



NM OIL CONSERVATION
ARTESIA DISTRICT
JUL 30 2018

RECEIVED

5D Survey Report

30-015-43230

XTO Energy

Field Name: *Eddy Co., NM (NAD 27 NME)*
Site Name: *Poker Lake Unit 359H*
Well Name: *Poker Lake Unit 359H*
Survey: *Definitive survey*

7 March 2018

**Provide Signature Page for
Directional Survey**





Poker Lake Unit 359H

Field Name: Eddy Co., NM (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: Poker Lake Unit 359H
Units: US ft
North Reference: Grid
Convergence Angle: 0.23
Position:
Northing: 449065.80 US ft
Latitude: 32° 14' 2.00"
Easting: 631039.90 US ft
Longitude: -103° 54' 34.34"
Elevation above MSL: 3231.00 US ft
Comment:

Slot: Poker Lake Unit 359H
Position (Relative to Site Centre)
+N/-S: 0.00 US ft
Northing: 449065.80 US ft
Latitude: 32°14'2.00"
+E/-W: 0.00 US ft
Easting: 631039.90 US ft
Longitude: -103°54'34.34"
Elevation above MSL: 3231.00 US ft
Comment:

Well: Poker Lake Unit 359H
Type: Main well
UWI:
File Number:
Comment:
Closure Distance: 12333.3US ft
Closure Azimuth: 358.30°
Vertical Section: Position of Origin (Relative to Slot centre)
+N/-S: -0.00 US ft
+E/-W: -0.00 US ft
Az: 359.71°

Drill floor: Survey Name: Definitive Survey
Rig Height (Drill Floor): 22.00US ft
Elevation above MSL: 3253.00US ft
Inclination: 0.00°
Azimuth: 0.00°

Survey Name: Definitive Survey
Date: 05/Jan/2018
Survey Tool: See Survey
Comment:
Company:
Tool Ranges below.

Magnetic Model:
Model Name: bggm2017
Date: 12/Jan/2018
Field Strength: 47929.3nT
Declination: 7.13°
Dip: 59.98°

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
GYRO_GC_WIR+DPIPE_GYD	0.00	8587.00	Gyro
MWD	8587.00	9847.00	WFT MWD SVY_1
MWD	9847.00	12934.00	WFT MWD SVY_2

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Survey Tool Ranges:			
Name	Start MD(USFt)	End MD(USFt)	Source Survey
MWD	12934.00	15598.00	WFT MWD SVY_3
MWD	15598.00	18366.00	WFT MWD SVY_4
MWD	18366.00	20077.00	WFT MWD SVY_5
MWD	20077.00	21646.00	WFT MWD SVY_6

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	-3253.00	0.00	-0.00	-0.00	449065.80	631039.90	0.00	
22.00	0.00	0.00	22.00	-3231.00	0.00	-0.00	-0.00	449065.80	631039.90	0.00	
78.00	0.68	193.57	78.00	-3175.00	-0.32	-0.32	-0.08	449065.48	631039.82	1.21	
168.00	0.71	208.92	167.99	-3085.01	-1.33	-1.33	-0.47	449064.47	631039.43	0.21	
259.00	0.70	211.00	258.99	-2994.01	-2.29	-2.30	-1.03	449063.50	631038.87	0.03	
349.00	0.55	204.34	348.98	-2904.02	-3.16	-3.17	-1.49	449062.63	631038.41	0.18	
440.00	0.48	196.28	439.98	-2813.02	-3.92	-3.93	-1.78	449061.87	631038.12	0.11	
534.00	0.47	194.40	533.97	-2719.03	-4.67	-4.68	-1.99	449061.12	631037.91	0.02	
629.00	0.45	219.84	628.97	-2624.03	-5.33	-5.34	-2.32	449060.46	631037.58	0.21	
725.00	1.43	304.94	724.96	-2528.04	-4.93	-4.95	-3.55	449060.85	631036.35	1.52	
820.00	1.99	322.82	819.92	-2433.08	-2.93	-2.95	-5.51	449062.85	631034.39	0.81	
915.00	2.00	332.78	914.86	-2338.14	-0.13	-0.17	-7.27	449065.63	631032.63	0.36	
1011.00	2.13	330.91	1010.80	-2242.20	2.93	2.88	-8.90	449068.68	631031.00	0.15	
1107.00	2.04	326.60	1106.73	-2146.27	5.92	5.87	-10.71	449071.67	631029.19	0.19	
1202.00	2.05	326.37	1201.67	-2051.33	8.76	8.69	-12.58	449074.49	631027.32	0.01	
1297.00	1.93	326.92	1296.62	-1956.38	11.52	11.45	-14.40	449077.25	631025.50	0.13	
1392.00	1.68	326.47	1391.57	-1861.43	14.03	13.95	-16.04	449079.75	631023.86	0.26	
1489.00	1.54	322.27	1488.53	-1764.47	16.26	16.17	-17.62	449081.97	631022.28	0.19	
1585.00	1.30	324.48	1584.50	-1668.50	18.17	18.07	-19.04	449083.87	631020.86	0.26	
1680.00	1.22	322.01	1679.48	-1573.52	19.85	19.75	-20.29	449085.55	631019.61	0.10	
1776.00	1.12	317.59	1775.46	-1477.54	21.35	21.25	-21.55	449087.05	631018.35	0.14	
1871.00	0.68	305.62	1870.45	-1382.55	22.37	22.26	-22.64	449088.06	631017.26	0.50	
1966.00	0.39	303.98	1965.44	-1287.56	22.89	22.77	-23.37	449088.57	631016.53	0.31	
2059.00	0.38	317.05	2058.44	-1194.56	23.29	23.17	-23.84	449088.97	631016.06	0.09	
2153.00	0.38	322.35	2152.44	-1100.56	23.77	23.65	-24.24	449089.45	631015.66	0.04	
2246.00	0.37	11.02	2245.44	-1007.56	24.31	24.19	-24.37	449089.99	631015.53	0.33	
2342.00	0.38	2.10	2341.43	-911.57	24.93	24.81	-24.30	449090.61	631015.60	0.06	
2437.00	0.36	339.09	2436.43	-816.57	25.52	25.40	-24.40	449091.20	631015.50	0.16	
2532.00	0.31	324.91	2531.43	-721.57	26.01	25.89	-24.65	449091.69	631015.25	0.10	
2626.00	0.29	3.25	2625.43	-627.57	26.46	26.34	-24.78	449092.14	631015.12	0.21	
2721.00	0.84	85.36	2720.43	-532.57	26.75	26.63	-24.08	449092.43	631015.82	0.89	
2815.00	2.03	101.56	2814.39	-438.61	26.46	26.35	-21.76	449092.15	631018.14	1.33	
2911.00	2.50	107.84	2910.32	-342.68	25.46	25.37	-18.10	449091.17	631021.80	0.55	
3006.00	2.40	121.69	3005.23	-247.77	23.77	23.69	-14.43	449089.49	631025.47	0.63	
3101.00	2.99	135.90	3100.13	-152.87	20.92	20.87	-11.02	449086.67	631028.88	0.93	
3197.00	3.75	142.37	3195.96	-57.04	16.62	16.58	-7.36	449082.38	631032.54	0.88	
3292.00	4.25	144.59	3290.73	37.73	11.27	11.25	-3.42	449077.05	631036.48	0.55	
3387.00	3.57	139.03	3385.51	132.51	6.15	6.15	0.56	449071.95	631040.46	0.82	
3482.00	2.79	131.96	3480.36	227.36	2.35	2.37	4.22	449068.17	631044.12	0.92	
3578.00	2.15	129.91	3576.27	323.27	-0.38	-0.34	7.34	449065.46	631047.24	0.67	
3674.00	2.03	129.98	3672.21	419.21	-2.64	-2.59	10.02	449063.21	631049.92	0.13	
3769.00	1.75	130.39	3767.16	514.16	-4.68	-4.61	12.41	449061.19	631052.31	0.30	
3863.00	1.57	127.68	3861.12	608.12	-6.40	-6.33	14.53	449059.47	631054.43	0.21	
3958.00	1.82	120.12	3956.08	703.08	-7.97	-7.88	16.86	449057.92	631056.76	0.35	
4054.00	1.64	124.80	4052.03	799.03	-9.53	-9.43	19.31	449056.37	631059.21	0.24	
4149.00	1.48	127.90	4147.00	894.00	-11.07	-10.96	21.39	449054.84	631061.29	0.19	
4244.00	1.38	129.49	4241.97	988.97	-12.56	-12.44	23.24	449053.36	631063.14	0.11	
4339.00	1.31	129.42	4336.94	1083.94	-13.99	-13.86	24.96	449051.94	631064.86	0.07	

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
4434.00	1.11	135.05	4431.92	1178.92	-15.33	-15.20	26.45	449050.60	631066.35	0.24	
4526.00	0.97	141.35	4523.91	1270.91	-16.58	-16.44	27.57	449049.36	631067.47	0.20	
4620.00	0.97	141.35	4617.89	1364.89	-17.83	-17.68	28.56	449048.12	631068.46	0.00	
4715.00	0.82	139.62	4712.88	1459.88	-18.98	-18.83	29.51	449046.97	631069.41	0.16	
4811.00	0.78	140.30	4808.87	1555.87	-20.01	-19.85	30.37	449045.95	631070.27	0.04	
4905.00	0.71	140.38	4902.86	1649.86	-20.95	-20.79	31.15	449045.01	631071.05	0.07	
5002.00	0.68	141.68	4999.86	1746.86	-21.87	-21.71	31.89	449044.09	631071.79	0.03	
5098.00	0.64	140.55	5095.85	1842.85	-22.73	-22.57	32.58	449043.23	631072.48	0.04	
5192.00	0.69	130.35	5189.84	1936.84	-23.51	-23.34	33.35	449042.46	631073.25	0.14	
5285.00	0.68	150.02	5282.84	2029.84	-24.35	-24.18	34.05	449041.62	631073.95	0.25	
5380.00	0.68	156.47	5377.83	2124.83	-25.36	-25.19	34.56	449040.61	631074.46	0.08	
5475.00	0.70	155.45	5472.82	2219.82	-26.41	-26.23	35.02	449039.57	631074.92	0.02	
5570.00	0.77	156.58	5567.82	2314.82	-27.53	-27.35	35.52	449038.45	631075.42	0.08	
5666.00	0.83	158.88	5663.81	2410.81	-28.77	-28.59	36.02	449037.21	631075.92	0.07	
5760.00	0.80	160.73	5757.80	2504.80	-30.03	-29.84	36.49	449035.96	631076.39	0.04	
5854.00	0.70	165.23	5851.79	2598.79	-31.20	-31.02	36.85	449034.78	631076.75	0.12	
5949.00	0.73	165.34	5946.78	2693.78	-32.35	-32.16	37.15	449033.64	631077.05	0.03	
6044.00	0.78	169.05	6041.77	2788.77	-33.57	-33.38	37.43	449032.42	631077.33	0.07	
6139.00	0.83	167.70	6136.76	2883.76	-34.88	-34.69	37.70	449031.11	631077.60	0.06	
6234.00	0.86	162.67	6231.75	2978.75	-36.24	-36.04	38.05	449029.76	631077.95	0.08	
6330.00	0.85	166.42	6327.74	3074.74	-37.62	-37.42	38.44	449028.38	631078.34	0.06	
6426.00	0.88	169.98	6423.73	3170.73	-39.04	-38.84	38.73	449026.96	631078.63	0.06	
6521.00	0.76	170.63	6518.72	3265.72	-40.38	-40.18	38.96	449025.62	631078.86	0.13	
6617.00	0.73	169.05	6614.71	3361.71	-41.61	-41.41	39.18	449024.39	631079.08	0.04	
6712.00	0.76	164.89	6709.71	3456.71	-42.81	-42.61	39.46	449023.19	631079.36	0.07	
6808.00	0.82	164.15	6805.70	3552.70	-44.09	-43.89	39.81	449021.91	631079.71	0.06	
6904.00	0.89	168.68	6901.69	3648.69	-45.48	-45.28	40.15	449020.52	631080.05	0.10	
6999.00	0.99	169.11	6996.67	3743.67	-47.01	-46.81	40.45	449018.99	631080.35	0.11	
7095.00	0.88	172.17	7092.66	3839.66	-48.56	-48.35	40.71	449017.45	631080.61	0.13	
7192.00	0.65	184.94	7189.65	3936.65	-49.85	-49.64	40.76	449016.16	631080.66	0.29	
7288.00	0.77	190.41	7285.64	4032.64	-51.02	-50.82	40.60	449014.98	631080.50	0.14	
7384.00	1.17	192.72	7381.63	4128.63	-52.61	-52.41	40.26	449013.39	631080.16	0.42	
7478.00	1.41	197.07	7475.61	4222.61	-54.65	-54.45	39.71	449011.35	631079.61	0.28	
7573.00	1.17	207.32	7570.58	4317.58	-56.62	-56.43	38.92	449009.37	631078.82	0.35	
7668.00	1.37	219.20	7665.56	4412.56	-58.36	-58.17	37.76	449007.63	631077.66	0.35	
7763.00	1.43	218.63	7760.53	4507.53	-60.16	-59.98	36.30	449005.82	631076.20	0.06	
7857.00	1.41	191.88	7854.50	4601.50	-62.20	-62.02	35.33	449003.78	631075.23	0.70	
7951.00	2.06	186.15	7948.46	4695.46	-65.01	-64.84	34.91	449000.96	631074.81	0.71	
8047.00	2.40	206.23	8044.39	4791.39	-68.52	-68.35	33.84	448997.45	631073.74	0.88	
8142.00	2.81	228.53	8139.29	4886.29	-71.84	-71.68	31.22	448994.12	631071.12	1.14	
8237.00	2.75	232.49	8234.18	4981.18	-74.75	-74.61	27.66	448991.19	631067.56	0.21	
8331.00	2.24	232.63	8328.09	5075.09	-77.22	-77.10	24.42	448988.70	631064.32	0.54	
8426.00	2.13	224.21	8423.02	5170.02	-79.60	-79.49	21.71	448986.31	631061.61	0.36	
8521.00	1.75	219.85	8517.97	5264.97	-81.97	-81.87	19.55	448983.93	631059.45	0.43	
8587.00	1.42	213.40	8583.94	5330.94	-83.42	-83.33	18.45	448982.47	631058.35	0.57	Tie On Gyrodata
8601.00	1.58	209.26	8597.94	5344.94	-83.73	-83.64	18.26	448982.16	631058.16	1.38	First WFT SVY
8698.00	1.87	247.87	8694.90	5441.90	-85.48	-85.40	16.14	448980.40	631056.04	1.21	
8746.00	7.70	284.88	8742.72	5489.72	-84.93	-84.87	12.31	448980.93	631052.21	13.14	
8794.00	11.72	291.08	8790.02	5537.02	-82.31	-82.29	4.65	448983.51	631044.55	8.64	
8842.00	15.64	294.77	8836.65	5583.65	-77.79	-77.82	-5.78	448987.98	631034.12	8.36	
8889.00	19.72	294.23	8881.42	5628.42	-71.82	-71.91	-18.77	448993.89	631021.13	8.69	
8937.00	22.73	294.79	8926.16	5673.16	-64.52	-64.70	-34.58	449001.10	631005.32	6.28	
8985.00	26.25	290.10	8969.84	5716.84	-56.89	-57.16	-52.97	449008.64	630986.93	8.37	
9033.00	31.09	292.28	9011.94	5758.94	-48.43	-48.81	-74.42	449016.99	630965.48	10.31	
9082.00	36.10	297.93	9052.75	5799.75	-36.74	-37.24	-98.91	449028.56	630940.99	12.04	
9130.00	40.41	304.53	9090.45	5837.45	-21.16	-21.78	-124.24	449044.02	630915.66	12.36	
9178.00	42.90	309.39	9126.32	5873.32	-1.83	-2.59	-149.69	449063.21	630890.21	8.49	

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
9226.00	44.40	316.86	9161.08	5908.08	20.93	20.05	-173.82	449085.85	630866.08	11.18	
9274.00	48.00	323.08	9194.31	5941.31	47.57	46.58	-196.03	449112.38	630843.87	11.98	
9321.00	49.78	327.23	9225.22	5972.22	76.73	75.64	-216.24	449141.44	630823.66	7.65	
9369.00	51.02	333.06	9255.83	6002.83	108.89	107.70	-234.62	449173.50	630805.28	9.71	
9417.00	54.22	337.67	9284.98	6031.98	143.63	142.36	-250.48	449208.16	630789.42	10.13	
9465.00	56.60	340.40	9312.23	6059.23	180.60	179.26	-264.61	449245.06	630775.29	6.82	
9513.00	60.22	342.43	9337.37	6084.37	219.41	218.01	-277.62	449283.81	630762.28	8.36	
9561.00	65.13	345.07	9359.40	6106.40	260.40	258.94	-289.53	449324.74	630750.37	11.34	
9608.00	70.47	350.05	9377.16	6124.16	302.92	301.41	-298.86	449367.21	630741.04	15.01	
9656.00	74.94	353.97	9391.44	6138.44	348.31	346.77	-305.21	449412.57	630734.69	12.14	
9703.00	77.86	357.30	9402.49	6149.49	393.87	392.31	-308.68	449458.11	630731.22	9.27	
9751.00	83.01	358.43	9410.46	6157.46	441.16	439.59	-310.44	449505.39	630729.46	10.98	
9798.00	85.61	0.70	9415.12	6162.12	487.92	486.35	-310.79	449552.15	630729.11	7.33	
9847.00	87.73	0.58	9417.97	6164.97	536.83	535.27	-310.24	449601.07	630729.66	4.33	
9877.00	88.56	359.96	9418.94	6165.94	566.81	565.25	-310.10	449631.05	630729.80	3.45	
9972.00	90.41	359.44	9419.79	6166.79	661.80	660.24	-310.60	449726.04	630729.30	2.02	
10067.00	92.28	359.80	9417.56	6164.56	756.77	755.21	-311.23	449821.01	630728.67	2.00	
10162.00	91.92	359.20	9414.08	6161.08	851.71	850.14	-312.06	449915.94	630727.84	0.74	
10256.00	90.21	359.13	9412.34	6159.34	945.68	944.11	-313.43	450009.91	630726.47	1.82	
10350.00	88.56	358.96	9413.35	6160.35	1039.67	1038.09	-314.99	450103.89	630724.91	1.76	
10446.00	90.27	358.28	9414.33	6161.33	1135.64	1134.05	-317.30	450199.85	630722.60	1.92	
10541.00	88.73	358.67	9415.15	6162.15	1230.61	1229.01	-319.83	450294.81	630720.07	1.67	
10636.00	88.59	358.44	9417.38	6164.38	1325.57	1323.95	-322.23	450389.75	630717.67	0.28	
10730.00	88.56	358.85	9419.71	6166.71	1419.52	1417.90	-324.45	450483.70	630715.45	0.44	
10825.00	88.11	359.21	9422.47	6169.47	1514.48	1512.84	-326.06	450578.64	630713.84	0.61	
10920.00	88.11	359.26	9425.61	6172.61	1609.42	1607.78	-327.33	450673.58	630712.57	0.05	
11016.00	90.18	0.09	9427.04	6174.04	1705.40	1703.77	-327.87	450769.57	630712.03	2.32	
11112.00	89.59	0.09	9427.23	6174.23	1801.40	1799.77	-327.72	450865.57	630712.18	0.61	
11208.00	89.20	358.45	9428.25	6175.25	1897.39	1895.75	-328.94	450961.55	630710.96	1.76	
11303.00	89.15	357.77	9429.61	6176.61	1992.34	1990.69	-332.07	451056.49	630707.83	0.72	
11399.00	89.73	358.72	9430.55	6177.55	2088.30	2086.64	-335.01	451152.44	630704.89	1.16	
11495.00	90.80	359.73	9430.11	6177.11	2184.30	2182.62	-336.31	451248.42	630703.59	1.53	
11592.00	90.15	359.73	9429.30	6176.30	2281.29	2279.62	-336.77	451345.42	630703.13	0.67	
11688.00	89.82	0.98	9429.33	6176.33	2377.29	2375.61	-336.18	451441.41	630703.72	1.35	
11784.00	90.04	1.86	9429.45	6176.45	2473.24	2471.58	-333.80	451537.38	630706.10	0.94	
11879.00	90.80	0.36	9428.75	6175.75	2568.21	2566.56	-331.96	451632.36	630707.94	1.77	
11976.00	90.55	0.15	9427.61	6174.61	2663.20	2663.55	-331.52	451729.35	630708.38	0.34	
12072.00	92.48	359.68	9425.07	6172.07	2761.16	2759.51	-331.67	451825.31	630708.23	2.07	
12168.00	91.92	359.43	9421.38	6168.38	2857.09	2855.44	-332.41	451921.24	630707.49	0.64	
12263.00	89.12	359.59	9420.52	6167.52	2952.07	2950.42	-333.22	452016.22	630706.68	2.95	
12359.00	88.92	0.53	9422.16	6169.16	3048.05	3046.41	-333.12	452112.21	630706.78	1.00	
12455.00	88.87	0.74	9424.02	6171.02	3144.02	3142.38	-332.06	452208.18	630707.84	0.22	
12550.00	89.79	0.15	9425.13	6172.13	3239.01	3237.37	-331.32	452303.17	630708.58	1.15	
12646.00	89.65	359.78	9425.60	6172.60	3335.01	3333.37	-331.38	452399.17	630708.52	0.41	
12741.00	90.85	0.32	9425.18	6172.18	3430.00	3428.37	-331.30	452494.17	630708.60	1.39	
12838.00	90.71	1.36	9423.86	6170.86	3526.97	3525.35	-329.88	452591.15	630710.02	1.08	
12934.00	91.44	2.91	9422.06	6169.06	3622.87	3621.26	-326.30	452687.06	630713.60	1.78	
13038.00	92.42	4.47	9418.56	6165.56	3726.55	3724.98	-319.61	452790.78	630720.29	1.77	
13131.00	89.79	3.65	9416.76	6163.76	3819.26	3817.72	-313.03	452883.52	630726.87	2.96	
13224.00	88.28	1.47	9418.33	6165.33	3912.12	3910.61	-308.88	452976.41	630731.02	2.85	
13320.00	87.55	358.96	9421.82	6168.82	4008.05	4006.54	-308.52	453072.34	630731.38	2.72	
13415.00	88.61	358.74	9425.01	6172.01	4102.98	4101.46	-310.42	453167.26	630729.48	1.14	
13510.00	88.48	358.25	9427.42	6174.42	4197.93	4196.40	-312.92	453262.20	630726.98	0.53	
13605.00	87.97	357.48	9430.36	6177.36	4292.83	4291.28	-316.45	453357.08	630723.45	0.97	
13699.00	88.62	356.85	9433.16	6180.16	4386.70	4385.13	-321.10	453450.93	630718.80	0.96	
13793.00	90.01	357.65	9434.28	6181.28	4480.60	4479.01	-325.61	453544.81	630714.29	1.71	
13889.00	88.81	357.89	9435.27	6182.27	4576.54	4574.93	-329.34	453640.73	630710.56	1.27	
13985.00	88.62	357.66	9437.42	6184.42	4672.46	4670.83	-333.07	453736.63	630706.83	0.31	

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
14079.00	89.57	359.42	9438.91	6185.91	4766.42	4764.79	-335.47	453830.59	630704.43	2.13	
14175.00	90.94	359.69	9438.48	6185.48	4862.42	4860.78	-336.21	453926.58	630703.69	1.45	
14270.00	90.85	0.16	9437.00	6184.00	4957.41	4955.77	-336.33	454021.57	630703.57	0.50	
14365.00	89.73	359.97	9436.51	6183.51	5052.40	5050.77	-336.23	454116.57	630703.67	1.20	
14461.00	88.36	359.59	9438.11	6185.11	5148.39	5146.75	-336.60	454212.55	630703.30	1.48	
14556.00	90.74	1.14	9438.86	6185.86	5243.37	5241.73	-335.99	454307.53	630703.91	2.99	
14652.00	91.16	1.88	9437.27	6184.27	5339.31	5337.69	-333.46	454403.49	630706.44	0.89	
14748.00	90.60	0.25	9435.79	6182.79	5435.26	5433.66	-331.68	454499.46	630708.22	1.80	
14841.00	88.31	0.74	9436.68	6183.68	5528.24	5526.64	-330.87	454592.44	630709.03	2.52	
14937.00	86.66	358.11	9440.89	6187.89	5624.14	5622.53	-331.83	454688.33	630708.07	3.23	
15032.00	87.27	357.53	9445.92	6192.92	5718.95	5717.33	-335.44	454783.13	630704.46	0.89	
15127.00	88.84	358.02	9449.15	6196.15	5813.84	5812.20	-339.13	454878.00	630700.77	1.73	
15222.00	90.27	358.07	9449.88	6196.88	5908.80	5907.14	-342.37	454972.94	630697.53	1.51	
15317.00	91.05	358.75	9448.79	6195.79	6003.76	6002.09	-345.01	455067.89	630694.89	1.09	
15412.00	89.65	359.15	9448.21	6195.21	6098.75	6097.07	-346.75	455162.87	630693.15	1.53	
15504.00	89.09	359.00	9449.22	6196.22	6190.74	6189.06	-348.23	455254.86	630691.67	0.63	
15598.00	88.62	357.24	9451.10	6198.10	6284.68	6282.98	-351.31	455348.78	630688.59	1.94	
15697.00	90.88	357.88	9451.53	6198.53	6383.60	6381.89	-355.53	455447.69	630684.37	2.37	
15792.00	91.38	358.69	9449.66	6196.66	6478.55	6476.82	-358.37	455542.62	630681.53	1.00	
15887.00	92.64	358.67	9446.33	6193.33	6573.48	6571.74	-360.56	455637.54	630679.34	1.33	
15983.00	93.15	1.50	9441.48	6188.48	6669.34	6667.61	-360.42	455733.41	630679.48	2.99	
16080.00	90.57	1.90	9438.33	6185.33	6766.23	6764.50	-357.54	455830.30	630682.36	2.69	
16173.00	87.86	359.33	9439.60	6186.60	6859.19	6857.47	-356.54	455923.27	630683.36	4.02	
16267.00	87.97	1.17	9443.02	6190.02	6953.12	6951.41	-356.13	456017.21	630683.77	1.96	
16362.00	89.59	0.12	9445.05	6192.05	7048.08	7046.37	-355.06	456112.17	630684.84	2.03	
16457.00	89.29	0.51	9445.97	6192.97	7143.07	7141.37	-354.54	456207.17	630685.36	0.52	
16552.00	90.18	359.59	9446.41	6193.41	7238.07	7236.36	-354.46	456302.16	630685.44	1.35	
16647.00	90.66	1.02	9445.72	6192.72	7333.05	7331.36	-353.95	456397.16	630685.95	1.59	
16742.00	91.08	1.84	9444.27	6191.27	7428.00	7426.32	-351.58	456492.12	630688.32	0.97	
16836.00	90.96	2.11	9442.60	6189.60	7521.91	7520.24	-348.34	456586.04	630691.56	0.31	
16931.00	89.43	1.22	9442.28	6189.28	7616.85	7615.20	-345.58	456681.00	630694.32	1.86	
17026.00	89.96	2.32	9442.78	6189.78	7711.79	7710.15	-342.65	456775.95	630697.25	1.29	
17121.00	90.21	1.70	9442.64	6189.64	7806.71	7805.09	-339.32	456870.89	630700.58	0.70	
17215.00	89.45	0.24	9442.92	6189.92	7900.68	7899.08	-337.73	456964.88	630702.17	1.75	
17312.00	89.15	358.29	9444.11	6191.11	7997.67	7996.06	-338.97	457061.86	630700.93	2.03	
17408.00	87.75	358.15	9446.70	6193.70	8093.60	8091.97	-341.95	457157.77	630697.95	1.47	
17503.00	88.20	357.60	9450.06	6197.06	8188.49	8186.85	-345.47	457252.65	630694.43	0.75	
17599.00	87.80	357.22	9453.41	6200.41	8284.35	8282.69	-349.81	457348.49	630690.09	0.57	
17694.00	88.67	357.50	9456.34	6203.34	8379.23	8377.54	-354.18	457443.34	630685.72	0.96	
17790.00	91.75	0.03	9455.99	6202.99	8475.20	8473.50	-356.25	457539.30	630683.65	4.15	
17885.00	91.69	0.66	9453.13	6200.13	8570.15	8568.46	-355.68	457634.26	630684.22	0.67	
17981.00	91.83	1.81	9450.19	6197.19	8666.07	8664.39	-353.61	457730.19	630686.29	1.21	
18077.00	90.94	0.86	9447.86	6194.86	8762.00	8760.33	-351.37	457826.13	630688.53	1.36	
18173.00	89.68	1.73	9447.35	6194.35	8857.96	8856.30	-349.20	457922.10	630690.70	1.59	
18270.00	89.62	0.71	9447.94	6194.94	8954.92	8953.28	-347.14	458019.08	630692.76	1.05	
18366.00	89.65	359.78	9448.55	6195.55	9050.91	9049.27	-346.73	458115.07	630693.17	0.97	
18459.00	91.22	358.78	9447.84	6194.84	9143.90	9142.26	-347.90	458208.06	630692.00	2.00	
18554.00	89.90	359.44	9446.92	6193.92	9238.89	9237.24	-349.37	458303.04	630690.53	1.55	
18649.00	89.26	358.10	9447.61	6194.61	9333.87	9332.21	-351.41	458398.01	630688.49	1.56	
18744.00	89.01	358.65	9449.05	6196.05	9428.83	9427.16	-354.10	458492.96	630685.80	0.64	
18838.00	89.71	0.99	9450.10	6197.10	9522.82	9521.15	-354.40	458586.95	630685.50	2.60	
18932.00	89.29	0.58	9450.92	6197.92	9616.80	9615.14	-353.11	458680.94	630686.79	0.62	
19028.00	87.83	1.90	9453.33	6200.33	9712.73	9711.08	-351.04	458776.88	630688.86	2.05	
19123.00	88.06	1.16	9456.74	6203.74	9807.62	9805.98	-348.50	458871.78	630691.40	0.82	
19217.00	89.04	2.18	9459.11	6206.11	9901.53	9899.91	-345.76	458965.71	630694.14	1.50	
19312.00	88.92	0.74	9460.81	6207.81	9996.47	9994.86	-343.34	459060.66	630696.56	1.52	
19407.00	91.61	1.46	9460.37	6207.37	10091.43	10089.84	-341.52	459155.64	630698.38	2.93	
19502.00	93.12	359.89	9456.45	6203.45	10186.33	10184.74	-340.40	459250.54	630699.50	2.29	

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
19597.00	90.85	359.63	9453.15	6200.15	10281.27	10279.68	-340.80	459345.48	630699.10	2.41	
19694.00	89.82	357.82	9452.59	6199.59	10378.25	10376.65	-342.96	459442.45	630696.94	2.15	
19790.00	89.90	357.48	9452.82	6199.82	10474.19	10472.57	-346.89	459538.37	630693.01	0.36	
19885.00	89.26	359.10	9453.52	6200.52	10569.15	10567.52	-349.73	459633.32	630690.17	1.83	
19981.00	89.09	358.74	9454.90	6201.90	10665.13	10663.49	-351.54	459729.29	630688.36	0.41	
20077.00	91.10	359.03	9454.74	6201.74	10761.12	10759.47	-353.40	459825.27	630686.50	2.12	
20199.00	91.36	358.53	9452.12	6199.12	10883.07	10881.41	-356.00	459947.21	630683.90	0.46	
20295.00	89.03	0.00	9451.80	6198.80	10979.06	10977.39	-357.23	460043.19	630682.67	2.87	
20391.00	88.41	0.61	9453.94	6200.94	11075.03	11073.37	-356.72	460139.17	630683.18	0.91	
20487.00	88.53	0.06	9456.50	6203.50	11170.99	11169.33	-356.16	460235.13	630683.74	0.59	
20584.00	88.70	0.06	9458.85	6205.85	11267.96	11266.30	-356.06	460332.10	630683.84	0.18	
20679.00	90.57	358.88	9459.45	6206.45	11362.95	11361.29	-356.94	460427.09	630682.96	2.33	
20776.00	89.68	357.69	9459.24	6206.24	11459.92	11458.24	-359.84	460524.04	630680.06	1.53	
20871.00	88.22	357.42	9460.98	6207.98	11554.83	11553.14	-363.89	460618.94	630676.01	1.56	
20966.00	89.68	358.79	9462.72	6209.72	11649.77	11648.07	-367.03	460713.87	630672.87	2.11	
21062.00	91.59	0.66	9461.66	6208.66	11745.76	11744.05	-367.49	460809.85	630672.41	2.78	
21158.00	91.84	0.72	9458.79	6205.79	11841.70	11840.00	-366.34	460905.80	630673.56	0.27	
21253.00	92.40	0.37	9455.27	6202.27	11936.63	11934.93	-365.44	461000.73	630674.46	0.70	
21349.00	89.12	359.72	9454.00	6201.00	12032.60	12030.91	-365.36	461096.71	630674.54	3.48	
21445.00	88.89	0.37	9455.67	6202.67	12128.59	12126.89	-365.28	461192.69	630674.62	0.72	
21542.00	89.17	0.18	9457.31	6204.31	12225.57	12223.88	-364.82	461289.68	630675.08	0.35	
21597.00	89.34	359.76	9458.02	6205.02	12280.56	12278.87	-364.85	461344.67	630675.05	0.82	Last WFT SVY
21646.00	89.34	359.76	9458.59	6205.59	12329.56	12327.87	-365.05	461393.67	630674.85	0.00	PTB

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
Name	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)	
Rustler	852.10	1.99	326.19	852.00	-2401.00	-2.05	-6.16	449063.75	631033.74	
Top Salt	1216.34	2.03	326.45	1216.00	-2037.00	9.12	-12.87	449074.92	631027.03	
Base Salt	3281.24	4.19	144.37	3280.00	27.00	11.90	-3.88	449077.70	631036.02	
Delaware	3495.65	2.70	131.73	3494.00	241.00	1.94	4.70	449067.74	631044.60	
Cherry Canyon	4429.08	1.12	134.71	4427.00	1174.00	-15.13	26.39	449050.67	631066.29	
Brushy Canyon	6041.23	0.78	168.95	6039.00	2786.00	-33.35	37.42	449032.45	631077.32	
Bone Spring	7299.36	0.82	190.80	7297.00	4044.00	-50.97	40.57	449014.83	631080.47	
1st Bone Spring Ss	8290.88	2.46	232.56	8288.00	5035.00	-76.10	25.72	448989.70	631065.62	
2nd Bone Spring Ss	9200.88	43.55	313.00	9143.00	5890.00	7.73	-161.48	449073.53	630878.42	
2nd Bone Spring B	9475.59	57.40	340.86	9318.00	6065.00	187.64	-267.55	449253.44	630772.35	
3rd Bone Spring Lm	13874.82	88.99	357.85	9435.00	6182.00	4560.76	-328.82	453626.56	630711.08	