

**5D Survey Report****XTO Energy**

Field Name: *XTO Lea Co, NM (NAD 27 NME)*
Site Name: *Espejo Federal Com 1H,2H,3H Pad*
Well Name: *Espejo Federal Com 3H*
Survey: *Definitive survey*

2 February 2018





Espejo Federal Com 3H

Field Name:	Map Units: US ft			Company Name: XTO Energy		
XTO Lea Co, NM (NAD 27 NME)	Vertical Reference Datum (VRD): Mean Sea Level					
	Projected Coordinate System: NAD27 / New Mexico East					
	Comment:					
Site:	Units: US ft	North Reference: Grid	Convergence Angle: 0.43			
Espejo Federal Com 1H,2H,3H Pad	Position:	Northing: 597189.30 US ft	Latitude: 32° 38' 21.07"			
		Easting: 748217.20 US ft	Longitude: -103° 31' 37.15"			
		Elevation above MSL: 3774.00 US ft				
Comment:						
Slot:	Position (Relative to Site Centre)					
Espejo Federal Com 3H	+N/-S: -0.60 US ft	Northing: 597188.70 US ft	Latitude: 32°38'21.07"			
	+E/-W: -60.00 US ft	Easting: 748157.20 US ft	Longitude: -103°31'37.85"			
	Elevation above MSL: 3775.00 US ft					
Comment:						
Well:	Type: Main well		UWI:			
Espejo Federal Com 3H	File Number:	Comment:				
	Closure Distance: 5703.41 US ft	Closure Azimuth: 199.41°				
	Vertical Section: Position of Origin (Relative to Slot centre)					
	+N/-S: 0.00 US ft	+E/-W: 0.00 US ft	Az: 184.27°			

Drill floor: Survey Name: Definitive Survey

Rig Height (Drill Floor): 26.50 US ft	Elevation above MSL: 3801.50 US ft	Inclination: 0.00°	Azimuth: 0.00°
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Survey Name: Definitive Survey

Date: 17/Oct/2017	Survey Tool: See Survey Tool Ranges below.	Comment:	Company:
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Magnetic Model:

Model Name: bggm2017	Date: 30/Dec/2017	Field Strength: 48219.4 nT	Declination: 6.95°	Dip: 60.44°
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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
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Survey Tool Ranges:

Name	Start MD(USft)	End MD(USft)	Source Survey
MWD	0.00	1827.00	WFT MWD SVY_1
MWD	1827.00	3940.00	WFT MWD SVY_2
MWD	3940.00	5923.00	WFT MWD SVY_3

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Survey Tool Ranges:			
Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	5923.00	9440.00	WFT MWD SVY_4
MWD	9440.00	10385.00	WFT MWD SVY_5
MWD	10385.00	10807.00	WFT MWD SVY_6
MWD	10807.00	11371.00	WFT MWD SVY_7
MWD	11371.00	16107.00	WFT MWD SVY_8

Casing Points: (Relative to Slot centre)(TVD relative to Drill Floor)								
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Name
1897.00	0.20	131.56	1896.94	4.47	-7.23	597193.17	748149.97	13 3/8 in
4010.00	0.96	259.29	4009.80	3.09	-8.82	597191.79	748148.38	9 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)	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	-0.00	0.00	0.00	597188.70	748157.20	0.00	
173.00	0.25	327.06	173.00	-0.30	0.32	-0.21	597189.02	748156.99	0.14	
293.00	0.21	318.12	293.00	-0.66	0.70	-0.49	597189.40	748156.71	0.04	
415.00	0.53	307.82	415.00	-1.13	1.21	-1.09	597189.91	748156.11	0.27	
515.00	0.56	303.76	514.99	-1.62	1.77	-1.86	597190.47	748155.34	0.05	
615.00	0.66	302.61	614.99	-2.14	2.35	-2.75	597191.05	748154.45	0.10	
718.00	0.85	299.41	717.98	-2.74	3.04	-3.92	597191.74	748153.28	0.19	
846.00	0.64	301.92	845.97	-3.48	3.89	-5.35	597192.59	748151.85	0.17	
939.00	0.55	304.11	938.96	-3.94	4.41	-6.16	597193.11	748151.04	0.10	
1032.00	0.80	291.40	1031.95	-4.36	4.90	-7.14	597193.60	748150.06	0.31	
1127.00	0.44	292.18	1126.95	-4.66	5.28	-8.09	597193.98	748149.11	0.38	
1222.00	0.16	240.85	1221.95	-4.70	5.35	-8.54	597194.05	748148.66	0.38	
1316.00	0.10	337.76	1315.95	-4.70	5.37	-8.69	597194.07	748148.51	0.21	
1410.00	0.22	134.96	1409.95	-4.66	5.31	-8.59	597194.01	748148.61	0.33	
1504.00	0.14	33.74	1503.95	-4.64	5.28	-8.40	597193.98	748148.80	0.30	
1599.00	0.28	141.32	1598.95	-4.57	5.20	-8.19	597193.90	748149.01	0.37	
1694.00	0.29	105.99	1693.95	-4.35	4.95	-7.82	597193.65	748149.38	0.18	
1790.00	0.14	161.22	1789.94	-4.20	4.77	-7.55	597193.47	748149.65	0.25	
1827.00	0.30	130.90	1826.94	-4.10	4.67	-7.46	597193.37	748149.74	0.52	
1897.00	0.20	131.56	1896.94	-3.92	4.47	-7.23	597193.17	748149.97	0.15	13 3/8 in
1982.00	0.07	135.01	1981.94	-3.79	4.33	-7.08	597193.03	748150.12	0.15	
2077.00	0.35	123.95	2076.94	-3.61	4.13	-6.80	597192.83	748150.40	0.30	
2173.00	0.16	206.50	2172.94	-3.34	3.85	-6.62	597192.55	748150.58	0.38	
2268.00	0.38	112.55	2267.94	-3.12	3.61	-6.39	597192.31	748150.81	0.44	
2364.00	0.07	182.86	2363.94	-2.96	3.43	-6.10	597192.13	748151.10	0.38	
2459.00	0.16	43.54	2458.94	-3.01	3.46	-6.01	597192.16	748151.19	0.23	
2554.00	0.16	74.45	2553.94	-3.16	3.60	-5.79	597192.30	748151.41	0.09	
2648.00	0.21	84.77	2647.94	-3.23	3.65	-5.49	597192.35	748151.71	0.06	
2744.00	0.36	129.74	2743.94	-3.08	3.47	-5.08	597192.17	748152.12	0.27	
2839.00	0.49	68.91	2838.94	-3.08	3.43	-4.47	597192.13	748152.73	0.47	
2935.00	0.82	87.76	2934.93	-3.34	3.60	-3.41	597192.30	748153.79	0.41	
3030.00	0.82	93.76	3029.92	-3.42	3.58	-2.05	597192.28	748155.15	0.09	
3126.00	0.22	49.80	3125.92	-3.55	3.66	-1.22	597192.36	748155.98	0.71	
3222.00	0.51	16.00	3221.91	-4.10	4.19	-0.96	597192.89	748156.24	0.36	
3317.00	0.58	359.10	3316.91	-5.00	5.07	-0.85	597193.77	748156.35	0.18	
3412.00	0.49	357.52	3411.91	-5.88	5.96	-0.88	597194.66	748156.32	0.10	
3508.00	0.69	32.42	3507.90	-6.79	6.86	-0.59	597195.56	748156.61	0.42	
3603.00	1.17	230.69	3602.90	-6.63	6.73	-1.03	597195.43	748156.17	1.93	
3698.00	1.44	239.99	3697.87	-5.29	5.51	-2.81	597194.21	748154.39	0.36	
3794.00	1.26	243.17	3793.84	-4.07	4.43	-4.80	597193.13	748152.40	0.20	
3890.00	1.26	245.59	3889.82	-3.01	3.52	-6.70	597192.22	748150.50	0.06	
3940.00	1.00	264.53	3939.81	-2.68	3.25	-7.64	597191.95	748149.56	0.90	
4010.00	0.96	259.29	4009.80	-2.42	3.09	-8.82	597191.79	748148.38	0.14	9 5/8 in

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4021.00	0.95	258.43	4020.80	-2.37	3.05	-9.00	597191.75	748148.20	0.14	
4116.00	0.99	263.77	4115.79	-2.01	2.80	-10.59	597191.50	748146.61	0.10	
4211.00	1.09	271.36	4210.77	-1.81	2.74	-12.31	597191.44	748144.89	0.18	
4307.00	1.20	284.01	4306.75	-1.94	3.00	-14.20	597191.70	748143.00	0.29	
4405.00	1.11	281.26	4404.73	-2.23	3.44	-16.12	597192.14	748141.08	0.11	
4500.00	0.92	281.12	4499.72	-2.43	3.76	-17.77	597192.46	748139.43	0.20	
4595.00	0.92	282.35	4594.70	-2.63	4.07	-19.27	597192.77	748137.93	0.02	
4690.00	0.84	286.31	4689.69	-2.88	4.43	-20.68	597193.13	748136.52	0.11	
4785.00	0.91	262.02	4784.68	-2.86	4.52	-22.10	597193.22	748135.10	0.39	
4878.00	3.71	242.97	4877.60	-1.14	3.05	-25.51	597191.75	748131.69	3.08	
4972.00	4.29	253.92	4971.37	1.66	0.70	-31.59	597189.40	748125.61	1.02	
5066.00	5.55	262.44	5065.02	3.81	-0.88	-39.48	597187.82	748117.72	1.55	
5160.00	7.22	265.82	5158.44	5.61	-1.90	-49.88	597186.80	748107.32	1.82	
5254.00	8.57	268.75	5251.54	7.15	-2.49	-62.77	597186.21	748094.43	1.50	
5349.00	9.95	271.49	5345.30	8.23	-2.43	-78.05	597186.27	748079.15	1.52	
5445.00	12.05	270.93	5439.54	9.22	-2.05	-96.37	597186.65	748060.83	2.19	
5540.00	12.89	264.79	5532.30	11.54	-2.85	-116.84	597185.85	748040.36	1.65	
5636.00	13.28	262.01	5625.81	15.65	-5.36	-138.42	597183.34	748018.78	0.77	
5732.00	13.84	263.55	5719.13	20.13	-8.18	-160.75	597180.52	747996.45	0.69	
5828.00	13.84	265.07	5812.34	24.10	-10.46	-183.60	597178.24	747973.60	0.38	
5923.00	13.39	265.59	5904.67	27.57	-12.28	-205.88	597176.42	747951.32	0.49	
6017.00	12.82	267.90	5996.23	30.37	-13.50	-227.16	597175.20	747930.04	0.82	
6113.00	14.66	266.81	6089.47	33.13	-14.56	-249.93	597174.14	747907.27	1.94	
6207.00	15.14	265.29	6180.31	36.59	-16.23	-274.04	597172.47	747883.16	0.66	
6303.00	13.72	265.51	6273.28	40.28	-18.15	-297.89	597170.55	747859.31	1.48	
6398.00	14.50	266.22	6365.42	43.67	-19.82	-320.99	597168.88	747836.21	0.84	
6493.00	15.58	266.53	6457.16	47.05	-21.38	-345.59	597167.32	747811.61	1.14	
6588.00	14.68	266.86	6548.87	50.32	-22.81	-370.34	597165.89	747786.86	0.95	
6683.00	15.23	266.34	6640.65	53.59	-24.26	-394.82	597164.44	747762.38	0.60	
6779.00	16.08	266.35	6733.09	57.17	-25.92	-420.67	597162.78	747736.53	0.89	
6874.00	16.04	267.33	6824.38	60.56	-27.36	-446.91	597161.34	747710.29	0.29	
6970.00	15.35	267.53	6916.80	63.66	-28.53	-472.85	597160.17	747684.35	0.72	
7066.00	14.84	267.73	7009.49	66.55	-29.56	-497.83	597159.14	747659.37	0.53	
7160.00	14.33	268.64	7100.46	69.06	-30.32	-521.49	597158.38	747635.71	0.59	
7255.00	13.58	268.61	7192.65	71.31	-30.87	-544.39	597157.83	747612.81	0.79	
7350.00	14.21	270.94	7284.87	73.09	-30.95	-567.20	597157.75	747590.00	0.89	
7445.00	14.15	273.69	7376.98	73.89	-30.01	-590.45	597158.69	747566.75	0.71	
7540.00	14.42	270.87	7469.04	74.71	-29.08	-613.86	597159.62	747543.34	0.79	
7636.00	14.87	269.85	7561.92	76.36	-28.93	-638.13	597159.77	747519.07	0.54	
7731.00	13.78	270.62	7653.97	78.02	-28.84	-661.64	597159.86	747495.56	1.16	
7827.00	14.29	270.00	7747.10	79.63	-28.72	-684.92	597159.98	747472.28	0.55	
7922.00	14.39	269.13	7839.14	81.56	-28.90	-708.45	597159.80	747448.75	0.25	
8018.00	13.88	268.97	7932.24	83.70	-29.28	-731.89	597159.42	747425.31	0.53	
8114.00	14.41	268.15	8025.33	86.03	-29.88	-755.34	597158.82	747401.86	0.59	
8210.00	14.73	268.16	8118.24	88.61	-30.65	-779.48	597158.05	747377.72	0.33	
8304.00	13.03	269.23	8209.49	90.81	-31.18	-802.02	597157.52	747355.18	1.83	
8398.00	13.60	268.79	8300.96	92.80	-31.56	-823.66	597157.14	747333.54	0.62	
8493.00	14.30	267.92	8393.16	95.16	-32.22	-846.55	597156.48	747310.65	0.77	
8586.00	13.54	264.25	8483.43	98.33	-33.73	-868.86	597154.97	747288.34	1.25	
8680.00	13.79	264.62	8574.77	102.12	-35.88	-890.97	597152.82	747266.23	0.28	
8776.00	13.77	267.25	8668.01	105.43	-37.50	-913.77	597151.20	747243.43	0.65	
8871.00	14.68	270.38	8760.09	107.63	-37.96	-937.10	597150.74	747220.10	1.25	
8967.00	15.93	272.27	8852.69	108.92	-37.36	-962.43	597151.34	747194.77	1.40	
9060.00	13.44	270.34	8942.64	110.10	-36.79	-985.99	597151.91	747171.21	2.73	
9156.00	12.32	256.82	9036.25	113.94	-39.06	-1007.13	597149.64	747150.07	3.34	
9250.00	13.46	254.27	9127.88	120.69	-44.31	-1027.42	597144.39	747129.78	1.36	
9345.00	14.26	253.62	9220.11	128.60	-50.61	-1049.29	597138.09	747107.91	0.86	
9440.00	17.22	257.89	9311.54	136.69	-56.86	-1074.27	597131.84	747082.93	3.34	
9535.00	16.09	265.54	9402.57	142.65	-60.84	-1101.15	597127.86	747056.05	2.59	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	
9630.00	16.54	266.08	9493.74	146.58	-62.78	-1127.77	597125.92	747029.43	0.50	
9725.00	18.70	271.55	9584.29	149.23	-63.30	-1156.49	597125.40	747000.71	2.86	
9820.00	17.54	271.93	9674.57	150.54	-62.40	-1186.02	597126.30	746971.18	1.23	
9913.00	16.40	272.01	9763.52	151.63	-61.47	-1213.15	597127.23	746944.05	1.23	
10008.00	15.71	271.65	9854.82	152.74	-60.63	-1239.40	597128.07	746917.80	0.73	
10102.00	12.61	272.05	9945.95	153.72	-59.90	-1262.39	597128.80	746894.81	3.30	
10198.00	12.38	265.66	10039.68	155.67	-60.30	-1283.12	597128.40	746874.08	1.46	
10291.00	14.98	268.09	10130.03	158.46	-61.45	-1305.08	597127.25	746852.12	2.86	
10385.00	19.49	271.58	10219.79	160.50	-61.43	-1332.91	597127.27	746824.29	4.92	
10426.00	22.15	271.93	10258.11	161.14	-60.98	-1347.47	597127.72	746809.73	6.49	
10490.00	24.81	258.39	10316.85	165.31	-63.28	-1372.71	597125.42	746784.49	9.37	
10522.00	26.54	247.24	10345.71	170.40	-67.40	-1385.89	597121.30	746771.31	16.01	
10554.00	28.00	235.68	10374.17	178.34	-74.40	-1398.69	597114.30	746758.51	17.14	
10586.00	28.32	224.94	10402.40	188.79	-84.02	-1410.26	597104.68	746746.94	15.85	
10618.00	29.07	217.62	10430.48	201.04	-95.55	-1420.38	597093.15	746736.82	11.22	
10649.00	30.48	212.75	10457.39	214.25	-108.13	-1429.23	597080.57	746727.97	9.03	
10681.00	32.76	209.82	10484.64	229.19	-122.47	-1437.92	597066.23	746719.28	8.59	
10713.00	35.67	207.47	10511.10	245.58	-138.26	-1446.54	597050.44	746710.66	9.99	
10744.00	38.12	204.31	10535.89	262.88	-155.01	-1454.65	597033.69	746702.55	9.99	
10776.00	39.66	201.76	10560.80	281.91	-173.49	-1462.50	597015.21	746694.70	6.94	
10807.00	41.01	200.03	10584.43	301.13	-192.24	-1469.65	596996.46	746687.55	5.66	
10839.00	42.78	197.84	10608.25	321.80	-212.45	-1476.58	596976.25	746680.62	7.17	
10870.00	43.73	194.26	10630.83	342.59	-232.86	-1482.44	596955.84	746674.76	8.49	
10902.00	43.55	190.04	10653.99	364.46	-254.44	-1487.09	596934.26	746670.11	9.12	
10933.00	43.93	188.97	10676.39	385.80	-275.58	-1490.63	596913.12	746666.57	2.68	
10964.00	46.47	188.59	10698.23	407.73	-297.31	-1493.98	596891.39	746663.22	8.24	
10995.00	49.23	188.03	10719.04	430.65	-320.05	-1497.30	596868.65	746659.90	9.00	
11027.00	53.29	188.78	10739.06	455.54	-344.74	-1500.95	596843.96	746656.25	12.82	
11058.00	56.16	188.65	10756.96	480.77	-369.75	-1504.79	596818.95	746652.41	9.26	
11089.00	58.74	188.22	10773.63	506.83	-395.60	-1508.62	596793.10	746648.58	8.40	
11120.00	62.44	188.01	10788.85	533.77	-422.33	-1512.43	596766.37	746644.77	11.95	
11151.00	65.80	188.27	10802.38	561.59	-449.93	-1516.38	596738.77	746640.82	10.86	
11182.00	68.29	188.86	10814.47	590.05	-478.16	-1520.63	596710.54	746636.57	8.22	
11214.00	71.41	189.55	10825.50	619.98	-507.81	-1525.44	596680.89	746631.76	9.96	
11245.00	73.90	189.86	10834.74	649.43	-536.97	-1530.43	596651.73	746626.77	8.09	
11277.00	75.88	190.10	10843.08	680.17	-567.40	-1535.78	596621.30	746621.42	6.23	
11308.00	78.24	189.77	10850.02	710.24	-597.16	-1540.99	596591.54	746616.21	7.68	
11339.00	81.79	187.77	10855.39	740.67	-627.32	-1545.64	596561.38	746611.56	13.10	
11371.00	84.75	185.05	10859.14	772.42	-658.90	-1549.19	596529.80	746608.01	12.52	
11466.00	86.71	183.60	10866.22	867.15	-753.36	-1556.33	596435.34	746600.87	2.56	
11562.00	87.76	183.50	10870.85	963.03	-849.06	-1562.27	596339.64	746594.93	1.10	
11657.00	88.18	183.56	10874.21	1057.96	-943.82	-1568.11	596244.88	746589.09	0.45	
11752.00	89.51	183.37	10876.13	1152.93	-1038.63	-1573.85	596150.07	746583.35	1.41	
11848.00	91.19	183.17	10875.54	1248.91	-1134.46	-1579.33	596054.24	746577.87	1.76	
11944.00	91.96	184.12	10872.90	1344.86	-1230.23	-1585.43	595958.47	746571.77	1.27	
12039.00	92.59	185.17	10869.13	1439.78	-1324.84	-1593.12	595863.86	746564.08	1.29	
12135.00	91.33	185.20	10865.85	1535.71	-1420.39	-1601.79	595768.31	746555.41	1.31	
12231.00	86.43	185.68	10867.73	1631.65	-1515.91	-1610.88	595672.79	746546.32	5.13	
12325.00	86.78	185.85	10873.29	1725.45	-1609.27	-1620.31	595579.43	746536.89	0.41	
12421.00	87.83	185.98	10877.81	1821.30	-1704.65	-1630.19	595484.05	746527.01	1.10	
12516.00	88.88	186.05	10880.53	1916.22	-1799.09	-1640.14	595389.61	746517.06	1.11	
12611.00	90.28	186.10	10881.23	2011.17	-1893.55	-1650.20	595295.15	746507.00	1.47	
12707.00	89.58	185.00	10881.35	2107.14	-1989.10	-1659.48	595199.60	746497.72	1.36	
12802.00	90.14	184.69	10881.58	2202.13	-2083.76	-1667.50	595104.94	746489.70	0.67	
12897.00	91.19	184.34	10880.48	2297.12	-2178.46	-1674.98	595010.24	746482.22	1.17	
12993.00	91.61	184.03	10878.13	2393.10	-2274.17	-1681.99	594914.53	746475.21	0.54	
13089.00	90.70	183.66	10876.20	2489.07	-2369.94	-1688.42	594818.76	746468.78	1.02	
13185.00	88.67	183.02	10876.72	2585.05	-2465.77	-1694.01	594722.93	746463.19	2.22	
13279.00	88.39	183.09	10879.13	2679.00	-2559.60	-1699.02	594629.10	746458.18	0.31	

5D Survey Report

Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor)										Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (%/100US ft)	
13374.00	89.86	183.08	10880.59	2773.97	-2654.45	-1704.13	594534.25	746453.07	1.55	
13469.00	89.09	183.39	10881.46	2868.95	-2749.29	-1709.50	594439.41	746447.70	0.87	
13564.00	88.32	182.99	10883.60	2963.90	-2844.12	-1714.78	594344.58	746442.42	0.91	
13659.00	88.25	183.14	10886.45	3058.84	-2938.94	-1719.86	594249.76	746437.34	0.17	
13755.00	90.00	182.60	10887.91	3154.80	-3034.81	-1724.66	594153.89	746432.54	1.91	
13851.00	88.95	183.12	10888.79	3250.76	-3130.68	-1729.45	594058.02	746427.75	1.22	
13947.00	89.79	183.72	10889.85	3346.74	-3226.50	-1735.18	593962.20	746422.02	1.08	
14042.00	89.09	184.69	10890.78	3441.74	-3321.24	-1742.15	593867.46	746415.05	1.26	
14138.00	89.58	185.76	10891.89	3537.72	-3416.84	-1750.89	593771.86	746406.31	1.23	
14234.00	88.81	185.48	10893.24	3633.68	-3512.36	-1760.29	593676.34	746396.91	0.85	
14330.00	88.74	185.14	10895.29	3729.64	-3607.93	-1769.17	593580.77	746388.03	0.36	
14424.00	90.35	184.97	10896.04	3823.63	-3701.56	-1777.45	593487.14	746379.75	1.72	
14518.00	88.53	184.61	10896.96	3917.61	-3795.22	-1785.30	593393.48	746371.90	1.97	
14613.00	87.76	184.56	10900.03	4012.56	-3889.87	-1792.89	593298.83	746364.31	0.81	
14707.00	88.88	183.96	10902.79	4106.52	-3983.57	-1799.87	593205.13	746357.33	1.35	
14800.00	89.86	183.63	10903.81	4199.51	-4076.35	-1806.02	593112.35	746351.18	1.11	
14894.00	91.12	182.46	10903.01	4293.48	-4170.21	-1811.02	593018.49	746346.18	1.83	
14989.00	89.23	183.65	10902.72	4388.45	-4265.07	-1816.08	592923.63	746341.12	2.35	
15085.00	89.58	183.96	10903.71	4484.44	-4360.86	-1822.45	592827.84	746334.75	0.49	
15179.00	91.19	183.42	10903.08	4578.43	-4454.66	-1828.50	592734.04	746328.70	1.81	
15274.00	90.35	182.89	10901.80	4673.41	-4549.50	-1833.73	592639.20	746323.47	1.05	
15368.00	87.27	184.26	10903.76	4767.37	-4643.29	-1839.59	592545.41	746317.61	3.59	
15463.00	87.48	184.47	10908.11	4862.27	-4737.91	-1846.81	592450.79	746310.39	0.31	
15558.00	86.01	184.45	10913.50	4957.11	-4832.47	-1854.18	592356.23	746303.02	1.55	
15653.00	86.22	184.37	10919.94	5051.89	-4926.97	-1861.47	592261.73	746295.73	0.24	
15748.00	87.90	184.28	10924.81	5146.76	-5021.57	-1868.63	592167.13	746288.57	1.77	
15843.00	89.58	184.36	10926.90	5241.74	-5116.27	-1875.78	592072.43	746281.42	1.77	
15938.00	91.42	184.21	10926.07	5336.73	-5211.00	-1882.88	591977.70	746274.32	1.94	
16031.00	92.73	183.96	10922.70	5429.66	-5303.70	-1889.50	591885.00	746267.70	1.43	
16042.00	92.94	184.15	10922.16	5440.65	-5314.66	-1890.28	591874.04	746266.92	2.57	Last WFT SVY
16107.00	92.94	184.15	10918.82	5505.57	-5379.40	-1894.97	591809.30	746262.23	0.00	PTB

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment
4711.81	0.84	280.45	4711.50	4.51	-20.99	597193.21	748136.21	Queen	
4982.16	4.42	255.07	4981.50	0.49	-32.34	597189.19	748124.86	Penrose Sand	
5269.13	8.79	269.24	5266.50	-2.53	-65.05	597186.17	748092.15	Grayburg	
5950.57	13.22	266.25	5931.50	-12.73	-212.21	597175.97	747944.99	Delaware	
6735.76	15.70	266.35	6691.50	-25.16	-408.85	597163.54	747748.35	Brushy Canyon	
8084.25	14.25	268.40	7996.50	-29.66	-747.98	597159.04	747409.22	Basal Brushy Canyon	
8306.06	13.04	269.22	8211.50	-31.19	-802.48	597157.51	747354.72	Bone Spring	
8450.04	13.98	268.30	8351.50	-31.87	-836.06	597156.83	747321.14	Avalon Sand	
8965.76	15.91	272.25	8851.50	-37.37	-962.09	597151.33	747195.11	Lower Avalon Shale	
9146.02	12.40	258.33	9026.50	-38.60	-1005.04	597150.10	747152.16	First Bone Spring Limestone	
9679.97	17.66	269.12	9541.50	-63.39	-1142.44	597125.31	747014.76	First Bone Spring Sand	
9874.36	16.87	271.98	9726.50	-61.85	-1202.09	597126.85	746955.11	First Bone Spring Middle	
9999.36	15.77	271.68	9846.50	-60.70	-1237.06	597128.00	746920.14	Second Bone Spring Limestone	
10210.11	12.72	266.03	10051.50	-60.49	-1285.74	597128.21	746871.46	Second Bone Spring (Upper) Sand	
10539.70	27.23	240.70	10361.50	-70.91	-1393.07	597117.79	746764.13	Second Bone Spring "B" Sand	

5D Survey Report

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	Northing (US ft)	Easting (US ft)	Name	Comment
10650.28	30.57	212.62	10458.50	-108.68	-1429.58	597080.02	746727.62	Third Bone Spring Limestone	
10904.07	43.58	189.97	10655.50	-255.85	-1487.34	596932.85	746669.86	Third Bone Spring Sand	
11031.10	53.67	188.76	10741.50	-348.00	-1501.46	596840.70	746655.74	Third Bone Spring WW Sand	
11237.08	73.26	189.78	10832.50	-529.49	-1529.13	596659.21	746628.07	Third Bone Spring RH Sand	