

Survey Report Landscape

Company: XTO Energy
Project: Lea County, NM (NAD27) NMEZ US
Site: Mis Amigos State
Well: Mis Amigos State 108H
Wellbore: MAS 108H
Design: MAS 108H (AsDrilled)

Local Co-ordinate Reference: Well Mis Amigos State 108H - Slot MAS 108H
TVD Reference: 3659+18 @ 3677.00usft (Prec525)
MD Reference: 3659+18 @ 3677.00usft (Prec525)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STRYKER_EDM

Project Lea County, NM (NAD27) NMEZ US

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site Mis Amigos State

Site Position:	Northing:	457,195.20 usft	Latitude:	32.25484056
From: Map	Easting:	725,498.90 usft	Longitude:	-103.60388889
Position Uncertainty: 0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.39 °

Well Mis Amigos State 108H - Slot MAS 108H

Well Position	North:	457,195.20 usft	Latitude:	32.25484056
+N/-S 0.00 usft	Easting:	725,498.90 usft	Longitude:	-103.60388889
+E/-W 0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,659.00 usft
Position Uncertainty 0.00 usft				

Wellbore MAS 108H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	01/07/19	6.80	60.07	47,791.05578118

Design MAS 108H (AsDrilled)

Audit Notes:

Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	Direction (°)
	0.00	359.61

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Survey Program		Date	02/07/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
167.00	11,760.00	Survey #1 (MAS 108H)	MWD	OWSG MWD - Standard	
11,821.00	17,383.00	Survey #2 (MAS 108H)	MWD	OWSG MWD - Standard	
17,433.00	17,433.00	Survey #3 (MAS 108H)	Projection	Projection	

Survey											
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0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	457,195.20	725,498.90	
MAS 108H SHL - STATE1 OFFSET - SNAKEWEED OFFSET											
167.00	1.10	103.20	166.99	-0.37	1.56	1.60	103.20	0.66	457,194.83	725,500.46	
258.00	1.50	85.20	257.97	-0.47	3.60	3.63	97.38	0.62	457,194.73	725,502.50	
352.00	1.20	87.50	351.94	-0.32	5.81	5.82	93.15	0.32	457,194.88	725,504.71	
413.00	1.20	98.60	412.93	-0.39	7.08	7.09	93.14	0.38	457,194.81	725,505.98	
475.00	1.70	74.10	474.91	-0.23	8.60	8.61	91.55	1.27	457,194.97	725,507.50	
536.00	1.40	66.70	535.89	0.31	10.16	10.16	88.25	0.59	457,195.51	725,509.06	
600.00	1.10	70.40	599.87	0.83	11.45	11.48	85.88	0.49	457,196.03	725,510.35	
651.00	1.50	66.50	650.86	1.26	12.53	12.59	84.28	0.80	457,196.46	725,511.43	
713.00	1.50	67.10	712.84	1.89	14.02	14.15	82.30	0.03	457,197.09	725,512.92	
838.00	1.10	94.00	837.80	2.45	16.72	16.90	81.67	0.58	457,197.65	725,515.62	
927.00	1.30	89.80	926.78	2.39	18.59	18.74	82.67	0.25	457,197.59	725,517.49	
1,017.00	1.30	85.00	1,016.76	2.48	20.62	20.77	83.13	0.12	457,197.68	725,519.52	
1,107.00	1.30	81.10	1,106.74	2.73	22.65	22.81	83.12	0.10	457,197.93	725,521.55	
1,205.00	1.20	86.20	1,204.72	2.97	24.77	24.95	83.16	0.15	457,198.17	725,523.67	
1,346.00	0.80	37.60	1,345.70	3.85	26.85	27.12	81.84	0.64	457,199.05	725,525.75	
1,435.00	0.60	58.00	1,434.69	4.59	27.62	28.00	80.57	0.36	457,199.79	725,526.52	
1,525.00	0.80	36.60	1,524.68	5.34	28.39	28.89	79.34	0.36	457,200.54	725,527.29	
1,614.00	0.80	41.08	1,613.67	6.31	29.17	29.85	77.80	0.07	457,201.51	725,528.07	
1,704.00	1.10	33.87	1,703.66	7.50	30.07	30.99	75.99	0.36	457,202.70	725,528.97	

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1,794.00	1.00	26.40	1,793.65	8.92	30.90	32.16	73.89	0.19	457,204.12	725,529.80
1,883.00	0.80	52.10	1,882.64	10.00	31.73	33.27	72.51	0.50	457,205.20	725,530.63
1,973.00	1.00	31.80	1,972.62	11.05	32.64	34.46	71.30	0.41	457,206.25	725,531.54
2,062.00	1.20	96.70	2,061.61	11.60	33.98	35.90	71.15	1.34	457,206.80	725,532.88
2,152.00	0.90	101.30	2,151.60	11.35	35.61	37.37	72.31	0.35	457,206.55	725,534.51
2,242.00	0.70	97.40	2,241.59	11.15	36.85	38.49	73.17	0.23	457,206.35	725,535.75
2,331.00	0.70	110.70	2,330.58	10.88	37.89	39.42	73.98	0.18	457,206.08	725,536.79
2,421.00	0.80	113.70	2,420.57	10.44	38.98	40.36	75.01	0.12	457,205.64	725,537.88
2,510.00	1.00	111.40	2,509.56	9.90	40.27	41.47	76.19	0.23	457,205.10	725,539.17
2,600.00	1.20	99.00	2,599.55	9.47	41.94	42.99	77.28	0.34	457,204.67	725,540.84
2,690.00	0.90	111.70	2,689.53	9.06	43.52	44.46	78.24	0.42	457,204.26	725,542.42
2,779.00	0.90	111.40	2,778.52	8.55	44.82	45.63	79.20	0.01	457,203.75	725,543.72
2,869.00	1.00	108.40	2,868.51	8.04	46.23	46.92	80.13	0.12	457,203.24	725,545.13
2,958.00	0.90	89.60	2,957.50	7.80	47.66	48.30	80.70	0.37	457,203.00	725,546.56
3,048.00	1.30	118.10	3,047.48	7.33	49.27	49.81	81.54	0.74	457,202.53	725,548.17
3,138.00	1.60	122.80	3,137.45	6.16	51.23	51.60	83.14	0.36	457,201.36	725,550.13
3,227.00	1.80	124.80	3,226.41	4.69	53.42	53.63	84.98	0.23	457,199.89	725,552.32
3,317.00	1.70	129.60	3,316.37	3.04	55.61	55.69	86.88	0.20	457,198.24	725,554.51
3,406.00	1.50	128.10	3,405.33	1.47	57.54	57.56	88.53	0.23	457,196.67	725,556.44
3,496.00	1.60	115.10	3,495.30	0.21	59.61	59.61	89.79	0.41	457,195.41	725,558.51
3,585.00	1.50	114.10	3,584.27	-0.79	61.80	61.80	90.73	0.12	457,194.41	725,560.70
3,675.00	1.40	120.70	3,674.24	-1.83	63.82	63.84	91.64	0.22	457,193.37	725,562.72
3,765.00	1.80	111.70	3,764.20	-2.91	66.08	66.14	92.53	0.52	457,192.29	725,564.98
3,854.00	1.60	115.40	3,853.17	-3.96	68.50	68.61	93.31	0.26	457,191.24	725,567.40
3,944.00	1.90	126.50	3,943.12	-5.39	70.83	71.04	94.35	0.50	457,189.81	725,569.73
4,033.00	1.70	118.10	4,032.08	-6.89	73.18	73.51	95.38	0.37	457,188.31	725,572.08
4,123.00	1.90	124.30	4,122.04	-8.36	75.59	76.05	96.31	0.31	457,186.84	725,574.49

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4,212.00	1.80	119.00	4,210.99	-9.87	78.03	78.65	97.21	0.22	457,185.33	725,576.93
4,301.00	2.06	127.00	4,299.94	-11.51	80.53	81.35	98.13	0.42	457,183.69	725,579.43
4,391.00	2.50	139.00	4,389.87	-13.96	83.11	84.28	99.54	0.72	457,181.24	725,582.01
4,480.00	2.90	141.90	4,478.77	-17.20	85.78	87.48	101.34	0.47	457,178.00	725,584.68
4,570.00	2.29	148.04	4,568.68	-20.52	88.13	90.49	103.11	0.74	457,174.68	725,587.03
4,660.00	3.00	145.14	4,658.58	-23.98	90.43	93.55	104.85	0.80	457,171.22	725,589.33
4,750.00	2.90	152.80	4,748.46	-27.93	92.82	96.93	106.75	0.45	457,167.27	725,591.72
4,929.00	1.89	169.22	4,927.30	-34.86	95.44	101.61	110.07	0.68	457,160.34	725,594.34
5,018.00	1.36	173.00	5,016.27	-37.35	95.84	102.86	111.29	0.61	457,157.85	725,594.74
5,034.00	1.36	174.00	5,032.26	-37.73	95.89	103.04	111.48	0.15	457,157.47	725,594.79
5,143.00	1.67	188.10	5,141.23	-40.59	95.80	104.04	112.96	0.44	457,154.61	725,594.70
5,233.00	1.71	189.70	5,231.19	-43.21	95.39	104.72	114.37	0.07	457,151.99	725,594.29
5,322.00	1.58	194.36	5,320.15	-45.71	94.86	105.29	115.73	0.21	457,149.49	725,593.76
5,412.00	1.23	185.57	5,410.12	-47.87	94.46	105.89	116.88	0.46	457,147.33	725,593.36
5,502.00	1.01	160.00	5,500.11	-49.58	94.63	106.83	117.65	0.60	457,145.62	725,593.53
5,591.00	1.19	168.60	5,589.09	-51.22	95.08	108.00	118.31	0.27	457,143.98	725,593.98
5,681.00	0.79	177.05	5,679.08	-52.75	95.30	108.93	118.97	0.47	457,142.45	725,594.20
5,771.00	1.05	174.59	5,769.06	-54.20	95.41	109.73	119.60	0.29	457,141.00	725,594.31
5,860.00	0.62	176.78	5,858.06	-55.49	95.51	110.46	120.15	0.48	457,139.71	725,594.41
5,950.00	0.84	175.82	5,948.05	-56.63	95.59	111.11	120.64	0.24	457,138.57	725,594.49
6,040.00	0.62	217.89	6,038.04	-57.67	95.34	111.43	121.17	0.63	457,137.53	725,594.24
6,129.00	0.44	202.62	6,127.04	-58.37	94.91	111.42	121.59	0.26	457,136.83	725,593.81
6,219.00	0.48	218.02	6,217.03	-58.99	94.55	111.44	121.96	0.14	457,136.21	725,593.45
6,308.00	0.88	216.95	6,306.03	-59.83	93.91	111.34	122.50	0.45	457,135.37	725,592.81
6,398.00	0.62	228.46	6,396.02	-60.70	93.13	111.16	123.10	0.33	457,134.50	725,592.03
6,488.00	0.53	200.78	6,486.02	-61.41	92.61	111.13	123.55	0.32	457,133.79	725,591.51
6,577.00	0.84	236.90	6,575.01	-62.15	91.92	110.96	124.07	0.58	457,133.05	725,590.82

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6,667.00	0.26	206.90	6,665.01	-62.70	91.28	110.74	124.48	0.70	457,132.50	725,590.18
6,757.00	0.18	54.60	6,755.01	-62.80	91.30	110.81	124.52	0.48	457,132.40	725,590.20
6,846.00	0.09	335.73	6,844.01	-62.65	91.38	110.80	124.43	0.21	457,132.55	725,590.28
6,936.00	0.40	211.85	6,934.00	-62.85	91.19	110.75	124.58	0.51	457,132.35	725,590.09
7,026.00	0.31	212.11	7,024.00	-63.33	90.89	110.78	124.87	0.10	457,131.87	725,589.79
7,116.00	0.62	191.55	7,114.00	-64.01	90.67	110.99	125.22	0.39	457,131.19	725,589.57
7,205.00	1.50	203.59	7,202.98	-65.55	90.11	111.43	126.04	1.01	457,129.65	725,589.01
7,295.00	1.50	199.00	7,292.95	-67.74	89.25	112.05	127.20	0.13	457,127.46	725,588.15
7,385.00	2.24	199.46	7,382.90	-70.52	88.28	112.99	128.62	0.82	457,124.68	725,587.18
7,474.00	2.55	190.67	7,471.83	-74.10	87.33	114.54	130.31	0.54	457,121.10	725,586.23
7,564.00	3.12	179.50	7,561.72	-78.52	86.99	117.18	132.07	0.88	457,116.68	725,585.89
7,654.00	2.99	180.90	7,651.59	-83.31	86.97	120.44	133.77	0.17	457,111.89	725,585.87
7,743.00	3.30	171.50	7,740.46	-88.17	87.31	124.09	135.28	0.67	457,107.03	725,586.21
7,833.00	3.03	179.16	7,830.32	-93.11	87.73	127.93	136.70	0.56	457,102.09	725,586.63
7,922.00	2.99	174.15	7,919.20	-97.77	88.00	131.54	138.01	0.30	457,097.43	725,586.90
8,012.00	2.37	172.21	8,009.10	-101.95	88.49	135.00	139.04	0.70	457,093.25	725,587.39
8,102.00	2.51	164.48	8,099.02	-105.69	89.27	138.35	139.81	0.40	457,089.51	725,588.17
8,191.00	2.51	173.79	8,187.93	-109.51	90.00	141.75	140.58	0.46	457,085.69	725,588.90
8,281.00	2.73	172.04	8,277.84	-113.59	90.51	145.24	141.45	0.26	457,081.61	725,589.41
8,371.00	2.37	173.09	8,367.75	-117.56	91.03	148.69	142.25	0.40	457,077.64	725,589.93
8,460.00	2.68	165.97	8,456.66	-121.40	91.76	152.18	142.92	0.49	457,073.80	725,590.66
8,550.00	2.68	168.78	8,546.56	-125.51	92.68	156.02	143.56	0.15	457,069.69	725,591.58
8,639.00	2.15	162.46	8,635.48	-129.14	93.59	159.49	144.07	0.67	457,066.06	725,592.49
8,729.00	2.20	162.62	8,725.42	-132.40	94.61	162.73	144.45	0.06	457,062.80	725,593.51
8,819.00	1.80	169.58	8,815.36	-135.44	95.38	165.66	144.84	0.52	457,059.76	725,594.28
8,908.00	2.07	165.53	8,904.31	-138.37	96.04	168.43	145.24	0.34	457,056.83	725,594.94
8,998.00	2.90	179.24	8,994.23	-142.22	96.48	171.86	145.85	1.13	457,052.98	725,595.38

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9,087.00	2.64	174.76	9,083.12	-146.51	96.69	175.54	146.58	0.38	457,048.69	725,595.59
9,177.00	1.89	186.54	9,173.05	-150.05	96.71	178.52	147.20	0.98	457,045.15	725,595.61
9,267.00	1.98	194.45	9,263.00	-153.03	96.16	180.73	147.86	0.31	457,042.17	725,595.06
9,356.00	2.46	186.71	9,351.94	-156.42	95.55	183.29	148.58	0.63	457,038.78	725,594.45
9,446.00	2.55	191.81	9,441.85	-160.30	94.91	186.29	149.37	0.27	457,034.90	725,593.81
9,536.00	2.02	195.24	9,531.78	-163.79	94.09	188.89	150.12	0.61	457,031.41	725,592.99
9,625.00	1.27	197.70	9,620.74	-166.24	93.37	190.67	150.68	0.85	457,028.96	725,592.27
9,715.00	0.88	225.65	9,710.73	-167.67	92.58	191.53	151.10	0.71	457,027.53	725,591.48
9,805.00	0.88	256.59	9,800.72	-168.32	91.41	191.54	151.49	0.52	457,026.88	725,590.31
9,894.00	1.05	267.57	9,889.70	-168.51	89.93	191.00	151.91	0.28	457,026.69	725,588.83
9,984.00	0.70	272.46	9,979.69	-168.52	88.56	190.37	152.28	0.40	457,026.68	725,587.46
10,074.00	1.49	242.52	10,069.68	-169.04	86.97	190.10	152.77	1.06	457,026.16	725,585.87
10,163.00	1.49	235.05	10,158.65	-170.23	85.00	190.27	153.47	0.22	457,024.97	725,583.90
10,253.00	1.85	212.82	10,248.61	-172.12	83.25	191.20	154.19	0.82	457,023.08	725,582.15
10,338.00	2.20	203.15	10,333.55	-174.78	81.86	193.00	154.90	0.57	457,020.42	725,580.76
10,428.00	3.87	189.50	10,423.43	-179.36	80.68	196.67	155.78	2.01	457,015.84	725,579.58
10,517.00	5.14	186.19	10,512.15	-186.29	79.76	202.64	156.82	1.46	457,008.91	725,578.66
10,607.00	4.92	188.21	10,601.80	-194.12	78.77	209.49	157.91	0.31	457,001.08	725,577.67
10,697.00	4.79	189.00	10,691.48	-201.65	77.63	216.07	158.94	0.16	456,993.55	725,576.53
10,786.00	4.62	192.16	10,780.18	-208.82	76.30	222.32	159.93	0.35	456,986.38	725,575.20
10,876.00	5.67	190.05	10,869.82	-216.74	74.76	229.27	160.97	1.19	456,978.46	725,573.66
10,966.00	6.77	193.57	10,959.29	-226.28	72.74	237.68	162.18	1.29	456,968.92	725,571.64
11,056.00	6.29	188.56	11,048.70	-236.31	70.76	246.68	163.33	0.83	456,958.89	725,569.66
11,145.00	6.24	183.81	11,137.17	-245.96	69.71	255.64	164.18	0.58	456,949.24	725,568.61
11,235.00	5.80	181.35	11,226.68	-255.38	69.28	264.61	164.82	0.57	456,939.82	725,568.18
11,324.00	5.49	186.36	11,315.24	-264.11	68.70	272.90	165.42	0.65	456,931.09	725,567.60
11,414.00	4.97	191.20	11,404.87	-272.21	67.47	280.45	166.08	0.76	456,922.99	725,566.37

Survey Report Landscape

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 Wellbore: MAS 108H
 Design: MAS 108H (AsDrilled)

Local Co-ordinate Reference: Well Mis Amigos State 108H - Slot MAS 108H
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: STRYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
11,504.00	5.71	203.40	11,494.48	-280.15	64.93	287.57	166.95	1.50	456,915.05	725,563.83
11,593.00	5.76	209.92	11,583.04	-288.08	60.95	294.46	168.05	0.73	456,907.12	725,559.85
11,683.00	5.93	214.58	11,672.57	-295.82	56.05	301.09	169.27	0.56	456,899.38	725,554.95
11,760.00	5.67	218.44	11,749.18	-302.08	51.43	306.42	170.34	0.61	456,893.12	725,550.33
11,821.00	4.31	234.57	11,809.95	-305.77	47.69	309.46	171.13	3.18	456,889.43	725,546.59
First Stryker Survey										
11,884.00	4.53	318.77	11,872.81	-305.27	44.12	308.44	171.78	9.41	456,889.93	725,543.02
11,916.00	8.44	326.24	11,904.60	-302.36	41.98	305.26	172.10	12.47	456,892.84	725,540.88
11,947.00	13.45	341.45	11,935.04	-297.05	39.57	299.67	172.41	18.52	456,898.15	725,538.47
11,978.00	14.86	326.24	11,965.10	-290.32	36.21	292.57	172.89	12.79	456,904.88	725,535.11
12,010.00	16.40	336.26	11,995.93	-282.78	32.11	284.59	173.52	9.70	456,912.42	725,531.01
12,041.00	19.16	349.80	12,025.46	-273.76	29.45	275.34	173.86	15.98	456,921.44	725,528.35
12,072.00	22.20	355.25	12,054.46	-262.91	28.06	264.40	173.91	11.60	456,932.29	725,526.96
12,104.00	23.78	359.55	12,083.92	-250.43	27.51	251.94	173.73	7.20	456,944.77	725,526.41
12,135.00	25.27	1.14	12,112.12	-237.57	27.59	239.16	173.38	5.26	456,957.63	725,526.49
12,167.00	25.14	2.10	12,141.07	-223.95	27.98	225.69	172.88	1.34	456,971.25	725,526.88
12,198.00	22.68	4.48	12,169.41	-211.40	28.68	213.34	172.27	8.52	456,983.80	725,527.58
12,229.00	23.78	10.28	12,197.90	-199.29	30.27	201.58	171.36	8.18	456,995.91	725,529.17
12,260.00	28.57	7.82	12,225.71	-185.79	32.39	188.60	170.11	15.84	457,009.41	725,531.29
12,292.00	34.33	8.34	12,253.00	-169.27	34.74	172.80	168.40	18.02	457,025.93	725,533.64
12,323.00	38.99	8.70	12,277.86	-150.97	37.49	155.56	166.05	15.05	457,044.23	725,536.39
12,354.00	41.19	7.99	12,301.58	-131.22	40.38	137.29	162.89	7.25	457,063.98	725,539.28
12,386.00	42.68	7.82	12,325.38	-110.04	43.32	118.26	158.51	4.67	457,085.16	725,542.22
12,417.00	44.22	11.16	12,347.89	-89.02	46.85	100.59	152.25	8.92	457,106.18	725,545.75
12,438.97	45.90	12.93	12,363.41	-73.81	50.09	89.21	145.84	9.54	457,121.39	725,548.99
MAS 108H FTP_100FSL_350FEL										
12,449.00	46.68	13.70	12,370.34	-66.76	51.76	84.47	142.21	9.54	457,128.44	725,550.66

Survey Report Landscape

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Local Co-ordinate Reference: Well Mis Amigos State 108H - Slot MAS 108H
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North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: STRYKER_EDM

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
12,480.00	49.32	13.09	12,391.08	-44.35	57.10	72.30	127.84	8.64	457,150.85	725,556.00
12,512.00	52.09	11.42	12,411.35	-20.15	62.35	65.52	107.91	9.55	457,175.05	725,561.25
12,543.00	56.97	8.70	12,429.33	4.70	66.74	66.90	85.97	17.29	457,199.90	725,565.64
12,574.00	60.09	7.20	12,445.51	30.88	70.39	76.86	66.31	10.88	457,226.08	725,569.29
12,606.00	62.90	6.67	12,460.78	58.80	73.78	94.34	51.45	8.90	457,254.00	725,572.68
12,637.00	66.59	6.59	12,474.01	86.64	77.02	115.92	41.63	11.91	457,281.84	725,575.92
12,669.00	72.00	8.08	12,485.32	116.32	80.84	141.65	34.80	17.46	457,311.52	725,579.74
12,700.00	75.25	8.61	12,494.06	145.74	85.16	168.80	30.30	10.61	457,340.94	725,584.06
12,731.00	77.27	8.61	12,501.42	175.51	89.67	197.09	27.06	6.52	457,370.71	725,588.57
12,763.00	79.16	8.70	12,507.95	206.48	94.38	227.03	24.57	5.91	457,401.68	725,593.28
12,794.00	81.49	8.52	12,513.16	236.69	98.96	256.54	22.69	7.54	457,431.89	725,597.86
12,825.00	82.51	5.53	12,517.48	267.15	102.71	286.22	21.03	10.10	457,462.35	725,601.61
12,872.00	80.84	0.87	12,524.29	313.57	105.31	330.78	18.56	10.43	457,508.77	725,604.21
12,927.00	81.49	358.24	12,532.74	367.91	104.89	382.57	15.91	4.87	457,563.11	725,603.79
12,966.00	85.23	356.92	12,537.24	406.61	103.25	419.51	14.25	10.16	457,601.81	725,602.15
13,029.00	93.80	353.31	12,537.78	469.31	97.89	479.41	11.78	14.76	457,664.51	725,596.79
13,060.00	95.12	353.23	12,535.37	500.00	94.27	508.81	10.68	4.27	457,695.20	725,593.17
13,092.00	94.37	354.63	12,532.72	531.71	90.89	539.42	9.70	4.95	457,726.91	725,589.79
13,123.00	93.85	356.21	12,530.50	562.53	88.43	569.44	8.93	5.35	457,757.73	725,587.33
13,155.00	93.58	356.57	12,528.42	594.40	86.42	600.65	8.27	1.40	457,789.60	725,585.32
13,249.00	92.53	356.74	12,523.42	688.11	80.94	692.85	6.71	1.13	457,883.31	725,579.84
13,343.00	92.66	357.01	12,519.16	781.87	75.82	785.54	5.54	0.32	457,977.07	725,574.72
13,399.00	92.44	356.92	12,516.67	837.74	72.86	840.90	4.97	0.42	458,032.94	725,571.76
13,420.00	92.66	356.92	12,515.73	858.69	71.73	861.68	4.78	1.05	458,053.89	725,570.63
13,514.00	92.22	358.06	12,511.73	952.51	67.62	954.91	4.06	1.30	458,147.71	725,566.52
13,609.00	90.42	357.62	12,509.54	1,047.41	64.04	1,049.37	3.50	1.95	458,242.61	725,562.94
13,703.00	89.67	358.85	12,509.47	1,141.36	61.14	1,143.00	3.07	1.53	458,336.56	725,560.04

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Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
13,797.00	90.46	359.47	12,509.36	1,235.35	59.76	1,236.80	2.77	1.07	458,430.55	725,558.66
13,891.00	91.12	359.64	12,508.07	1,329.34	59.03	1,330.65	2.54	0.73	458,524.54	725,557.93
13,985.00	91.47	359.91	12,505.94	1,423.32	58.67	1,424.52	2.36	0.47	458,618.52	725,557.57
14,079.00	91.12	0.43	12,503.82	1,517.29	58.94	1,518.44	2.22	0.67	458,712.49	725,557.84
14,173.00	91.38	0.96	12,501.77	1,611.26	60.08	1,612.38	2.14	0.63	458,806.46	725,558.98
14,268.00	91.69	1.75	12,499.22	1,706.20	62.33	1,707.34	2.09	0.89	458,901.40	725,561.23
14,362.00	91.03	0.61	12,496.99	1,800.15	64.26	1,801.30	2.04	1.40	458,995.35	725,563.16
14,457.00	90.37	2.37	12,495.83	1,895.11	66.74	1,896.28	2.02	1.98	459,090.31	725,565.64
14,552.00	85.63	1.22	12,499.15	1,989.97	69.71	1,991.19	2.01	5.13	459,185.17	725,568.61
14,645.00	86.64	1.05	12,505.41	2,082.74	71.55	2,083.97	1.97	1.10	459,277.94	725,570.45
14,739.00	88.04	0.87	12,509.78	2,176.63	73.12	2,177.85	1.92	1.50	459,371.83	725,572.02
14,851.00	88.44	1.84	12,513.22	2,288.54	75.77	2,289.79	1.90	0.94	459,483.74	725,574.67
14,945.00	92.44	1.22	12,512.49	2,382.48	78.28	2,383.77	1.88	4.31	459,577.68	725,577.18
15,039.00	91.43	1.49	12,509.32	2,476.40	80.50	2,477.71	1.86	1.11	459,671.60	725,579.40
15,134.00	91.96	2.19	12,506.51	2,571.31	83.55	2,572.67	1.86	0.92	459,766.51	725,582.45
15,228.00	91.78	2.37	12,503.44	2,665.19	87.29	2,666.62	1.88	0.27	459,860.39	725,586.19
15,322.00	92.04	0.43	12,500.31	2,759.10	89.58	2,760.56	1.86	2.08	459,954.30	725,588.48
15,416.00	91.60	359.47	12,497.32	2,853.05	89.50	2,854.46	1.80	1.12	460,048.25	725,588.40
15,510.00	91.21	358.68	12,495.02	2,947.01	87.98	2,948.33	1.71	0.94	460,142.21	725,586.88
15,604.00	89.85	357.97	12,494.15	3,040.97	85.23	3,042.16	1.61	1.63	460,236.17	725,584.13
15,698.00	91.82	358.76	12,492.78	3,134.91	82.55	3,136.00	1.51	2.26	460,330.11	725,581.45
15,792.00	88.84	356.48	12,492.24	3,228.81	78.65	3,229.77	1.40	3.99	460,424.01	725,577.55
15,886.00	88.53	355.95	12,494.40	3,322.58	72.45	3,323.37	1.25	0.65	460,517.78	725,571.35
15,980.00	89.93	356.83	12,495.66	3,416.38	66.53	3,417.03	1.12	1.76	460,611.58	725,565.43
16,075.00	92.04	357.45	12,494.03	3,511.25	61.79	3,511.79	1.01	2.31	460,706.45	725,560.69
16,169.00	89.27	356.39	12,492.95	3,605.09	56.74	3,605.54	0.90	3.16	460,800.29	725,555.64
16,264.00	90.02	356.21	12,493.54	3,699.89	50.61	3,700.24	0.78	0.81	460,895.09	725,549.51

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MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100ft)	Northing (usft)	Easting (usft)
16,357.00	90.02	357.45	12,493.51	3,792.75	45.47	3,793.02	0.69	1.33	460,987.95	725,544.37
16,451.00	89.27	357.09	12,494.09	3,886.64	40.99	3,886.86	0.60	0.89	461,081.84	725,539.89
16,546.00	90.07	358.06	12,494.64	3,981.55	36.97	3,981.72	0.53	1.32	461,176.75	725,535.87
16,639.00	88.13	359.99	12,496.10	4,074.52	35.39	4,074.67	0.50	2.94	461,269.72	725,534.29
16,733.00	88.31	0.61	12,499.02	4,168.47	35.88	4,168.62	0.49	0.69	461,363.67	725,534.78
16,827.00	90.37	2.63	12,500.10	4,262.42	38.54	4,262.59	0.52	3.07	461,457.62	725,537.44
16,921.00	91.21	0.96	12,498.80	4,356.36	41.48	4,356.55	0.55	1.99	461,551.56	725,540.38
17,016.00	91.65	359.64	12,496.43	4,451.32	41.98	4,451.52	0.54	1.46	461,646.52	725,540.88
17,109.00	93.93	0.26	12,491.91	4,544.21	41.90	4,544.40	0.53	2.54	461,739.41	725,540.80
17,203.00	93.14	2.72	12,486.11	4,637.99	44.34	4,638.20	0.55	2.74	461,833.19	725,543.24
17,297.00	92.04	3.77	12,481.86	4,731.74	49.65	4,732.00	0.60	1.62	461,926.94	725,548.55
17,383.00	90.29	3.07	12,480.11	4,817.56	54.78	4,817.88	0.65	2.19	462,012.76	725,553.68
17,384.00	90.29	3.07	12,480.11	4,818.56	54.83	4,818.87	0.65	0.00	462,013.76	725,553.73
Wellpath Crosses LTP - MAS 108H LTP_100FNL_350FEL										
17,433.00	90.29	3.07	12,479.86	4,867.49	57.46	4,867.83	0.68	0.00	462,062.69	725,556.36
TD @ 51FNL,363FEL - MAS 108H PBHL_50FNL_350FEL										

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,821.00	11,809.95	-305.77	47.69	First Stryker Survey
17,384.00	12,480.11	4,818.56	54.83	Wellpath Crosses LTP
17,433.00	12,479.86	4,867.49	57.46	TD @ 51FNL,363FEL

Checked By: _____ Approved By: _____ Date: _____