.41	
9002.00	0.47	39.13	8998.09	5816.09	124.53	121.44	124.29	502727.54	638167.29	1.11	
9097.00	1.30	136.57	9093.08	5911.08	125.51	120.96	125.28	502727.06	638168.28	1.51	
9192.00	1.86	148.77	9188.05	6006.05	127.05	118.86	126.82	502724.96	638169.82	0.68	
9286.00	1.31	172.42	9282.01	6100.01	127.98	116.49	127.75	502722.59	638170.75	0.90	
9381.00	1.60	158.15	9376.98	6194.98	128.61	114.18	128.39	502720.28	638171.39	0.49	
9475.00	2.50	143.60	9470.92	6288.92	130.31	111.31	130.10	502717.41	638173.10	1.10	
9570.00	1.07	166.77	9565.87	6383.87	131.74	108.78	131.53	502714.88	638174.53	1.66	
9665.00	1.54	160.92	9660.85	6478.85	132.35	106.71	132.15	502712.81	638175.15	0.51	
9759.00	0.79	201.49	9754.83	6572.83	132.52	104.92	132.32	502711.02	638175.32	1.14	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
9854.00	0.84	190.59	9849.82	6667.82	132.15	103.62	131.96	502709.72	638174.96	0.17	
9900.00	1.28	221.84	9895.81	6713.81	131.75	102.91	131.55	502709.01	638174.55	1.55	
9947.00	6.40	176.53	9942.70	6760.70	131.55	99.90	131.36	502706.00	638174.36	11.86	
9995.00	11.65	173.68	9990.09	6808.09	132.23	92.41	132.05	502698.51	638175.05	10.97	
10042.00	18.87	170.96	10035.40	6853.40	133.93	80.17	133.77	502686.27	638176.77	15.43	
10089.00	24.03	168.38	10079.13	6897.13	137.02	63.28	136.90	502669.38	638179.90	11.16	
10136.00	28.20	163.32	10121.33	6939.33	142.10	43.25	142.02	502649.35	638185.02	10.05	
10184.00	32.26	158.31	10162.80	6980.80	150.05	20.47	150.01	502626.57	638193.01	9.95	
10231.00	36.18	152.31	10201.67	7019.67	161.09	-3.48	161.10	502602.62	638204.10	11.00	
10278.00	38.59	143.98	10239.03	7057.03	176.12	-27.64	176.18	502578.46	638219.18	11.91	
10325.00	40.04	136.39	10275.42	7093.42	195.14	-50.46	195.24	502555.64	638238.24	10.68	
10372.00	40.32	131.43	10311.34	7129.34	216.93	-71.47	217.07	502534.63	638260.07	6.83	
10419.00	41.55	128.44	10346.84	7164.84	240.51	-91.22	240.68	502514.88	638283.68	4.92	
10467.00	43.49	128.13	10382.22	7200.22	265.93	-111.32	266.15	502494.78	638309.15	4.07	
10514.00	46.86	128.12	10415.35	7233.35	292.11	-131.90	292.37	502474.20	638335.37	7.17	
10562.00	50.59	127.94	10447.01	7265.01	320.48	-154.12	320.78	502451.98	638363.78	7.78	
10609.00	54.67	126.54	10475.53	7293.53	350.18	-176.71	350.52	502429.39	638393.52	9.00	
10657.00	57.89	121.33	10502.18	7320.18	383.25	-198.95	383.64	502407.15	638426.64	11.24	
10704.00	61.38	114.11	10525.96	7343.96	419.10	-217.75	419.51	502388.35	638462.51	15.19	
10752.00	63.02	106.29	10548.38	7366.38	458.88	-232.38	459.32	502373.72	638502.32	14.81	
10799.00	65.33	101.36	10568.86	7386.86	499.92	-242.46	500.39	502363.64	638543.39	10.64	
10846.00	68.60	97.19	10587.25	7405.25	542.58	-249.41	543.06	502356.69	638586.06	10.73	
10893.00	72.31	95.61	10602.98	7420.98	586.58	-254.34	587.07	502351.76	638630.07	8.51	
10941.00	77.31	96.45	10615.55	7433.55	632.62	-259.21	633.12	502346.89	638676.12	10.55	
10988.00	79.80	98.01	10624.88	7442.88	678.30	-265.01	678.81	502341.09	638721.81	6.22	
11035.00	83.05	96.91	10631.88	7449.88	724.37	-271.04	724.89	502335.06	638767.89	7.29	
11082.00	87.20	93.18	10635.88	7453.88	770.99	-275.15	771.52	502330.95	638814.52	11.85	
11129.00	88.88	90.90	10637.48	7455.48	817.92	-276.82	818.46	502329.28	638861.46	6.02	
11224.00	90.35	90.03	10638.12	7456.12	912.91	-277.60	913.45	502328.50	638956.45	1.80	
11318.00	89.44	88.62	10638.30	7456.30	1006.90	-276.49	1007.44	502329.61	639050.44	1.79	
11413.00	88.67	86.92	10639.86	7457.86	1101.82	-272.79	1102.35	502333.31	639145.35	1.96	
11508.00	88.39	85.52	10642.30	7460.30	1196.59	-266.53	1197.11	502339.57	639240.11	1.50	
11602.00	89.16	85.07	10644.31	7462.31	1290.27	-258.82	1290.77	502347.28	639333.77	0.95	
11697.00	90.49	84.44	10644.60	7462.60	1384.89	-250.14	1385.37	502355.96	639428.37	1.55	
11792.00	91.68	85.82	10642.80	7460.80	1479.54	-242.08	1480.00	502364.02	639523.00	1.92	
11886.00	92.73	87.35	10639.18	7457.18	1573.31	-236.48	1573.76	502369.62	639616.76	1.97	
11981.00	91.61	88.67	10635.59	7453.59	1668.18	-233.18	1668.63	502372.92	639711.63	1.82	
12076.00	92.03	88.60	10632.57	7450.57	1763.11	-230.92	1763.56	502375.18	639806.56	0.45	
12170.00	89.79	88.84	10631.08	7449.08	1857.08	-228.82	1857.52	502377.28	639900.52	2.40	
12265.00	89.93	88.64	10631.31	7449.31	1952.06	-226.73	1952.49	502379.37	639995.49	0.26	
12360.00	88.81	89.04	10632.35	7450.35	2047.03	-224.81	2047.47	502381.29	640090.47	1.25	
12455.00	88.60	88.04	10634.50	7452.50	2141.98	-222.39	2142.41	502383.71	640185.41	1.08	
12550.00	88.88	87.11	10636.59	7454.59	2236.88	-218.37	2237.30	502387.73	640280.30	1.02	
12644.00	88.53	88.31	10638.71	7456.71	2330.79	-214.62	2331.20	502391.48	640374.20	1.33	
12739.00	88.04	90.57	10641.56	7459.56	2425.73	-213.69	2426.15	502392.41	640469.15	2.43	
12833.00	87.83	92.78	10644.94	7462.94	2519.62	-216.43	2520.04	502389.67	640563.04	2.36	
12927.00	87.97	92.17	10648.39	7466.39	2613.46	-220.49	2613.89	502385.61	640656.89	0.67	
13022.00	88.81	91.57	10651.06	7469.06	2708.37	-223.59	2708.80	502382.51	640751.80	1.09	
13116.00	90.14	91.93	10651.92	7469.92	2802.31	-226.46	2802.75	502379.64	640845.75	1.47	
13210.00	90.35	91.59	10651.52	7469.52	2896.26	-229.35	2896.70	502376.75	640939.70	0.43	
13305.00	89.93	91.47	10651.29	7469.29	2991.22	-231.88	2991.67	502374.22	641034.67	0.46	
13400.00	90.00	91.34	10651.34	7469.34	3086.19	-234.21	3086.64	502371.89	641129.64	0.16	
13495.00	90.14	90.25	10651.23	7469.23	3181.17	-235.53	3181.63	502370.57	641224.63	1.16	
13590.00	89.79	89.15	10651.29	7469.29	3276.17	-235.03	3276.63	502371.07	641319.63	1.22	
13684.00	92.03	90.83	10649.79	7467.79	3370.15	-235.02	3370.61	502371.08	641413.61	2.98	
13806.00	91.47	89.97	10646.07	7464.07	3492.09	-235.87	3492.55	502370.23	641535.55	0.84	
13901.00	92.17	89.57	10643.05	7461.05	3587.04	-235.49	3587.50	502370.61	641630.50	0.85	
13996.00	92.80	89.29	10638.93	7456.93	3681.94	-234.54	3682.40	502371.56	641725.40	0.73	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
14091.00	92.03	90.14	10634.93	7452.93	3776.86	-234.07	3777.31	502372.03	641820.31	1.21	
14186.00	90.07	90.55	10633.19	7451.19	3871.83	-234.64	3872.29	502371.46	641915.29	2.11	
14280.00	89.58	90.42	10633.47	7451.47	3965.83	-235.44	3966.29	502370.66	642009.29	0.54	
14375.00	89.79	90.21	10634.00	7452.00	4060.82	-235.96	4061.28	502370.14	642104.28	0.31	
14470.00	90.28	89.18	10633.94	7451.94	4155.82	-235.46	4156.28	502370.64	642199.28	1.20	
14565.00	90.00	89.35	10633.71	7451.71	4250.82	-234.24	4251.27	502371.86	642294.27	0.34	
14660.00	88.25	89.52	10635.16	7453.16	4345.80	-233.30	4346.25	502372.80	642389.25	1.85	
14754.00	88.25	89.38	10638.03	7456.03	4439.75	-232.40	4440.21	502373.70	642483.21	0.15	
14849.00	88.67	89.30	10640.58	7458.58	4534.71	-231.30	4535.17	502374.80	642578.17	0.45	
14944.00	89.09	89.23	10642.44	7460.44	4629.69	-230.09	4630.14	502376.01	642673.14	0.45	
15038.00	89.37	89.26	10643.70	7461.70	4723.67	-228.85	4724.12	502377.25	642767.12	0.30	
15133.00	89.72	89.47	10644.46	7462.46	4818.67	-227.79	4819.11	502378.31	642862.11	0.43	
15228.00	89.86	89.09	10644.80	7462.80	4913.66	-226.60	4914.10	502379.50	642957.10	0.43	
15322.00	90.14	89.77	10644.80	7462.80	5007.66	-225.67	5008.10	502380.43	643051.10	0.78	
15416.00	89.44	89.64	10645.15	7463.15	5101.66	-225.18	5102.10	502380.92	643145.10	0.76	
15511.00	88.67	89.48	10646.71	7464.71	5196.64	-224.45	5197.08	502381.65	643240.08	0.83	
15606.00	88.11	89.46	10649.38	7467.38	5291.60	-223.57	5292.04	502382.53	643335.04	0.59	
15700.00	88.81	89.90	10651.91	7469.91	5385.56	-223.05	5386.00	502383.05	643429.00	0.88	
15796.00	88.04	89.39	10654.55	7472.55	5481.53	-222.45	5481.96	502383.65	643524.96	0.96	
15890.00	87.90	88.66	10657.88	7475.88	5575.46	-220.86	5575.89	502385.24	643618.89	0.79	
15985.00	88.04	88.72	10661.24	7479.24	5670.38	-218.69	5670.81	502387.41	643713.81	0.16	
16079.00	88.88	88.43	10663.77	7481.77	5764.32	-216.35	5764.74	502389.75	643807.74	0.95	
16174.00	91.05	88.31	10663.83	7481.83	5859.28	-213.65	5859.70	502392.45	643902.70	2.29	
16269.00	91.82	87.68	10661.45	7479.45	5954.19	-210.32	5954.61	502395.78	643997.61	1.05	
16363.00	90.14	88.93	10659.84	7477.84	6048.14	-207.54	6048.55	502398.56	644091.55	2.23	
16457.00	90.07	88.90	10659.67	7477.67	6142.12	-205.76	6142.53	502400.34	644185.53	0.08	
16552.00	90.56	90.37	10659.15	7477.15	6237.12	-205.16	6237.52	502400.94	644280.52	1.63	
16647.00	90.63	91.07	10658.16	7476.16	6332.10	-206.35	6332.51	502399.75	644375.51	0.74	
16742.00	90.42	90.94	10657.29	7475.29	6427.08	-208.02	6427.49	502398.08	644470.49	0.26	
16836.00	90.14	90.26	10656.83	7474.83	6521.07	-209.00	6521.49	502397.10	644564.49	0.78	
16931.00	89.37	89.11	10657.24	7475.24	6616.07	-208.48	6616.48	502397.62	644659.48	1.46	
17026.00	89.65	90.01	10658.05	7476.05	6711.06	-207.75	6711.47	502398.35	644754.47	0.99	
17121.00	90.14	89.76	10658.22	7476.22	6806.06	-207.56	6806.47	502398.54	644849.47	0.58	
17216.00	88.67	91.14	10659.21	7477.21	6901.05	-208.31	6901.46	502397.79	644944.46	2.12	
17310.00	88.69	91.48	10661.37	7479.37	6994.99	-210.46	6995.41	502395.64	645038.41	0.36	
17405.00	88.25	91.21	10663.91	7481.91	7089.93	-212.68	7090.35	502393.42	645133.35	0.54	
17500.00	88.04	91.40	10666.99	7484.99	7184.85	-214.85	7185.28	502391.25	645228.28	0.30	
17594.00	88.81	92.91	10669.57	7487.57	7278.74	-218.38	7279.17	502387.72	645322.17	1.80	
17688.00	90.00	93.19	10670.55	7488.55	7372.59	-223.38	7373.03	502382.72	645416.03	1.30	
17782.00	90.56	92.72	10670.09	7488.09	7466.45	-228.23	7466.90	502377.87	645509.90	0.78	
17877.00	90.49	92.15	10669.22	7487.22	7561.35	-232.26	7561.81	502373.84	645604.81	0.60	
17971.00	90.56	91.86	10668.36	7486.36	7655.29	-235.55	7655.75	502370.55	645698.75	0.32	
18066.00	89.02	90.54	10668.70	7486.70	7750.26	-237.54	7750.73	502368.56	645793.73	2.14	
18160.00	89.43	90.35	10669.97	7487.97	7844.24	-238.27	7844.71	502367.83	645887.71	0.48	
18254.00	88.53	89.35	10671.65	7489.65	7938.23	-238.03	7938.70	502368.07	645981.70	1.43	
18349.00	88.81	88.88	10673.85	7491.85	8033.19	-236.56	8033.66	502369.54	646076.66	0.58	
18444.00	89.02	88.54	10675.65	7493.65	8128.15	-234.42	8128.62	502371.68	646171.62	0.42	
18539.00	89.65	88.30	10676.75	7494.75	8223.11	-231.80	8223.57	502374.30	646266.57	0.71	
18634.00	89.65	88.42	10677.34	7495.34	8318.08	-229.08	8318.53	502377.02	646361.53	0.13	
18728.00	89.65	88.27	10677.91	7495.91	8412.04	-226.37	8412.49	502379.73	646455.49	0.16	
18823.00	89.44	88.10	10678.66	7496.66	8507.00	-223.36	8507.44	502382.74	646550.44	0.28	
18917.00	89.23	87.94	10679.75	7497.75	8600.94	-220.11	8601.38	502385.99	646644.38	0.28	
19011.00	88.81	87.72	10681.36	7499.36	8694.87	-216.55	8695.30	502389.55	646738.30	0.50	
19106.00	88.04	87.54	10683.97	7501.97	8789.76	-212.63	8790.18	502393.47	646833.18	0.83	
19201.00	89.02	87.56	10686.41	7504.41	8884.64	-208.57	8885.06	502397.53	646928.06	1.03	
19295.00	90.70	88.79	10686.64	7504.64	8978.60	-205.57	8979.01	502400.53	647022.01	2.22	
19390.00	91.68	91.41	10684.67	7502.67	9073.57	-205.74	9073.98	502400.36	647116.98	2.94	
19484.00	91.61	91.91	10681.97	7499.97	9167.48	-208.46	9167.90	502397.64	647210.90	0.54	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)											
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	TVD (MSL) (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
19579.00	90.98	91.29	10679.82	7497.82	9262.42	-211.11	9262.84	502394.99	647305.84	0.93	
19674.00	90.98	91.13	10678.20	7496.20	9357.38	-213.12	9357.80	502392.98	647400.80	0.17	
19769.00	90.56	90.72	10676.92	7494.92	9452.35	-214.65	9452.78	502391.45	647495.78	0.62	
19863.00	89.86	90.73	10676.58	7494.58	9546.34	-215.84	9546.77	502390.26	647589.77	0.74	
19958.00	91.19	90.78	10675.71	7493.71	9641.32	-217.09	9641.76	502389.01	647684.76	1.40	
20053.00	91.75	90.78	10673.27	7491.27	9736.28	-218.38	9736.72	502387.72	647779.72	0.59	
20148.00	89.16	91.13	10672.51	7490.51	9831.25	-219.97	9831.69	502386.13	647874.69	2.75	
20242.00	89.09	91.58	10673.95	7491.95	9925.21	-222.19	9925.66	502383.91	647968.66	0.48	
20337.00	90.35	92.59	10674.41	7492.41	10020.14	-225.65	10020.59	502380.45	648063.59	1.70	
20431.00	87.90	91.48	10675.85	7493.85	10114.05	-228.98	10114.51	502377.12	648157.51	2.86	
20525.00	87.34	91.48	10679.75	7497.75	10207.93	-231.41	10208.40	502374.69	648251.40	0.60	
20620.00	87.20	92.19	10684.28	7502.28	10302.77	-234.45	10303.24	502371.65	648346.24	0.76	
20715.00	89.30	91.55	10687.18	7505.18	10397.66	-237.55	10398.14	502368.55	648441.14	2.31	
20809.00	88.32	90.54	10689.13	7507.13	10491.62	-239.26	10492.10	502366.84	648535.10	1.50	
20903.00	87.13	89.79	10692.86	7510.86	10585.54	-239.53	10586.02	502366.57	648629.02	1.50	
20998.00	86.99	89.53	10697.73	7515.73	10680.42	-238.97	10680.90	502367.13	648723.90	0.31	
21065.00	87.06	89.42	10701.21	7519.21	10747.33	-238.36	10747.80	502367.74	648790.80	0.19	Last WFT SVY
21135.00	87.06	89.42	10704.80	7522.80	10817.23	-237.65	10817.71	502368.45	648860.71	0.00	PTB