



Stella Unit 2H
Doddridge County WV
Northing: 14249832.54
Easting: 1682078.69
As Drilled



Scientific Drilling

Genie Lightfoot
 14.56, April 07 2015
 Scientific Drilling
 11220 N.W. 10th St
 Yukon, OK 73099

WELL DETAILS Stella Unit 2H
 Ground Level: 1008.0
 Longitude
 Latitude
 +N-S +E/W Northing Easting
 0.0 0.0 14249832.54 1682078.69 39° 14' 28.724 N 80° 51' 10.273 W

SITE DETAILS: Primm Pad: Ahouse/Bierstadt/Callee/Stella
 Site Center: Ahouse Unit 1H
 Site Centre Northing: 14249870.09
 Easting: 1682112.06
 Positional Uncertainty: 2.0
 Convergence: 0.09
 Local North: Grid

PROJECT DETAILS: Doddridge County WV
 Geocentric System: Universal Transverse Mercator (US Survey Feet)
 Datum: NAD 83 (NADCON CONUS)
 Ellipsoid: Clark 1866
 Zone: Zone 17N (84 W to 78 W)
 System Datum: Mean Sea Level

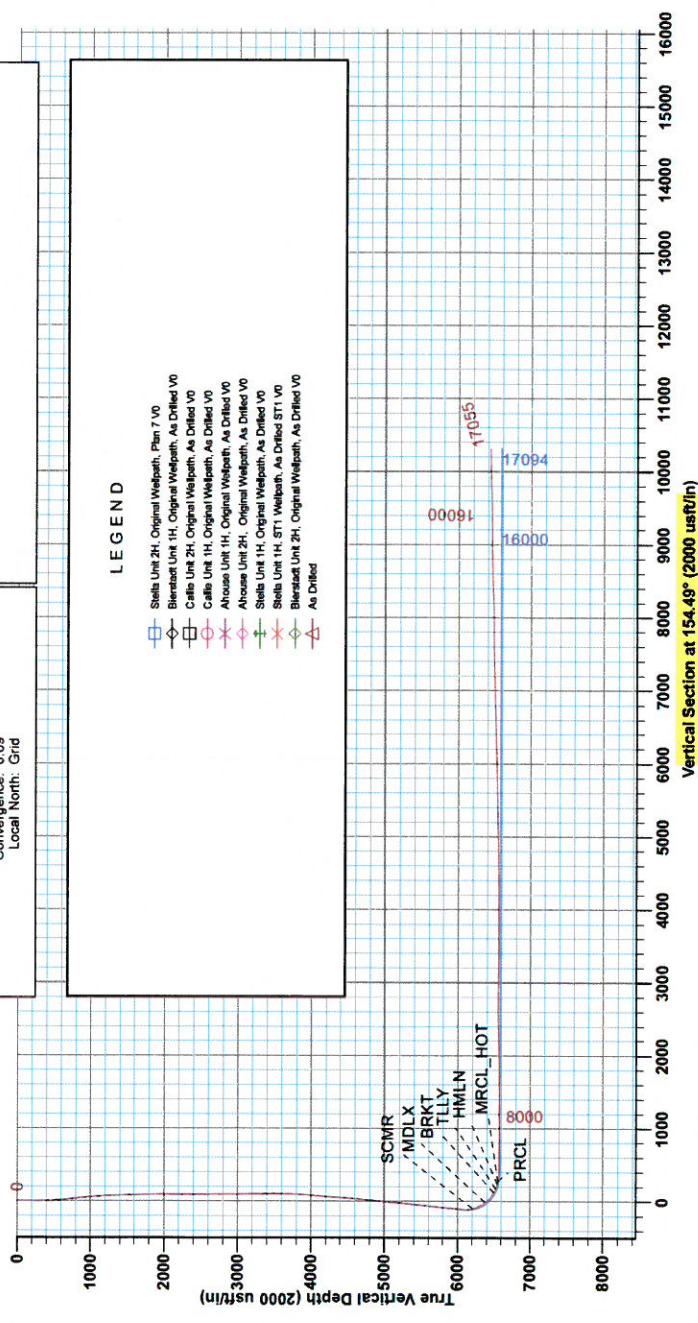
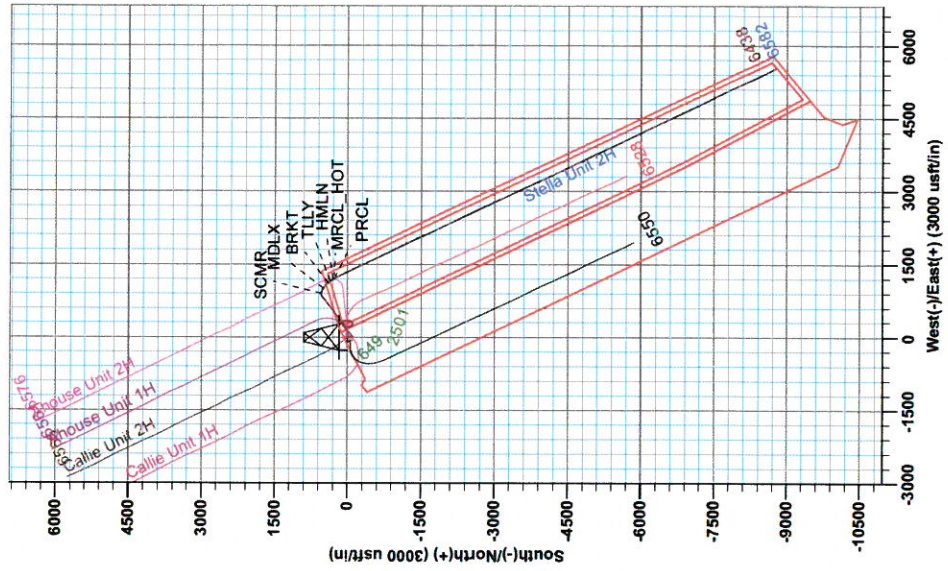
Precision: 525: GL 1008 + KB 18 @ 1027.0usft
 Gr: 1008.0

Azimuths to Grid North
 True North: -0.09°
 Magnetic North: -7.78°

Magnetic Field
 Strength: 52242.78nT
 Dip Angle: 66.73°
 Date: 9/11/2014
 Model: HDGM



To convert Magnetic North to Grid, Subtract 7.78°
 To convert True North to Grid, Subtract 0.09°





Antero

Doddridge County WV

Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad

Stella Unit 2H

Original Wellpath

Design: As Drilled

EOW Completion Report

07 April, 2015



Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Project	Doddridge County WV, McClellan District		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 17N (84 W to 78 W)		

Site	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad				
Site Position:		Northing:	14,249,870.09 usft	Latitude:	39° 14' 29.095 N
From:	Map	Easting:	1,682,112.06 usft	Longitude:	80° 51' 9.848 W
Position Uncertainty:	2.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.09 °

Well	Stella Unit 2H, Marcellus					
Well Position	+N/-S	0.0 usft	Northing:	14,249,832.54 usft	Latitude:	39° 14' 28.724 N
	+E/-W	0.0 usft	Easting:	1,682,078.69 usft	Longitude:	80° 51' 10.273 W
Position Uncertainty		2.0 usft	Wellhead Elevation:	1,027.0 usft	Ground Level:	1,008.0 usft

Wellbore	Original Wellpath				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/11/2014	-7.68	66.73	52,243

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	154.49	

Survey Program	Date 4/7/2015				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
109.0	6,109.0	Survey #8 Def Gyro to KOP (Original Well)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
6,189.0	17,055.0	Survey #9 SDI MWD (Original Wellpath)	MWD SDI	MWD - Standard ver 1.0.1	

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00
109.0	0.14	88.27	109.0	0.0	0.1	0.1	0.13
134.0	0.18	88.45	134.0	0.0	0.2	0.1	0.16
159.0	0.21	91.22	159.0	0.0	0.3	0.1	0.13
184.0	0.27	68.86	184.0	0.0	0.4	0.1	0.44
209.0	0.30	88.20	209.0	0.0	0.5	0.2	0.40
234.0	0.23	121.79	234.0	0.0	0.6	0.2	0.67
259.0	0.31	102.32	259.0	0.0	0.7	0.3	0.48
284.0	0.34	95.64	284.0	0.0	0.9	0.4	0.19
309.0	0.39	113.09	309.0	-0.1	1.0	0.5	0.49
334.0	0.87	163.91	334.0	-0.3	1.1	0.8	2.77

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
359.0	1.18	173.02	359.0	-0.7	1.2	1.2	1.40	
384.0	1.62	174.06	384.0	-1.3	1.3	1.8	1.76	
409.0	2.09	172.44	409.0	-2.1	1.4	2.5	1.89	
434.0	2.69	174.79	433.9	-3.2	1.5	3.5	2.43	
459.0	2.79	174.47	458.9	-4.4	1.6	4.6	0.40	
484.0	3.67	175.05	483.9	-5.8	1.7	6.0	3.52	
509.0	4.09	174.66	508.8	-7.5	1.9	7.5	1.68	
534.0	4.68	173.24	533.8	-9.4	2.1	9.4	2.40	
559.0	5.45	172.27	558.7	-11.5	2.4	11.4	3.10	
584.0	5.67	172.04	583.5	-13.9	2.7	13.8	0.88	
609.0	6.13	171.54	608.4	-16.5	3.1	16.2	1.85	
634.0	6.27	171.46	633.3	-19.2	3.5	18.8	0.56	
659.0	6.39	171.58	658.1	-21.9	3.9	21.4	0.48	
684.0	6.40	171.65	682.9	-24.6	4.3	24.1	0.05	
709.0	6.43	171.61	707.8	-27.4	4.7	26.8	0.12	
734.0	6.43	171.32	732.6	-30.2	5.1	29.4	0.13	
759.0	6.51	171.41	757.5	-33.0	5.5	32.1	0.32	
784.0	6.69	171.63	782.3	-35.8	6.0	34.9	0.73	
809.0	6.67	171.34	807.1	-38.7	6.4	37.7	0.16	
834.0	6.62	171.22	832.0	-41.5	6.8	40.4	0.21	
859.0	6.36	171.17	856.8	-44.3	7.3	43.1	1.04	
884.0	5.94	170.63	881.7	-47.0	7.7	45.7	1.70	
909.0	5.60	169.92	906.5	-49.4	8.1	48.1	1.39	
934.0	5.14	169.89	931.4	-51.8	8.5	50.4	1.84	
959.0	5.14	170.13	956.3	-54.0	8.9	52.5	0.09	
984.0	5.00	170.13	981.2	-56.1	9.3	54.7	0.56	
1,009.0	4.76	170.86	1,006.1	-58.2	9.6	56.7	0.99	
1,034.0	4.15	169.64	1,031.1	-60.1	10.0	58.6	2.47	
1,059.0	4.07	170.88	1,056.0	-61.9	10.3	60.3	0.48	
1,084.0	4.03	170.65	1,080.9	-63.7	10.6	62.0	0.17	
1,109.0	3.92	170.73	1,105.9	-65.4	10.8	63.7	0.44	
1,134.0	3.81	171.11	1,130.8	-67.0	11.1	65.3	0.45	
1,159.0	3.47	170.59	1,155.8	-68.6	11.4	66.8	1.37	
1,184.0	3.42	171.33	1,180.7	-70.1	11.6	68.2	0.27	
1,209.0	3.17	173.50	1,205.7	-71.5	11.8	69.6	1.12	
1,234.0	2.97	171.47	1,230.7	-72.8	12.0	70.9	0.91	
1,259.0	2.75	171.04	1,255.6	-74.1	12.1	72.1	0.88	
1,284.0	2.63	173.08	1,280.6	-75.2	12.3	73.2	0.61	
1,309.0	2.35	172.79	1,305.6	-76.3	12.4	74.2	1.12	
1,334.0	2.39	174.74	1,330.5	-77.3	12.6	75.2	0.36	
1,359.0	2.31	173.48	1,355.5	-78.4	12.7	76.2	0.38	
1,384.0	2.23	174.87	1,380.5	-79.3	12.8	77.1	0.39	
1,409.0	2.20	175.12	1,405.5	-80.3	12.8	78.0	0.13	
1,434.0	2.05	175.34	1,430.5	-81.2	12.9	78.9	0.60	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,459.0	1.93	173.80	1,455.5	-82.1	13.0	79.7	0.53	
1,484.0	1.80	173.74	1,480.4	-82.9	13.1	80.5	0.52	
1,509.0	1.73	174.91	1,505.4	-83.7	13.2	81.2	0.31	
1,534.0	1.47	169.51	1,530.4	-84.4	13.3	81.8	1.20	
1,559.0	1.40	170.11	1,555.4	-85.0	13.4	82.4	0.29	
1,584.0	1.35	172.74	1,580.4	-85.6	13.5	83.0	0.32	
1,609.0	1.18	171.48	1,605.4	-86.1	13.5	83.5	0.69	
1,634.0	1.11	172.05	1,630.4	-86.6	13.6	84.0	0.28	
1,659.0	1.04	171.01	1,655.4	-87.1	13.7	84.5	0.29	
1,684.0	1.10	172.79	1,680.4	-87.5	13.7	84.9	0.27	
1,709.0	1.06	173.92	1,705.4	-88.0	13.8	85.4	0.18	
1,734.0	0.91	173.26	1,730.4	-88.4	13.8	85.8	0.60	
1,759.0	0.82	174.20	1,755.4	-88.8	13.9	86.1	0.36	
1,784.0	0.73	177.38	1,780.4	-89.1	13.9	86.4	0.40	
1,809.0	0.76	176.65	1,805.4	-89.5	13.9	86.7	0.13	
1,834.0	0.65	175.94	1,830.4	-89.8	13.9	87.0	0.44	
1,859.0	0.78	179.00	1,855.4	-90.1	14.0	87.3	0.54	
1,884.0	0.69	183.56	1,880.4	-90.4	14.0	87.6	0.43	
1,909.0	0.68	178.42	1,905.4	-90.7	13.9	87.9	0.25	
1,934.0	0.75	181.36	1,930.4	-91.0	13.9	88.1	0.32	
1,959.0	0.64	177.39	1,955.4	-91.3	13.9	88.4	0.48	
1,984.0	0.45	175.74	1,980.4	-91.6	14.0	88.6	0.76	
2,009.0	0.58	169.37	2,005.4	-91.8	14.0	88.9	0.57	
2,034.0	0.53	175.32	2,030.4	-92.0	14.0	89.1	0.30	
2,059.0	0.47	177.03	2,055.4	-92.2	14.0	89.3	0.25	
2,084.0	0.52	172.83	2,080.4	-92.4	14.1	89.5	0.25	
2,109.0	0.41	169.79	2,105.4	-92.6	14.1	89.7	0.45	
2,134.0	0.22	154.79	2,130.4	-92.8	14.1	89.8	0.82	
2,159.0	0.44	176.03	2,155.4	-92.9	14.2	90.0	0.99	
2,184.0	0.27	174.50	2,180.4	-93.1	14.2	90.1	0.68	
2,209.0	0.33	151.70	2,205.4	-93.2	14.2	90.2	0.53	
2,234.0	0.30	181.74	2,230.4	-93.3	14.2	90.4	0.66	
2,259.0	0.29	169.62	2,255.3	-93.4	14.2	90.5	0.25	
2,284.0	0.36	169.03	2,280.3	-93.6	14.3	90.6	0.28	
2,309.0	0.29	176.43	2,305.3	-93.7	14.3	90.7	0.33	
2,334.0	0.38	162.04	2,330.3	-93.9	14.3	90.9	0.49	
2,359.0	0.39	164.97	2,355.3	-94.0	14.4	91.1	0.09	
2,384.0	0.40	167.33	2,380.3	-94.2	14.4	91.2	0.08	
2,409.0	0.49	160.65	2,405.3	-94.4	14.5	91.4	0.41	
2,434.0	0.51	164.42	2,430.3	-94.6	14.5	91.6	0.15	
2,459.0	0.49	155.58	2,455.3	-94.8	14.6	91.8	0.32	
2,484.0	0.52	145.38	2,480.3	-95.0	14.7	92.1	0.38	
2,509.0	0.55	151.91	2,505.3	-95.2	14.8	92.3	0.27	
2,534.0	0.57	149.02	2,530.3	-95.4	15.0	92.5	0.14	
2,559.0	0.60	157.99	2,555.3	-95.6	15.1	92.8	0.39	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,584.0	0.55	148.12	2,580.3	-95.9	15.2	93.0	0.44	
2,609.0	0.57	144.02	2,605.3	-96.1	15.3	93.3	0.18	
2,634.0	0.47	155.88	2,630.3	-96.2	15.4	93.5	0.59	
2,659.0	0.47	164.10	2,655.3	-96.4	15.5	93.7	0.27	
2,684.0	0.45	155.84	2,680.3	-96.6	15.6	93.9	0.28	
2,709.0	0.45	153.86	2,705.3	-96.8	15.7	94.1	0.06	
2,734.0	0.42	157.07	2,730.3	-97.0	15.7	94.3	0.15	
2,759.0	0.34	156.11	2,755.3	-97.1	15.8	94.5	0.32	
2,784.0	0.37	151.26	2,780.3	-97.3	15.9	94.6	0.17	
2,809.0	0.49	163.46	2,805.3	-97.4	15.9	94.8	0.60	
2,834.0	0.38	157.10	2,830.3	-97.6	16.0	95.0	0.48	
2,859.0	0.48	156.31	2,855.3	-97.8	16.1	95.2	0.40	
2,884.0	0.41	160.29	2,880.3	-98.0	16.1	95.4	0.31	
2,909.0	0.40	154.13	2,905.3	-98.1	16.2	95.6	0.18	
2,934.0	0.38	161.69	2,930.3	-98.3	16.3	95.7	0.22	
2,959.0	0.37	145.77	2,955.3	-98.4	16.3	95.9	0.42	
2,984.0	0.31	154.40	2,980.3	-98.6	16.4	96.0	0.31	
3,009.0	0.32	161.50	3,005.3	-98.7	16.5	96.2	0.16	
3,034.0	0.44	157.48	3,030.3	-98.8	16.5	96.3	0.49	
3,059.0	0.42	163.29	3,055.3	-99.0	16.6	96.5	0.19	
3,084.0	0.33	156.09	3,080.3	-99.2	16.7	96.7	0.41	
3,109.0	0.33	158.64	3,105.3	-99.3	16.7	96.8	0.06	
3,134.0	0.35	142.84	3,130.3	-99.4	16.8	97.0	0.38	
3,159.0	0.38	161.94	3,155.3	-99.6	16.9	97.1	0.50	
3,184.0	0.26	178.45	3,180.3	-99.7	16.9	97.3	0.60	
3,209.0	0.43	142.86	3,205.3	-99.8	16.9	97.4	1.06	
3,234.0	0.37	148.02	3,230.3	-100.0	17.0	97.6	0.28	
3,259.0	0.35	164.70	3,255.3	-100.1	17.1	97.7	0.43	
3,284.0	0.32	158.01	3,280.3	-100.3	17.1	97.9	0.20	
3,309.0	0.36	162.04	3,305.3	-100.4	17.2	98.0	0.19	
3,334.0	0.36	139.69	3,330.3	-100.5	17.3	98.2	0.56	
3,359.0	0.35	142.86	3,355.3	-100.7	17.4	98.3	0.09	
3,384.0	0.37	133.98	3,380.3	-100.8	17.5	98.5	0.24	
3,409.0	0.39	145.76	3,405.3	-100.9	17.6	98.6	0.32	
3,434.0	0.35	168.11	3,430.3	-101.1	17.6	98.8	0.59	
3,459.0	0.39	161.00	3,455.3	-101.2	17.7	99.0	0.24	
3,484.0	0.38	155.95	3,480.3	-101.4	17.7	99.1	0.14	
3,509.0	0.37	140.81	3,505.3	-101.5	17.8	99.3	0.40	
3,534.0	0.72	92.79	3,530.3	-101.6	18.0	99.4	2.19	
3,559.0	1.78	70.72	3,555.3	-101.5	18.6	99.6	4.58	
3,584.0	2.81	65.01	3,580.3	-101.1	19.5	99.6	4.22	
3,609.0	3.92	61.48	3,605.2	-100.4	20.8	99.6	4.51	
3,634.0	5.33	58.65	3,630.2	-99.4	22.5	99.4	5.71	
3,659.0	6.05	57.76	3,655.0	-98.1	24.6	99.1	2.90	

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Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
3,684.0	6.88	56.96	3,679.9	-96.6	27.0	98.8	3.34	
3,709.0	7.78	56.16	3,704.7	-94.8	29.7	98.3	3.62	
3,734.0	8.76	54.69	3,729.4	-92.8	32.6	97.8	4.01	
3,759.0	9.30	54.03	3,754.1	-90.5	35.8	97.1	2.20	
3,784.0	9.98	53.11	3,778.8	-88.0	39.2	96.3	2.79	
3,809.0	10.66	52.05	3,803.3	-85.3	42.7	95.4	2.82	
3,834.0	11.21	51.45	3,827.9	-82.3	46.5	94.3	2.25	
3,859.0	11.73	50.39	3,852.4	-79.2	50.3	93.1	2.24	
3,884.0	12.45	48.73	3,876.8	-75.8	54.3	91.8	3.20	
3,909.0	13.10	47.19	3,901.2	-72.1	58.4	90.2	2.93	
3,934.0	13.58	46.15	3,925.5	-68.1	62.6	88.5	2.15	
3,959.0	13.98	45.55	3,949.8	-64.0	66.9	86.5	1.70	
3,984.0	14.63	45.02	3,974.1	-59.6	71.3	84.5	2.65	
4,009.0	15.24	44.69	3,998.2	-55.1	75.8	82.4	2.46	
4,034.0	15.69	44.58	4,022.3	-50.3	80.5	80.1	1.80	
4,059.0	16.04	44.46	4,046.4	-45.5	85.3	77.8	1.41	
4,084.0	16.32	44.17	4,070.4	-40.5	90.2	75.3	1.17	
4,109.0	16.80	44.72	4,094.3	-35.4	95.1	72.9	2.02	
4,134.0	17.21	46.10	4,118.2	-30.3	100.4	70.5	2.30	
4,159.0	17.46	47.76	4,142.1	-25.2	105.8	68.3	2.22	
4,184.0	17.75	48.68	4,165.9	-20.1	111.4	66.2	1.61	
4,209.0	18.03	50.03	4,189.7	-15.1	117.3	64.2	2.00	
4,234.0	18.50	51.99	4,213.5	-10.2	123.3	62.3	3.09	
4,259.0	18.95	53.26	4,237.1	-5.3	129.7	60.7	2.43	
4,284.0	19.30	53.91	4,260.8	-0.5	136.3	59.1	1.64	
4,309.0	19.51	54.23	4,284.3	4.4	143.0	57.6	0.94	
4,334.0	20.03	54.85	4,307.9	9.3	149.9	56.2	2.24	
4,359.0	20.70	55.68	4,331.3	14.3	157.1	54.8	2.92	
4,384.0	21.45	55.96	4,354.6	19.3	164.5	53.4	3.03	
4,409.0	22.49	56.37	4,377.8	24.5	172.3	52.1	4.20	
4,434.0	23.15	56.43	4,400.9	29.9	180.4	50.7	2.64	
4,459.0	23.59	56.01	4,423.8	35.4	188.6	49.3	1.88	
4,484.0	23.77	55.87	4,446.7	41.0	196.9	47.8	0.75	
4,509.0	24.06	55.42	4,469.5	46.7	205.3	46.2	1.37	
4,534.0	24.56	54.92	4,492.3	52.6	213.7	44.6	2.16	
4,559.0	24.81	54.80	4,515.0	58.6	222.3	42.8	1.02	
4,584.0	25.29	54.51	4,537.7	64.8	230.9	41.0	1.98	
4,609.0	25.88	54.51	4,560.2	71.0	239.7	39.1	2.36	
4,634.0	26.03	54.62	4,582.7	77.4	248.6	37.2	0.63	
4,659.0	26.22	54.29	4,605.2	83.8	257.6	35.3	0.96	
4,684.0	26.32	54.05	4,627.6	90.2	266.5	33.3	0.58	
4,709.0	26.69	53.81	4,650.0	96.8	275.6	31.3	1.54	
4,734.0	26.40	53.29	4,672.3	103.5	284.5	29.2	1.49	
4,759.0	26.53	53.09	4,694.7	110.1	293.5	27.0	0.63	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
4,784.0	26.56	53.14	4,717.1	116.8	302.4	24.8	0.15	
4,809.0	26.60	53.03	4,739.4	123.6	311.3	22.6	0.25	
4,834.0	26.80	52.79	4,761.8	130.3	320.3	20.3	0.91	
4,859.0	26.51	52.47	4,784.1	137.1	329.2	18.0	1.29	
4,884.0	26.44	52.29	4,806.5	143.9	338.1	15.7	0.43	
4,909.0	26.35	52.09	4,828.9	150.8	346.8	13.3	0.51	
4,934.0	26.16	51.96	4,851.3	157.6	355.5	10.9	0.79	
4,959.0	26.37	52.10	4,873.7	164.4	364.3	8.5	0.88	
4,984.0	26.26	52.19	4,896.1	171.2	373.0	6.2	0.47	
5,009.0	26.14	52.44	4,918.6	177.9	381.8	3.8	0.65	
5,034.0	25.88	52.70	4,941.0	184.6	390.5	1.6	1.14	
5,059.0	25.81	53.24	4,963.5	191.1	399.2	-0.6	0.98	
5,084.0	26.10	53.54	4,986.0	197.7	407.9	-2.7	1.27	
5,109.0	26.34	53.97	5,008.4	204.2	416.9	-4.8	1.22	
5,134.0	26.49	54.14	5,030.8	210.7	425.9	-6.8	0.67	
5,159.0	26.71	54.26	5,053.2	217.3	434.9	-8.8	0.91	
5,184.0	26.37	54.20	5,075.5	223.8	444.0	-10.8	1.36	
5,209.0	26.13	53.76	5,098.0	230.3	452.9	-12.8	1.24	
5,234.0	25.89	53.35	5,120.4	236.8	461.8	-14.9	1.20	
5,259.0	25.84	53.23	5,142.9	243.3	470.5	-17.0	0.29	
5,284.0	25.77	53.14	5,165.4	249.9	479.2	-19.1	0.32	
5,309.0	25.57	53.15	5,188.0	256.4	487.9	-21.2	0.80	
5,334.0	25.53	53.29	5,210.5	262.8	496.5	-23.4	0.29	
5,359.0	25.52	53.53	5,233.1	269.2	505.2	-25.4	0.42	
5,384.0	25.61	53.72	5,255.6	275.6	513.9	-27.5	0.49	
5,409.0	25.91	53.51	5,278.1	282.1	522.6	-29.5	1.25	
5,434.0	25.97	53.23	5,300.6	288.6	531.4	-31.6	0.55	
5,459.0	26.23	53.02	5,323.1	295.2	540.2	-33.8	1.10	
5,484.0	26.58	53.11	5,345.5	301.9	549.1	-36.0	1.41	
5,509.0	26.83	52.98	5,367.8	308.6	558.0	-38.2	1.03	
5,534.0	26.86	52.91	5,390.1	315.4	567.0	-40.5	0.17	
5,559.0	27.08	52.64	5,412.4	322.3	576.1	-42.8	1.01	
5,584.0	27.11	52.59	5,434.6	329.2	585.1	-45.1	0.15	
5,609.0	27.16	52.54	5,456.9	336.1	594.2	-47.5	0.22	
5,634.0	27.46	52.60	5,479.1	343.1	603.3	-49.8	1.21	
5,659.0	27.39	52.74	5,501.3	350.1	612.4	-52.2	0.38	
5,684.0	27.41	52.32	5,523.5	357.1	621.6	-54.6	0.78	
5,709.0	27.21	51.93	5,545.7	364.1	630.6	-57.0	1.07	
5,734.0	26.66	51.58	5,568.0	371.1	639.5	-59.5	2.29	
5,759.0	26.47	51.27	5,590.4	378.1	648.3	-62.1	0.94	
5,784.0	26.16	51.38	5,612.8	385.0	656.9	-64.6	1.26	
5,809.0	26.03	51.66	5,635.2	391.9	665.5	-67.1	0.72	
5,834.0	25.92	52.09	5,657.7	398.6	674.1	-69.5	0.87	
5,859.0	25.95	52.29	5,680.2	405.3	682.8	-71.8	0.37	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,884.0	25.75	52.62	5,702.7	412.0	691.4	-74.1	0.99	
5,909.0	25.48	52.70	5,725.2	418.5	700.0	-76.3	1.09	
5,934.0	25.46	52.60	5,747.8	425.1	708.6	-78.5	0.19	
5,959.0	25.09	52.24	5,770.4	431.6	717.0	-80.7	1.60	
5,984.0	25.35	52.20	5,793.0	438.1	725.4	-83.0	1.04	
6,009.0	25.48	52.19	5,815.6	444.7	733.9	-85.3	0.52	
6,034.0	25.45	52.67	5,838.2	451.2	742.4	-87.5	0.83	
6,059.0	26.01	53.53	5,860.7	457.7	751.1	-89.6	2.69	
6,084.0	26.29	53.94	5,883.1	464.3	760.0	-91.7	1.33	
6,109.0	25.83	53.50	5,905.6	470.8	768.8	-93.8	2.00	
6,189.0	26.43	51.05	5,977.4	492.3	796.7	-101.2	1.54	
6,234.0	26.29	50.81	6,017.7	504.9	812.2	-105.9	0.39	
6,279.0	26.98	49.36	6,058.0	517.9	827.7	-110.9	2.11	
6,324.0	27.17	59.51	6,098.0	529.7	844.3	-114.5	10.26	
6,368.0	28.43	72.50	6,137.0	538.0	863.0	-113.9	14.04	
6,413.0	29.63	86.31	6,176.4	541.9	884.3	-108.3	15.10	
6,451.0	30.32	95.06	6,209.3	541.7	903.2	-99.9	11.63	
SCMR								
6,458.0	30.51	96.62	6,215.4	541.3	906.8	-98.0	11.63	
6,503.0	31.16	105.04	6,254.0	537.0	929.4	-84.4	9.69	
6,548.0	32.83	114.34	6,292.2	528.9	951.7	-67.5	11.55	
6,593.0	35.48	120.34	6,329.5	517.3	974.1	-47.3	9.52	
6,637.0	38.13	123.57	6,364.7	503.3	996.5	-25.1	7.46	
6,655.0	39.96	124.42	6,378.7	497.0	1,005.9	-15.3	10.60	
MDLX								
6,682.0	42.72	125.58	6,398.9	486.8	1,020.5	0.2	10.60	
6,727.0	46.56	128.98	6,430.9	467.6	1,045.6	28.3	10.05	
6,772.0	52.29	132.93	6,460.2	445.2	1,071.4	59.6	14.37	
6,817.0	57.67	136.57	6,486.0	419.2	1,097.5	94.3	13.67	
6,846.0	60.34	137.71	6,501.0	401.0	1,114.4	118.0	9.79	
BRKT								
6,861.0	61.72	138.27	6,508.2	391.2	1,123.2	130.6	9.79	
6,906.0	66.12	139.93	6,528.0	360.7	1,149.6	169.6	10.32	
6,908.0	66.38	140.07	6,528.8	359.3	1,150.8	171.4	14.40	
TLLY								
6,951.0	71.93	143.00	6,544.1	327.8	1,175.8	210.5	14.40	
6,978.0	74.39	145.47	6,551.9	306.9	1,190.9	235.9	12.65	
HMLN								
6,996.0	76.05	147.09	6,556.5	292.4	1,200.5	253.1	12.65	
7,011.0	77.26	147.67	6,560.0	280.1	1,208.4	267.6	8.86	
MRCL_HOT								
7,021.0	78.06	148.05	6,562.1	271.8	1,213.6	277.3	8.86	
PRCL								
7,041.0	79.67	148.80	6,566.0	255.1	1,223.9	296.8	8.86	
7,086.0	83.65	153.60	6,572.5	216.1	1,245.3	341.3	13.77	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
7,131.0	86.43	154.78	6,576.4	175.8	1,264.8	386.1	6.71	
7,157.0	88.08	153.92	6,577.7	152.3	1,276.1	412.1	7.15	
7,202.0	90.91	154.12	6,578.1	111.9	1,295.8	457.1	6.30	
7,247.0	90.71	154.37	6,577.4	71.4	1,315.3	502.1	0.71	
7,336.0	89.26	155.10	6,577.4	-9.1	1,353.3	591.1	1.82	
7,426.0	88.66	154.80	6,579.1	-90.6	1,391.4	681.0	0.75	
7,516.0	89.70	154.96	6,580.4	-172.1	1,429.6	771.0	1.17	
7,606.0	89.73	154.92	6,580.8	-253.6	1,467.7	861.0	0.06	
7,695.0	89.60	154.83	6,581.3	-334.2	1,505.5	950.0	0.18	
7,785.0	90.10	155.81	6,581.6	-416.0	1,543.1	1,040.0	1.22	
7,875.0	90.77	156.81	6,580.9	-498.4	1,579.3	1,130.0	1.34	
7,964.0	91.01	154.74	6,579.5	-579.6	1,615.8	1,218.9	2.34	
8,054.0	89.56	153.91	6,579.1	-660.7	1,654.8	1,308.9	1.86	
8,144.0	89.19	151.99	6,580.0	-740.8	1,695.7	1,398.9	2.17	
8,233.0	89.16	153.25	6,581.3	-819.8	1,736.6	1,487.8	1.42	
8,323.0	91.58	152.59	6,580.7	-900.0	1,777.6	1,577.8	2.79	
8,413.0	90.87	151.43	6,578.8	-979.4	1,819.8	1,667.7	1.51	
8,503.0	90.71	155.57	6,577.6	-1,059.9	1,860.0	1,757.6	4.60	
8,592.0	90.97	151.82	6,576.3	-1,139.7	1,899.4	1,846.6	4.22	
8,682.0	92.25	154.34	6,573.7	-1,219.9	1,940.1	1,936.5	3.14	
8,772.0	90.24	155.49	6,571.8	-1,301.4	1,978.3	2,026.5	2.57	
8,861.0	90.94	155.04	6,570.9	-1,382.2	2,015.5	2,115.5	0.94	
8,951.0	90.10	156.77	6,570.0	-1,464.4	2,052.2	2,205.4	2.14	
9,041.0	92.99	160.02	6,567.6	-1,548.0	2,085.4	2,295.2	4.83	
9,131.0	91.48	155.15	6,564.1	-1,631.1	2,119.6	2,384.9	5.66	
9,220.0	90.87	154.78	6,562.3	-1,711.7	2,157.3	2,473.9	0.80	
9,310.0	90.91	154.36	6,560.9	-1,793.0	2,195.9	2,563.9	0.47	
9,399.0	90.81	153.11	6,559.5	-1,872.8	2,235.3	2,652.9	1.41	
9,489.0	89.09	151.65	6,559.6	-1,952.5	2,277.0	2,742.8	2.51	
9,579.0	89.09	153.60	6,561.1	-2,032.4	2,318.4	2,832.8	2.17	
9,669.0	90.40	155.76	6,561.5	-2,113.8	2,356.9	2,922.8	2.81	
9,758.0	89.87	154.91	6,561.2	-2,194.7	2,394.0	3,011.7	1.13	
9,848.0	87.58	153.11	6,563.2	-2,275.5	2,433.5	3,101.7	3.24	
9,938.0	88.86	153.08	6,566.0	-2,355.7	2,474.2	3,191.6	1.42	
10,027.0	89.19	151.46	6,567.6	-2,434.5	2,515.6	3,280.6	1.86	
10,117.0	90.07	153.16	6,568.1	-2,514.2	2,557.4	3,370.5	2.13	
10,206.0	91.14	156.20	6,567.2	-2,594.6	2,595.4	3,459.5	3.62	
10,296.0	91.44	155.90	6,565.2	-2,676.9	2,632.0	3,549.4	0.47	
10,386.0	90.94	155.50	6,563.3	-2,758.9	2,669.0	3,639.4	0.71	
10,475.0	89.06	154.82	6,563.3	-2,839.6	2,706.4	3,728.4	2.25	
10,565.0	88.86	154.38	6,564.9	-2,920.9	2,745.0	3,818.3	0.54	
10,655.0	89.03	155.24	6,566.6	-3,002.3	2,783.3	3,908.3	0.97	
10,745.0	90.57	154.90	6,566.9	-3,084.0	2,821.2	3,998.3	1.75	
10,834.0	90.64	154.37	6,566.0	-3,164.4	2,859.3	4,087.3	0.60	
10,924.0	89.66	155.59	6,565.7	-3,245.9	2,897.4	4,177.3	1.74	

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
11,013.0	89.76	154.98	6,566.2	-3,326.8	2,934.6	4,266.3	0.69
11,103.0	89.93	153.71	6,566.4	-3,407.9	2,973.6	4,356.3	1.42
11,193.0	91.51	155.95	6,565.3	-3,489.3	3,011.8	4,446.3	3.05
11,282.0	92.15	155.95	6,562.5	-3,570.6	3,048.1	4,535.2	0.72
11,372.0	90.84	156.49	6,560.1	-3,652.9	3,084.4	4,625.1	1.57
11,462.0	90.64	156.24	6,558.9	-3,735.3	3,120.5	4,715.1	0.36
11,551.0	90.67	155.54	6,557.9	-3,816.6	3,156.8	4,804.0	0.79
11,641.0	90.77	154.03	6,556.8	-3,898.0	3,195.1	4,894.0	1.68
11,730.0	91.01	154.37	6,555.4	-3,978.1	3,233.9	4,983.0	0.47
11,820.0	91.28	155.27	6,553.6	-4,059.5	3,272.2	5,073.0	1.04
11,910.0	91.78	155.25	6,551.2	-4,141.2	3,309.8	5,163.0	0.56
11,999.0	91.84	154.67	6,548.4	-4,221.8	3,347.5	5,251.9	0.65
12,089.0	90.61	154.42	6,546.5	-4,303.1	3,386.1	5,341.9	1.39
12,178.0	91.11	154.85	6,545.1	-4,383.5	3,424.3	5,430.9	0.74
12,268.0	91.01	153.97	6,543.5	-4,464.7	3,463.1	5,520.9	0.98
12,358.0	91.31	154.32	6,541.7	-4,545.6	3,502.4	5,610.8	0.51
12,447.0	91.11	153.65	6,539.8	-4,625.6	3,541.4	5,699.8	0.79
12,537.0	91.34	153.57	6,537.9	-4,706.2	3,581.4	5,789.8	0.27
12,627.0	91.51	154.20	6,535.6	-4,787.0	3,621.0	5,879.7	0.72
12,717.0	91.34	154.22	6,533.4	-4,868.0	3,660.1	5,969.7	0.19
12,806.0	91.08	153.96	6,531.5	-4,948.0	3,699.0	6,058.7	0.41
12,896.0	91.11	154.81	6,529.8	-5,029.2	3,737.9	6,148.7	0.94
12,986.0	91.41	154.80	6,527.8	-5,110.6	3,776.2	6,238.7	0.33
13,075.0	91.54	154.84	6,525.5	-5,191.1	3,814.1	6,327.6	0.15
13,165.0	91.74	154.95	6,522.9	-5,272.6	3,852.2	6,417.6	0.25
13,255.0	92.08	154.86	6,519.9	-5,354.0	3,890.4	6,507.5	0.39
13,344.0	92.31	154.28	6,516.5	-5,434.3	3,928.6	6,596.5	0.70
13,434.0	90.84	154.27	6,514.0	-5,515.4	3,967.6	6,686.4	1.63
13,524.0	91.38	155.31	6,512.3	-5,596.8	4,006.0	6,776.4	1.30
13,614.0	91.85	155.64	6,509.8	-5,678.6	4,043.3	6,866.4	0.64
13,703.0	92.42	155.56	6,506.5	-5,759.6	4,080.0	6,955.3	0.65
13,793.0	92.15	154.16	6,502.9	-5,841.0	4,118.2	7,045.2	1.58
13,883.0	92.39	153.79	6,499.3	-5,921.9	4,157.7	7,135.1	0.49
13,972.0	91.48	153.81	6,496.3	-6,001.7	4,197.0	7,224.1	1.02
14,062.0	91.07	152.89	6,494.3	-6,082.1	4,237.3	7,314.0	1.12
14,152.0	91.04	152.75	6,492.6	-6,162.1	4,278.4	7,404.0	0.16
14,241.0	90.54	154.45	6,491.4	-6,241.8	4,318.0	7,493.0	1.99
14,331.0	90.92	155.48	6,490.3	-6,323.4	4,356.1	7,582.9	1.22
14,421.0	90.54	155.74	6,489.1	-6,405.3	4,393.2	7,672.9	0.51
14,510.0	90.54	156.26	6,488.3	-6,486.6	4,429.4	7,761.9	0.58
14,600.0	90.27	155.91	6,487.6	-6,568.9	4,465.9	7,851.8	0.49
14,690.0	90.20	154.53	6,487.3	-6,650.6	4,503.6	7,941.8	1.54
14,780.0	90.37	154.48	6,486.8	-6,731.9	4,542.4	8,031.8	0.20
14,869.0	91.68	154.51	6,485.2	-6,812.2	4,580.7	8,120.8	1.47

Company:	Antero	Local Co-ordinate Reference:	Well Stella Unit 2H
Project:	Doddridge County WV	TVD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Site:	Primm Pad: Ahouse/Bierstadt/Callie/Stella Pad	MD Reference:	Precision 525: GL 1008' + KB 19' @ 1027.0usft
Well:	Stella Unit 2H	North Reference:	Grid
Wellbore:	Original Wellpath	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Oklahoma District

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
14,959.0	91.85	154.43	6,482.5	-6,893.3	4,619.5	8,210.8	0.21
15,049.0	92.05	153.77	6,479.4	-6,974.3	4,658.8	8,300.7	0.77
15,139.0	92.05	154.14	6,476.2	-7,055.1	4,698.3	8,390.7	0.41
15,228.0	91.85	154.53	6,473.1	-7,135.2	4,736.8	8,479.6	0.49
15,318.0	92.25	155.02	6,469.9	-7,216.6	4,775.1	8,569.5	0.70
15,408.0	91.31	153.47	6,467.1	-7,297.6	4,814.2	8,659.5	2.01
15,497.0	91.48	151.99	6,465.0	-7,376.7	4,855.0	8,748.4	1.67
15,587.0	91.10	151.70	6,462.9	-7,456.0	4,897.4	8,838.3	0.53
15,677.0	91.21	151.74	6,461.1	-7,535.3	4,940.0	8,928.2	0.13
15,766.0	90.04	153.29	6,460.2	-7,614.2	4,981.1	9,017.1	2.18
15,856.0	89.80	153.39	6,460.3	-7,694.7	5,021.5	9,107.1	0.29
15,946.0	89.26	154.95	6,461.0	-7,775.7	5,060.7	9,197.1	1.83
16,035.0	89.83	154.97	6,461.7	-7,856.3	5,098.4	9,286.1	0.64
16,125.0	89.87	153.86	6,462.0	-7,937.5	5,137.2	9,376.1	1.23
16,215.0	92.55	155.21	6,460.1	-8,018.7	5,175.9	9,466.1	3.33
16,304.0	93.70	156.55	6,455.2	-8,099.8	5,212.2	9,554.9	1.98
16,394.0	92.92	154.91	6,450.0	-8,181.7	5,249.2	9,644.7	2.02
16,484.0	91.04	154.32	6,446.9	-8,263.0	5,287.7	9,734.7	2.19
16,573.0	91.54	154.48	6,444.9	-8,343.2	5,326.2	9,823.6	0.59
16,663.0	90.84	154.24	6,443.0	-8,424.3	5,365.1	9,913.6	0.82
16,753.0	90.40	154.08	6,442.1	-8,505.3	5,404.3	10,003.6	0.52
16,843.0	90.44	154.03	6,441.4	-8,586.2	5,443.7	10,093.6	0.07
16,932.0	90.84	153.48	6,440.4	-8,666.1	5,483.1	10,182.6	0.76
16,996.0	91.19	153.29	6,439.3	-8,723.3	5,511.7	10,246.6	0.62
17,055.0	91.19	153.29	6,438.0	-8,776.0	5,538.2	10,305.5	0.00

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,451.0	6,209.3	541.7	903.2	SCMR
6,655.0	6,378.7	497.0	1,005.9	MDLX
6,846.0	6,501.0	401.0	1,114.4	BRKT
6,908.0	6,528.8	359.3	1,150.8	TLLY
6,978.0	6,551.9	306.9	1,190.9	HMLN
7,011.0	6,560.0	280.1	1,208.4	MRCL_HOT
7,021.0	6,562.1	271.8	1,213.6	PRCL

Checked By: _____ Approved By: _____ Date: _____