



CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: West Leg
 Survey: Survey #2

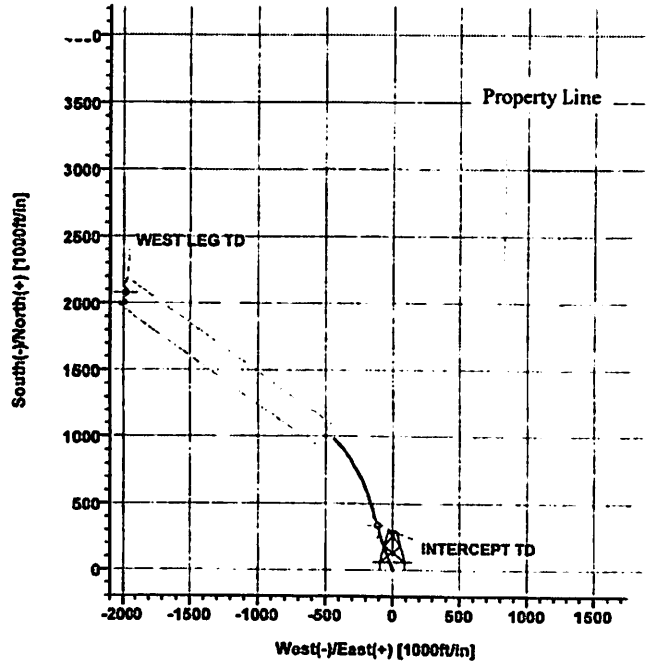
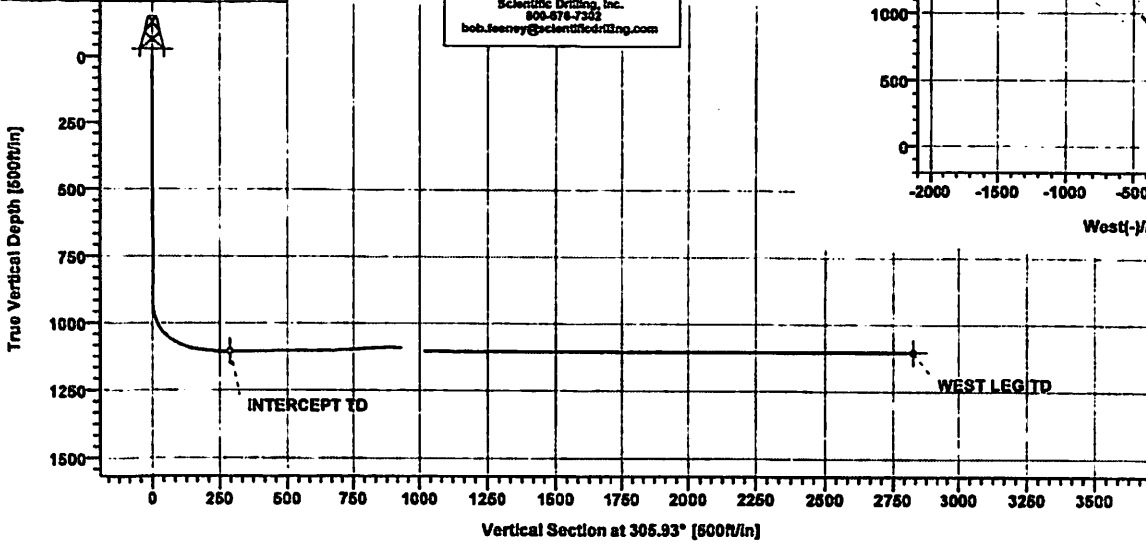


TARGET DETAILS						
Name	TVD	+N-S	+EA-W	Northing	Easting	Shape
INTERCEPT TD	1103.20	342.06	-107.12	480071.56	1712720.62	Circle (Radius: 1)
WEST LEG TD	1103.20	2079.18	-1880.66	481808.66	1710847.18	Rectangle (1807x200)
PROPERTY LINE	1457.97	0.00	0.00	479729.50	1712827.74	Polygon

SITE DETAILS
MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feevey
 Scientific Drilling, Inc.
 800-676-7322
 bob.feevey@scientificdrilling.com



Azimuth to Grid North
 True North: 0.65°
 Magnetic North: -7.86°
 Magnetic Field
 Strength: 53240nT
 Dip Angle: 67.77°
 Date: 7/8/2008
 Model: igr2005

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11/05/2021

Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg	Date: 7/28/2008 Co-ordinate(N/E) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Az) Survey Calculation Method: Minimum Curvature	Time: 10:44:25 Page: 1 Db: Sybase
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Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A.		
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Northern Zone	
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre	
Sys Datum: Mean Sea Level	Geomagnetic Model: Igrf2005	

Site: MC-21 WELL LOCATION

Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N
From: Map	Eastng: 1712827.74 ft	Longitude: 80 31 20.210 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg

Well: MC-21 Access	Slot Name:
Well Position: +N-S 0.00 ft	Northing: 479729.50 ft
+E-W 0.00 ft	Eastng: 1712827.74 ft
Position Uncertainty: 0.00 ft	
	Latitude: 39 48 45.503 N
	Longitude: 80 31 20.210 W

Wellpath: West Leg	Drilled From: Surface
Current Datum: 1449.97 + 8	Tie-on Depth: 0.00 ft
Magnetic Data: 7/8/2008	Above System Datum: Mean Sea Level
Field Strength: 53240 nT	Declination: -8.52 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.77 deg
ft	+N-S ft
	+E-W ft
	Direction deg
0.00	0.00
	0.00
	305.93

Survey: Survey #2	Start Date: 7/14/2008
Company: SDI, Inc.	Engineer: Dalmon Strodder
Tool: MWD-SDI-SYS,Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #2

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
800.00	0.50	35.94	799.98	4.25	-1.45	3.68	0.00	0.00	0.00	MWD-SDI-SYS
900.00	1.52	68.75	899.97	4.83	-0.21	3.00	1.11	1.01	30.81	MWD-SDI-SYS
1000.00	28.50	338.71	998.71	23.86	-5.40	18.37	28.49	28.99	-88.04	MWD-SDI-SYS
1100.00	63.18	340.86	1083.74	91.34	-30.14	78.00	34.68	34.85	2.15	MWD-SDI-SYS
1200.00	81.06	340.67	1094.18	180.94	-81.22	155.75	17.90	17.90	-0.19	MWD-SDI-SYS
1300.00	85.68	343.02	1103.35	276.21	-89.99	234.85	5.18	4.62	2.35	MWD-SDI-SYS
1400.00	80.84	342.07	1104.72	371.65	-119.63	314.95	5.24	5.16	-0.95	MWD-SDI-SYS
1500.00	90.02	342.38	1102.92	467.05	-149.54	395.14	0.88	-0.82	0.31	MWD-SDI-SYS
1600.00	90.86	341.10	1101.07	562.05	-180.88	478.11	1.59	0.84	-1.28	MWD-SDI-SYS
1700.00	90.18	338.10	1101.37	655.17	-217.04	560.20	5.08	-0.78	-5.00	MWD-SDI-SYS
1800.00	90.14	331.26	1101.32	744.55	-281.80	648.89	4.84	-0.03	-4.84	MWD-SDI-SYS
1900.00	93.66	327.92	1098.01	831.45	-310.89	739.64	4.86	3.53	-3.34	MWD-SDI-SYS
2000.00	92.62	319.88	1089.59	911.99	-389.67	834.48	8.11	-1.16	-8.04	MWD-SDI-SYS
2095.00	88.39	311.85	1088.73	980.32	-435.52	927.90	9.50	-4.35	-8.45	MWD-SDI-SYS

Targets

Name	Description	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Eastng ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
INTERCEPT TD		1103.20	342.06	-107.12	480071.56	1712720.62	39	48	48.871	N	80	31	21.633	W
-Circle (Radius: 1)														
WEST LEG TD		1103.20	2079.16	-1980.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W
-Rectangle (1807x200)														
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
-Polygon 1		-1457.97	3134.00	837.14	482863.50	1713864.88	39	49	18.569	N	80	31	21.633	W

Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 10:44:25	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North		
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference: 1449.97 + 8 1458.0		
Well: MC-21 Access	Section (VS) Reference: Well (0.00N,0.00E,305.93Az)		
Wellpath: West Leg	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →		← Longitude →					
							Deg	Min	Sec	Deg	Min	Sec		
-Polygon 2		-1457.97	2262.38	826.07	481991.88	1713853.81	39	49	7.954	N	80	31	9.954	W

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Az) Survey Calculation Method: Minimum Curvature	Time: 10:45:41 Page: 1	Db: Sybase
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Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A. Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level	Map Zone: West Virginia, Northern Zone Coordinate System: Well Centre Geomagnetic Model: lgrf2005
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Site: MC-21 WELL LOCATION			
Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg	

Well: MC-21 Access	Slot Name:
Well Position: +N/-S 0.00 ft	Northing: 479729.50 ft
+E/-W 0.00 ft	Easting: 1712827.74 ft
Position Uncertainty: 0.00 ft	
	Latitude: 39 48 45.503 N
	Longitude: 80 31 20.210 W

Wellpath: West Leg	Drilled From: Surface	Tie-on Depth: 0.00 ft	
Current Datum: 1449.97 + 8	Height: 1457.97 ft	Above System Datum: Mean Sea Level	
Magnetic Data: 7/8/2008		Declination: -8.52 deg	
Field Strength: 53240 nT		Mag Dip Angle: 67.77 deg	
Vertical Section: Depth From (TVD)	+N/-S	+E/-W	Direction
ft	ft	ft	deg
0.00	0.00	0.00	305.93

Survey: Survey #2	Start Date: 7/14/2008
Company: SDI, Inc.	Engineer: Dalmon Strodder
Tool: MWD-SDI-SYS, Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #2													
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec		
800.00	0.50	35.94	799.98	4.25	-1.45	479733.75	1712828.29	39	48	45.545 N	80	31	20.229 W
900.00	1.52	66.75	899.97	4.83	-0.21	479734.33	1712827.53	39	48	45.551 N	80	31	20.214 W
1000.00	28.50	338.71	996.71	23.86	-5.40	479753.38	1712822.34	39	48	45.738 N	80	31	20.283 W
1100.00	63.16	340.86	1083.74	91.34	-30.14	479820.84	1712797.60	39	48	46.402 N	80	31	20.810 W
1200.00	81.06	340.67	1094.18	180.94	-61.22	479910.44	1712766.52	39	48	47.284 N	80	31	21.021 W
1300.00	85.68	343.02	1103.35	276.21	-89.99	480005.71	1712737.75	39	48	48.223 N	80	31	21.404 W
1400.00	90.84	342.07	1104.72	371.85	-119.83	480101.15	1712708.11	39	48	49.182 N	80	31	21.797 W
1500.00	90.02	342.38	1102.92	467.05	-149.54	480196.55	1712678.20	39	48	50.102 N	80	31	22.195 W
1600.00	90.96	341.10	1101.07	562.05	-180.68	480291.55	1712647.06	39	48	51.037 N	80	31	22.607 W
1700.00	90.18	336.10	1101.37	655.17	-217.04	480384.67	1712610.70	39	48	51.953 N	80	31	23.087 W
1800.00	90.14	331.26	1101.32	744.55	-261.80	480474.05	1712565.94	39	48	52.832 N	80	31	23.674 W
1800.00	93.88	327.92	1096.01	831.45	-310.89	480560.95	1712516.85	39	48	53.685 N	80	31	24.315 W
2000.00	92.62	319.88	1089.59	911.99	-369.67	480641.49	1712458.07	39	48	54.474 N	80	31	25.080 W
2095.00	88.39	311.85	1088.73	980.32	-435.52	480709.82	1712392.22	39	48	55.142 N	80	31	25.934 W

Targets												
Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec		
INTERCEPT TD	-Circle (Radius: 1)	1103.20	342.06	-107.12	480071.66	1712720.62	39	48	48.871 N	80	31	21.633 W
WEST LEG TD	-Rectangle (1807x200)	1103.20	2079.16	-1980.55	481808.66	1710847.19	39	49	5.827 N	80	31	45.895 W
PROPERTY LINE		1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503 N	80	31	20.210 W

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg	Date: 7/28/2008 Time: 10:45:41 Page: 2 Co-ordinate(N/E) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Az) Survey Calculation Method: Minimum Curvature Db: Sybase
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Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
-Polygon 1		-1457.97	3134.00	837.14	482863.60	1713684.88	39	49	16.569	N	80	31	9.939	W
-Polygon 2		-1457.97	2282.38	826.07	481991.88	1713653.61	39	49	7.954	N	80	31	9.954	W

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CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: West Leg Stk 1
 Survey: Survey #1

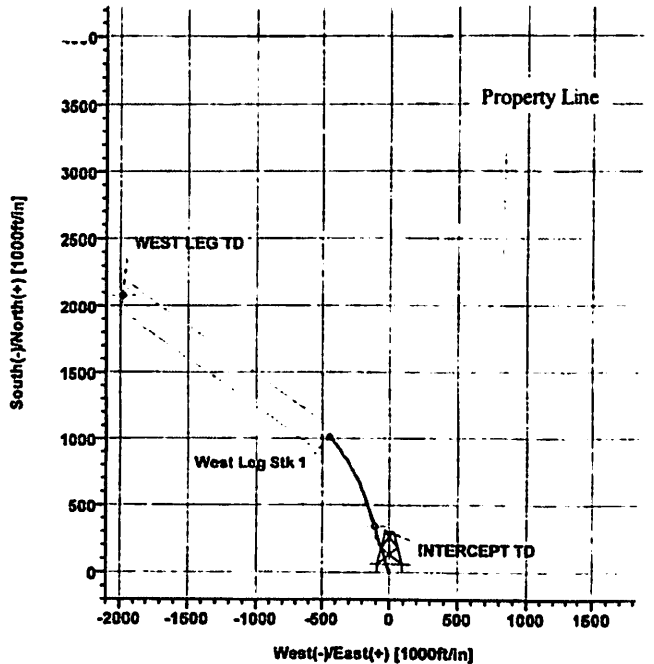
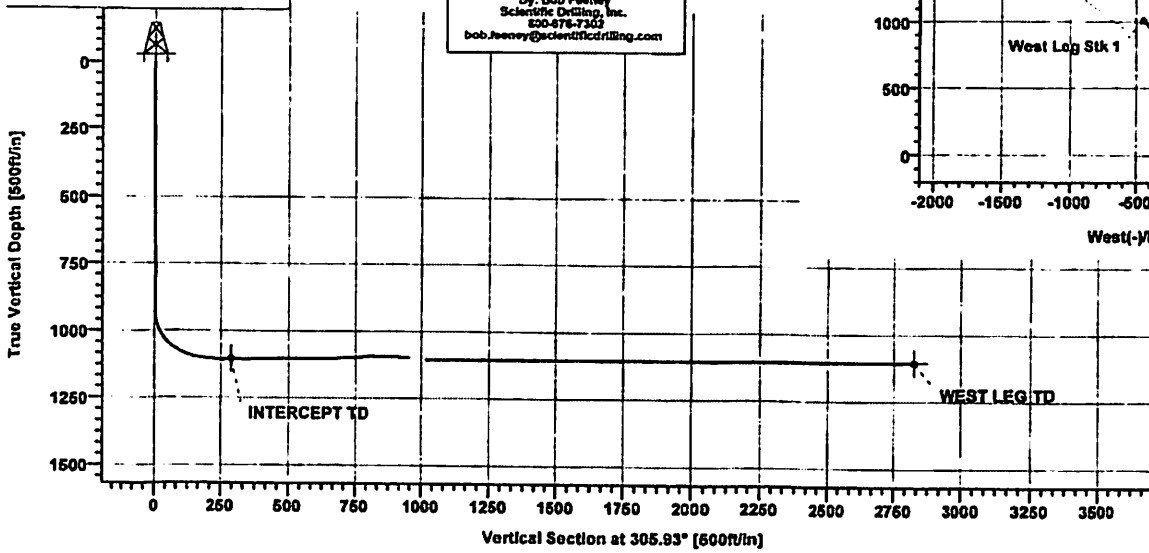


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
INTERCEPT TD	1103.20	342.06	-107.12	480071.56	1712720.82	Circle (Radius: 1)
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PROPERTY LINE	1457.97	0.00	0.00	479729.50	1712827.74	Polygon

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feeney
 Scientific Drilling, Inc.
 800-478-7422
 bob.feeney@scientificdrilling.com



Azimuths to Grid North
 True North: 0.65°
 Magnetic North: -7.86°

Magnetic Field
 Strength: 5328nT
 Dip Angle: 67.76°
 Date: 7/14/2008
 Model: tgr2005

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11/05/2021

Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg Stk 1	Date: 7/28/2008 Time: 10:51:52 Page: 1 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Azl) Survey Calculation Method: Minimum Curvature Db: Sybase																																																																																																																												
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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg Stk 1	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Azi) Survey Calculation Method: Minimum Curvature	Time: 10:53:08 Page: 1 Db: Sybase																																																																																														
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Environmental Protection



CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: West Leg Stk 2
 Survey: Survey #1

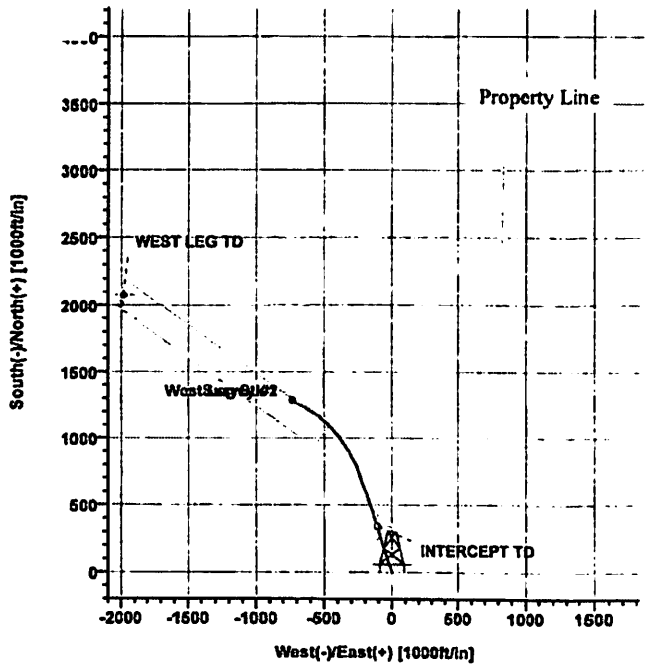
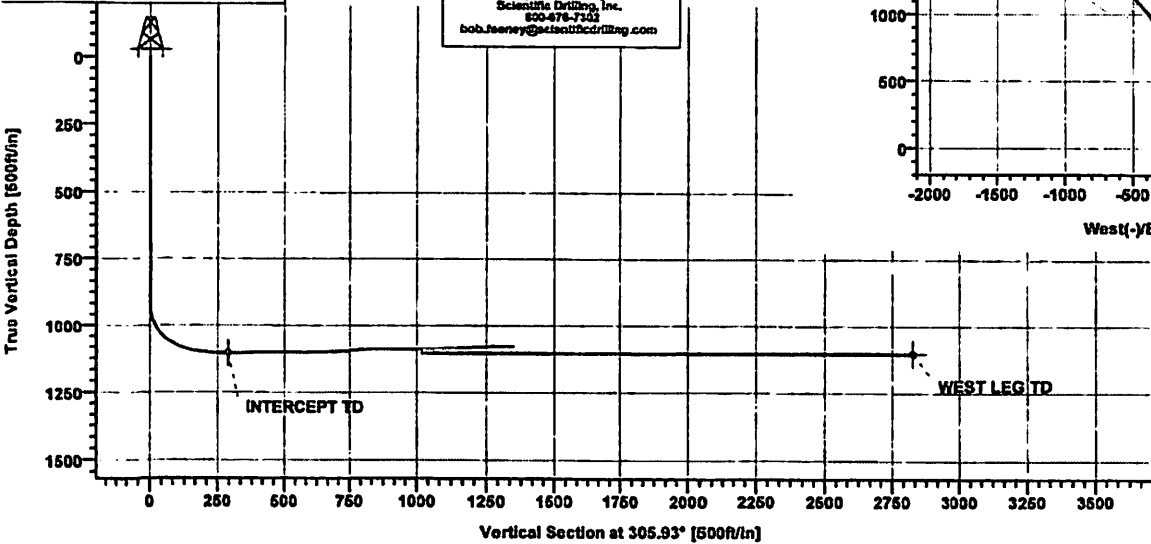


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
WEST LEG TD	1103.20	2079.16	-1980.56	481808.66	1710847.19	Rectangle (1807x200)
PROPERTY LINE-1457.97	0.00	0.00	0.00	479729.50	1712827.74	Polygon
INTERCEPT TD	1103.20	342.06	-107.12	460071.56	1712720.82	Circle (Radius: 1)

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feasey
 Scientific Drilling, Inc.
 800-476-7302
 bob.feasey@scientificdrilling.com



Azimuths to Grid North
 True North: 0.65°
 Magnetic North: -7.86°
 Magnetic Field
 Strength: 5323nT
 Dip Angle: 67.76°
 Date: 7/14/2008
 Model: igr2005

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 WV Department of
 Environmental Protection

11/05/2021

Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg Stk 2	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Az) Survey Calculation Method: Minimum Curvature	Time: 10:57:59 Page: 1 Db: Sybase																																																																																																																									
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Drilled From: West Leg Tie-on Depth: 1681.00 ft Above System Datum: Mean Sea Level Declination: -8.52 deg Mag Dip Angle: 67.76 deg																																																																																																																											
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Company: SDI, Inc. Tool: MWD-SDI-SYS, Scientific MWD Systematic																																																																																																																											
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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 10:59:21	Page: 1
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference: Wall: MC-21 Access, Grid North		
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference: 1449.97 + 8 1458.0		
Well: MC-21 Access	Section (VS) Reference: Wall (0.00N,0.00E,305.93Azi)		
Wellpath: West Leg Stk 2	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A.			
Map System: US State Plane Coordinate System 1927		Map Zone: West Virginia, Northern Zone	
Geo Datum: NAD27 (Clarke 1866)		Coordinate System: Well Centre	
Sys Datum: Mean Sea Level		Geomagnetic Model: lgr2005	

Site: MC-21 WELL LOCATION			
Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg	

Well: MC-21 Access				Slot Name:			
Well Position:	+N-S 0.00 ft	Northing: 479729.50 ft	Latitude: 39 48 45.503 N				
	+E-W 0.00 ft	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W				
Position Uncertainty: 0.00 ft							

Wellpath: West Leg Stk 2				Drilled From: West Leg			
Current Datum: 1449.97 + 8	Height 1457.97 ft	Tie-on Depth: 1681.00 ft		Above System Datum: Mean Sea Level			
Magnetic Data: 7/14/2008		Declination: -8.52 deg		Mag Dip Angle: 67.78 deg			
Field Strength: 53238 nT		+N-S ft		+E-W ft			
Vertical Section: Depth From (TVD)		ft		Direction deg			
		0.00		0.00			
		0.00		0.00			
		0.00		305.93			

Survey: Survey #1		Start Date: 7/14/2008	
Company: SDI, Inc.		Engineer: Dalmon Strodderd	
Tool: MWD-SDI-SYS, Scientific MWD Systematic		Tied-to: User Defined	

Survey: Survey #1										
MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec	← Longitude → Deg Min Sec	
1700.00	89.30	338.80	1101.51	655.34	-216.63	480384.84	1712811.11	39 48 51.955 N	80 31 23.082 W	
1800.00	91.12	339.38	1100.83	749.58	-250.05	480479.08	1712577.69	39 48 52.883 N	80 31 23.524 W	
1900.00	93.69	332.92	1097.01	841.18	-289.78	480570.68	1712537.98	39 48 53.784 N	80 31 24.046 W	
2000.00	92.12	328.90	1089.55	928.22	-338.37	480657.72	1712489.37	39 48 54.638 N	80 31 24.882 W	
2100.00	90.07	324.53	1088.98	1012.08	-392.76	480741.58	1712434.88	39 48 55.461 N	80 31 25.391 W	
2200.00	90.46	316.77	1088.46	1089.57	-455.85	480819.07	1712371.89	39 48 56.220 N	80 31 26.211 W	
2300.00	93.03	309.57	1085.08	1157.74	-528.84	480887.24	1712298.90	39 48 56.885 N	80 31 27.156 W	
2400.00	91.89	302.67	1081.33	1216.84	-609.49	480946.14	1712218.25	39 48 57.458 N	80 31 28.188 W	
2500.00	91.80	301.53	1077.01	1269.19	-694.45	480998.69	1712133.29	39 48 57.968 N	80 31 29.295 W	
2540.00	89.06	299.96	1076.80	1269.72	-728.77	481019.22	1712098.97	39 48 58.167 N	80 31 29.737 W	

Targets										
Name	Description	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec	← Longitude → Deg Min Sec		
WEST LEG TD		1103.20	2079.16	-1980.55	481808.68	1710847.19	39 49 5.827 N	80 31 45.895 W		
	-Rectangle (1807x200)									
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39 48 45.503 N	80 31 20.210 W		
	-Polygon 1	-1457.97	3134.00	837.14	482863.50	1713864.88	39 49 16.569 N	80 31 9.938 W		
	-Polygon 2	-1457.97	2282.38	826.07	481991.88	1713853.81	39 49 7.954 N	80 31 9.954 W		
INTERCEPT TD		1103.20	342.06	-107.12	480071.58	1712720.62	39 48 48.871 N	80 31 21.633 W		
	-Circle (Radius: 1)									

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11/05/2021
WV Department of
Environmental Protection



CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: West Leg Stk 3
 Survey: Survey #1

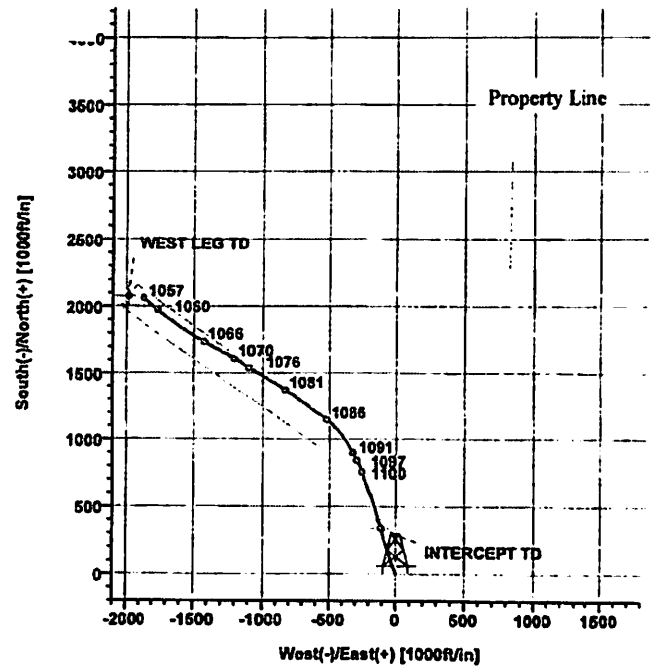
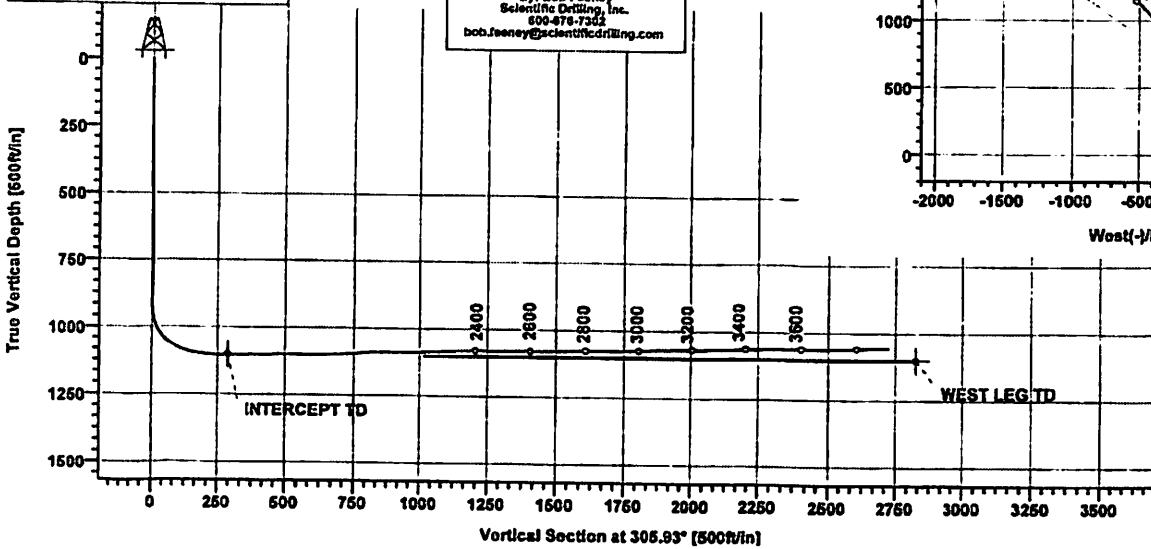


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
WEST LEG TD	1103.20	2079.16	-1980.58	481808.68	1710847.19	Rectangle (1807x200)
PROPERTY LINE	1457.97	0.00	0.00	479729.50	1712827.74	Polygon
INTERCEPT TD	1103.20	342.06	-107.12	480071.58	1712720.82	Circle (Radius: 1)

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Faeney
 Scientific Drilling, Inc.
 600-876-7342
 bob.faeney@scientificdrilling.com



Azimuths to Grid North
 True North: 0.65°
 Magnetic North: -7.86°
 Magnetic Field
 Strength: 53238nT
 Dip Angle: 67.76°
 Date: 7/14/2008
 Model: Igr2005

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WV Department of
 Environmental Protection

11/05/2021

Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:03:27	Page: 1
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North		
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference: 1449.97 + 8 1458.0		
Well: MC-21 Access	Section (VS) Reference: Well (0.00N,0.00E,305.93Azi)		
Wellpath: West Leg Stk 3	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A.	
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Northern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: Igrf2005

Site: MC-21 WELL LOCATION			
Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg	

Well: MC-21 Access		Slot Name:	
Well Position: +N-S 0.00 ft	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
+E-W 0.00 ft	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft			

Wellpath: West Leg Stk 3		Drilled From: West Leg Stk 2	
Current Datum: 1449.97 + 8	Height 1457.97 ft	Tie-on Depth: 2381.00 ft	
Magnetic Data: 7/14/2008		Above System Datum: Mean Sea Level	
Field Strength: 53238 nT		Declination: -8.52 deg	
Vertical Section: Depth From (TVD)	+N-S	Mag Dip Angle: 67.78 deg	
ft	ft	+E-W	Direction
		ft	deg
0.00	0.00	0.00	305.93

Survey: Survey #1	Start Date: 7/14/2008
Company: SDI, Inc.	Engineer: Dalmon Strodder
Tool: MWD-SDI-SYS, Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #1										
MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2400.00	80.85	303.43	1081.50	1216.75	-609.42	1207.45	0.00	0.00	0.00	MWD-SDI-SYS
2500.00	81.58	307.74	1081.49	1275.37	-690.37	1307.40	4.37	0.72	4.31	MWD-SDI-SYS
2600.00	80.48	305.87	1081.50	1335.39	-770.33	1407.37	2.18	-1.12	-1.87	MWD-SDI-SYS
2700.00	81.32	302.63	1079.70	1391.42	-853.13	1507.29	3.35	0.88	-3.24	MWD-SDI-SYS
2800.00	81.03	301.21	1077.52	1443.12	-938.69	1608.91	1.45	-0.29	-1.42	MWD-SDI-SYS
2900.00	80.39	302.91	1077.33	1498.05	-1023.52	1708.68	1.81	-0.64	1.69	MWD-SDI-SYS
3000.00	82.18	303.03	1075.32	1550.34	-1107.47	1808.50	1.80	1.79	0.12	MWD-SDI-SYS
3100.00	82.44	302.04	1070.64	1605.08	-1191.02	1908.27	1.02	0.28	-0.99	MWD-SDI-SYS
3200.00	89.87	298.76	1068.80	1655.41	-1277.38	2005.73	4.17	-2.57	-3.28	MWD-SDI-SYS
3300.00	80.14	298.97	1067.88	1703.39	-1365.11	2104.92	1.24	0.27	1.21	MWD-SDI-SYS
3400.00	81.01	300.93	1064.87	1753.98	-1451.30	2204.40	1.29	0.87	0.98	MWD-SDI-SYS
3500.00	80.49	302.82	1062.90	1807.28	-1535.89	2304.16	1.96	-0.52	1.89	MWD-SDI-SYS
3600.00	89.90	305.75	1061.70	1863.82	-1618.34	2404.11	2.98	-0.60	2.92	MWD-SDI-SYS
3700.00	80.60	307.09	1061.68	1923.39	-1699.66	2504.10	1.51	0.70	1.34	MWD-SDI-SYS
3800.00	81.78	310.43	1059.49	1985.87	-1776.67	2603.93	3.54	1.18	3.34	MWD-SDI-SYS
3900.00	80.94	311.13	1057.27	2051.78	-1851.84	2703.48	1.09	-0.84	0.70	MWD-SDI-SYS
3918.00	80.89	310.95	1056.98	2063.59	-1865.42	2721.40	1.07	-0.30	-1.02	MWD-SDI-SYS

Targets														
Name	Description	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
WEST LEG TD	-Rectangle (1807x200)	1103.20	2079.16	-1980.55	481808.68	1710847.19	39	49	5.827	N	80	31	45.895	W

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:03:27	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1458.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,305.93Az)	
Wellpath: West Leg Stk 3	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
-Polygon 1		-1457.97	3134.00	837.14	482883.50	1713884.88	39	49	18.569	N	80	31	9.939	W
-Polygon 2		-1457.97	2262.38	828.07	481991.88	1713853.81	39	49	7.954	N	80	31	9.954	W
INTERCEPT TD		1103.20	342.06	-107.12	480071.58	1712720.62	39	48	48.871	N	80	31	21.633	W
-Circle (Radius: 1)														

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Leg Stk 3	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1448.87 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,305.93Az) Survey Calculation Method: Minimum Curvature Db: Sybase
---	---

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A. Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level	Map Zone: West Virginia, Northern Zone Coordinate System: Well Centre Geomagnetic Model: Igrf2005
--	--

Site: MC-21 WELL LOCATION

Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg

Well: MC-21 Access	Slot Name:
Well Position: +N-S 0.00 ft	Latitude: 39 48 45.503 N
+E-W 0.00 ft	Longitude: 80 31 20.210 W
Position Uncertainty: 0.00 ft	

Wellpath: West Leg Stk 3	Drilled From: West Leg Stk 2
Current Datum: 1449.97 + 8	Tie-on Depth: 2381.00 ft
Magnetic Data: 7/14/2008	Above System Datum: Mean Sea Level
Field Strength: 53238 nT	Declination: -8.52 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.76 deg
ft	ft
0.00	0.00
0.00	0.00
0.00	305.93

Survey: Survey #1	Start Date: 7/14/2008
Company: SDI, Inc.	Engineer: Daimon Strodderd
Tool: MWD-SDI-SYS,Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →		← Longitude →					
								Deg	Min	Sec	Deg	Min	Sec		
2400.00	90.85	303.43	1081.50	1216.75	-609.42	480946.25	1712218.32	39	48	57.459	N	80	31	28.197	W
2600.00	91.58	307.74	1081.49	1275.37	-690.37	481004.87	1712137.37	39	48	58.029	N	80	31	29.243	W
2800.00	90.46	305.87	1081.50	1335.39	-770.33	481064.89	1712057.41	39	48	58.814	N	80	31	30.277	W
2700.00	91.32	302.63	1079.70	1391.42	-853.13	481120.92	1711974.61	39	48	59.158	N	80	31	31.348	W
2800.00	91.03	301.21	1077.52	1443.12	-938.69	481172.82	1711889.05	39	48	59.659	N	80	31	32.450	W
2900.00	90.39	302.91	1077.33	1498.05	-1023.52	481225.55	1711804.22	39	49	0.173	N	80	31	33.545	W
3000.00	92.18	303.03	1075.32	1550.34	-1107.47	481279.84	1711720.27	39	49	0.700	N	80	31	34.629	W
3100.00	92.44	302.04	1070.64	1605.08	-1191.02	481334.58	1711636.72	39	49	1.231	N	80	31	35.707	W
3200.00	89.87	298.76	1068.90	1655.41	-1277.38	481384.91	1711550.38	39	49	1.719	N	80	31	36.821	W
3300.00	90.14	299.97	1067.88	1703.39	-1365.11	481432.89	1711462.63	39	49	2.183	N	80	31	37.953	W
3400.00	91.01	300.93	1064.87	1753.98	-1451.30	481483.48	1711376.44	39	49	2.673	N	80	31	39.065	W
3500.00	90.49	302.82	1062.90	1807.26	-1535.89	481538.76	1711291.85	39	49	3.180	N	80	31	40.156	W
3600.00	89.90	305.75	1061.70	1863.82	-1618.34	481593.32	1711209.40	39	49	3.740	N	80	31	41.221	W
3700.00	90.60	307.09	1061.88	1923.39	-1698.66	481652.89	1711129.08	39	49	4.320	N	80	31	42.259	W
3800.00	91.78	310.43	1059.49	1985.87	-1776.67	481715.37	1711051.07	39	49	4.928	N	80	31	43.268	W
3900.00	90.94	311.13	1057.27	2051.78	-1851.84	481781.28	1710975.80	39	49	5.571	N	80	31	44.241	W
3918.00	90.88	310.95	1056.98	2063.59	-1865.42	481793.09	1710982.32	39	49	5.886	N	80	31	44.417	W

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:05:04	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1458.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,305.93Azi)	
Wellpath: West Leg SIK 3	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
WEST LEG TD		1103.20	2079.16	-1980.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W
	-Rectangle (1807x200)													
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
	-Polygon 1	-1457.97	3134.00	837.14	482863.50	1713864.88	39	49	16.569	N	80	31	9.939	W
	-Polygon 2	-1457.97	2262.38	826.07	481991.88	1713853.81	39	49	7.954	N	80	31	9.954	W
INTERCEPT TD		1103.20	342.06	-107.12	480071.56	1712720.62	39	48	48.871	N	80	31	21.633	W
	-Circle (Radius: 1)													

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CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: West Center Leg
 Survey: Survey #1

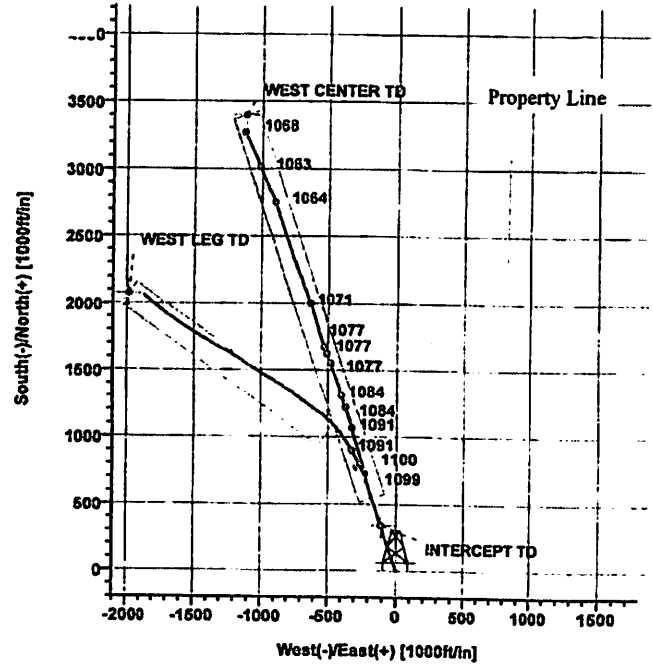
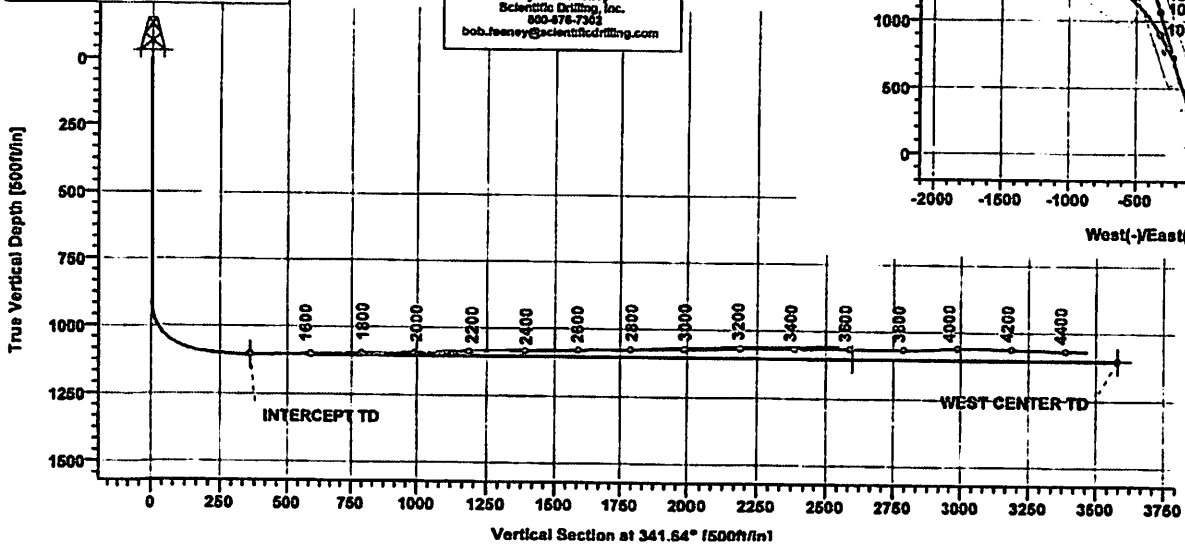


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
INTERCEPT TD	1103.20	342.06	-107.12	480071.56	1712720.62	Circle (Radius: 1)
WEST CENTER TD	1103.20	3400.31	-1118.74	483129.91	1711709.00	Rectangle (3007x200)
WEST LEG TD	1103.20	2079.16	-1980.85	481808.86	1710347.19	Rectangle (1607x200)
PROPERTY LINE	-1467.97	0.00	0.00	479729.50	1712827.74	Polygon

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0 00N,0 00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feeney
 Scientific Drilling, Inc.
 800-478-7322
 bob.feeney@scientificdrilling.com



Azimuths to Grid North
 True North: 0.65°
 Magnetic North: -7.86°
 Magnetic Field
 Strength: 53219aT
 Dip Angle: 67.77°
 Date: 7/9/2008
 Model: igr/2005

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Center Leg	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,341.64Azi) Survey Calculation Method: Minimum Curvature	Time: 11:11:06 Page: 1	Db: Sybase							
Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A. Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level										
		Map Zone: West Virginia, Northern Zone Coordinate System: Well Centre Geomagnetic Model: lgrf2005								
Site: MC-21 WELL LOCATION										
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 1449.97 ft										
		Northing: 479729.50 ft Easting: 1712827.74 ft Latitude: 39 48 45.503 N Longitude: 80 31 20.210 W North Reference: Grid Grid Convergence: -0.65 deg								
Well: MC-21 Access										
Well Position: +N/-S 0.00 ft Northing: 479729.50 ft Latitude: 39 48 45.503 N +E/-W 0.00 ft Easting: 1712827.74 ft Longitude: 80 31 20.210 W Position Uncertainty: 0.00 ft										
Wellpath: West Center Leg										
Current Datum: 1449.97 + 8 Magnetic Date: 7/9/2008 Field Strength: 53239 nT Vertical Section: Depth From (TVD) ft		Slot Name: Drilled From: West Leg Tie-on Depth: 1586.00 ft Above System Datum: Mean Sea Level Declination: -8.52 deg Mag Dip Angle: 67.77 deg Direction deg								
0.00		0.00 0.00 341.64								
Survey: Survey #1 Start Date: 7/18/2008										
Company: Scientific Drilling, Inc. Tool: MWD-SDI-SYS, Scientific MWD Systematic		Engineer: Carl Bakay Tied-to: User Defined								
Survey: Survey #1										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Buld deg/100ft	Turn deg/100ft	Tool/Comment
1800.00	90.73	342.42	1101.10	562.10	-180.53	590.35	0.00	0.00	0.00	MWD-SDI-SYS
1700.00	90.76	345.45	1100.92	658.51	-207.01	690.19	3.02	0.03	3.02	MWD-SDI-SYS
1800.00	92.23	345.55	1097.80	754.98	-233.13	789.98	1.47	1.47	0.10	MWD-SDI-SYS
1900.00	90.87	343.87	1095.59	851.55	-258.98	889.77	2.18	-1.38	-1.68	MWD-SDI-SYS
2000.00	90.07	344.63	1094.43	947.74	-286.25	989.66	1.11	-0.80	0.76	MWD-SDI-SYS
2100.00	93.32	344.14	1092.71	1043.72	-314.18	1089.55	3.29	3.25	-0.49	MWD-SDI-SYS
2200.00	93.10	341.89	1088.82	1139.38	-342.75	1189.32	2.18	-0.23	-2.15	MWD-SDI-SYS
2300.00	90.40	342.39	1083.93	1234.49	-373.43	1289.27	2.72	-2.89	0.40	MWD-SDI-SYS
2400.00	90.72	342.91	1083.84	1330.03	-402.93	1388.25	0.81	0.32	0.62	MWD-SDI-SYS
2500.00	91.72	340.71	1081.37	1425.40	-432.88	1489.20	2.41	0.99	-2.20	MWD-SDI-SYS
2600.00	92.64	339.54	1078.62	1519.06	-467.81	1589.09	1.49	0.93	-1.17	MWD-SDI-SYS
2700.00	89.09	339.26	1076.79	1612.67	-502.85	1688.97	3.56	-3.55	-0.28	MWD-SDI-SYS
2800.00	91.14	341.78	1076.40	1706.87	-538.38	1788.93	3.25	2.05	2.52	MWD-SDI-SYS
2900.00	91.77	343.93	1074.03	1802.47	-585.55	1888.88	2.24	0.83	2.15	MWD-SDI-SYS
3000.00	90.15	343.08	1073.17	1898.53	-593.33	1988.77	1.83	-1.82	-0.88	MWD-SDI-SYS
3100.00	92.57	339.86	1071.26	1993.36	-624.92	2088.73	4.03	2.42	-3.22	MWD-SDI-SYS
3200.00	92.20	339.80	1067.72	2087.00	-659.80	2188.59	0.38	-0.37	-0.05	MWD-SDI-SYS
3300.00	89.77	339.05	1067.03	2180.57	-694.99	2288.48	2.54	-2.42	-0.75	MWD-SDI-SYS
3400.00	88.08	338.75	1067.86	2273.80	-731.82	2388.32	1.71	-1.69	-0.31	MWD-SDI-SYS
3500.00	92.36	340.88	1066.38	2367.49	-765.91	2488.23	4.78	4.28	2.14	MWD-SDI-SYS
3600.00	88.91	340.91	1065.44	2461.92	-798.76	2588.20	3.45	-3.45	0.03	MWD-SDI-SYS
3700.00	89.53	341.59	1067.27	2556.88	-830.71	2688.18	0.91	0.82	0.67	MWD-SDI-SYS
3800.00	89.97	340.58	1066.60	2651.31	-862.95	2788.16	1.12	0.45	-1.02	MWD-SDI-SYS
3900.00	93.11	338.15	1064.99	2745.01	-897.74	2888.06	3.88	3.14	-2.41	MWD-SDI-SYS

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Center Leg	Date: 7/28/2008 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 11:11:08 Well: MC-21 Access, Grid North 1449.97 + 8 1458.0 Well (0.00N,0.00E,341.64Az) Minimum Curvature Db: Sybase
--	--	--

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
4000.00	91.11	337.21	1060.02	2837.30	-935.90	2987.66	2.21	-2.00	-0.94	MWD-SDI-SYS
4100.00	89.03	337.07	1059.68	2929.41	-874.82	3087.35	2.08	-2.08	-0.14	MWD-SDI-SYS
4200.00	87.88	337.38	1063.03	3021.57	-1013.48	3188.99	1.21	-1.17	0.29	MWD-SDI-SYS
4300.00	88.63	336.36	1066.12	3113.48	-1052.75	3288.59	1.26	0.77	-1.00	MWD-SDI-SYS
4400.00	89.57	334.91	1067.75	3204.59	-1093.93	3388.03	1.73	0.94	-1.45	MWD-SDI-SYS
4478.00	90.10	334.75	1067.75	3275.16	-1127.14	3463.48	0.71	0.68	-0.21	MWD-SDI-SYS

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map		← Latitude →			← Longitude →				
					Map Northing ft	Map Easting ft	Deg	Min	Sec	Deg	Min	Sec		
INTERCEPT TD		1103.20	342.06	-107.12	480071.56	1712720.62	39	48	48.871	N	80	31	21.633	W
-Circle (Radius: 1)														
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.81	1711709.00	39	49	18.981	N	80	31	35.044	W
-Rectangle (3007x200)														
WEST LEG TD		1103.20	2079.16	-1980.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W
-Rectangle (1807x200)														
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
-Polygon 1		-1457.97	3134.00	837.14	482883.50	1713864.88	39	49	16.569	N	80	31	9.939	W
-Polygon 2		-1457.97	2262.38	826.07	481991.88	1713653.81	39	49	7.954	N	80	31	9.954	W

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Center Leg	Date: 7/28/2008 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,341.64Az) Survey Calculation Method: Minimum Curvature	Time: 11:11:58 Page: 1 Db: Sybase																																																																																																																																																																																																																																																																																																																																																																																																		
Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A. Map System: US State Plane Coordinate System 1927 Geo Datum: NAD27 (Clarke 1866) Sys Datum: Mean Sea Level																																																																																																																																																																																																																																																																																																																																																																																																				
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Site: MC-21 WELL LOCATION																																																																																																																																																																																																																																																																																																																																																																																																				
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 1449.97 ft																																																																																																																																																																																																																																																																																																																																																																																																				
Northing: 479729.50 ft Easting: 1712827.74 ft Latitude: 39 48 45.503 N Longitude: 80 31 20.210 W North Reference: Grid Grid Convergence: -0.65 deg																																																																																																																																																																																																																																																																																																																																																																																																				
Well: MC-21 Access Slot Name:																																																																																																																																																																																																																																																																																																																																																																																																				
Well Position: +N/-S 0.00 ft Northing: 479729.50 ft Latitude: 39 48 45.503 N +E/-W 0.00 ft Easting: 1712827.74 ft Longitude: 80 31 20.210 W Position Uncertainty: 0.00 ft																																																																																																																																																																																																																																																																																																																																																																																																				
Wellpath: West Center Leg Drilled From: West Leg Tie-on Depth: 1586.00 ft Current Datum: 1449.97 + 8 Height 1457.97 ft Above System Datum: Mean Sea Level Magnetic Data: 7/9/2008 Declination: -8.52 deg Field Strength: 53239 nT Mag Dip Angle: 67.77 deg Vertical Section: Depth From (TVD) +N/-S +E/-W Direction ft ft ft deg 0.00 0.00 0.00 341.64																																																																																																																																																																																																																																																																																																																																																																																																				
Survey: Survey #1 Start Date: 7/18/2008 Company: Scientific Drilling, Inc. Engineer: Carl Bakay Tool: MWD-SDI-SYS, Scientific MWD Systematic Tied-to: User Defined																																																																																																																																																																																																																																																																																																																																																																																																				
Survey: Survey #1																																																																																																																																																																																																																																																																																																																																																																																																				
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">MD ft</th> <th rowspan="2">Incl deg</th> <th rowspan="2">Azim deg</th> <th rowspan="2">TVD ft</th> <th rowspan="2">+N/-S ft</th> <th rowspan="2">+E/-W ft</th> <th rowspan="2">Map Northing ft</th> <th rowspan="2">Map Easting ft</th> <th colspan="2">← Latitude →</th> <th colspan="2">← Longitude →</th> </tr> <tr> <th>Deg</th> <th>Min</th> <th>Sec</th> <th>Deg</th> <th>Min</th> <th>Sec</th> </tr> </thead> <tbody> <tr><td>1600.00</td><td>90.73</td><td>342.42</td><td>1101.10</td><td>562.10</td><td>-180.53</td><td>480291.60</td><td>1712647.21</td><td>39</td><td>48</td><td>51.038</td><td>N</td><td>80</td><td>31</td><td>22.606</td><td>W</td></tr> <tr><td>1700.00</td><td>90.76</td><td>345.45</td><td>1100.92</td><td>658.51</td><td>-207.01</td><td>480388.01</td><td>1712620.73</td><td>39</td><td>48</td><td>51.988</td><td>N</td><td>80</td><td>31</td><td>22.959</td><td>W</td></tr> <tr><td>1800.00</td><td>92.23</td><td>345.55</td><td>1097.80</td><td>754.88</td><td>-233.13</td><td>480484.48</td><td>1712584.81</td><td>39</td><td>48</td><td>52.938</td><td>N</td><td>80</td><td>31</td><td>23.308</td><td>W</td></tr> <tr><td>1900.00</td><td>90.87</td><td>343.87</td><td>1095.59</td><td>851.55</td><td>-258.86</td><td>480581.05</td><td>1712568.78</td><td>39</td><td>48</td><td>53.889</td><td>N</td><td>80</td><td>31</td><td>23.653</td><td>W</td></tr> <tr><td>2000.00</td><td>90.07</td><td>344.63</td><td>1094.43</td><td>947.74</td><td>-286.25</td><td>480677.24</td><td>1712541.49</td><td>39</td><td>48</td><td>54.837</td><td>N</td><td>80</td><td>31</td><td>24.017</td><td>W</td></tr> <tr><td>2100.00</td><td>93.32</td><td>344.14</td><td>1092.71</td><td>1043.72</td><td>-314.18</td><td>480773.22</td><td>1712513.56</td><td>39</td><td>48</td><td>55.782</td><td>N</td><td>80</td><td>31</td><td>24.388</td><td>W</td></tr> <tr><td>2200.00</td><td>93.10</td><td>341.99</td><td>1086.82</td><td>1139.36</td><td>-342.75</td><td>480868.86</td><td>1712484.99</td><td>39</td><td>48</td><td>56.724</td><td>N</td><td>80</td><td>31</td><td>24.769</td><td>W</td></tr> <tr><td>2300.00</td><td>90.40</td><td>342.39</td><td>1083.93</td><td>1234.49</td><td>-373.43</td><td>480963.99</td><td>1712454.31</td><td>39</td><td>48</td><td>57.661</td><td>N</td><td>80</td><td>31</td><td>25.178</td><td>W</td></tr> <tr><td>2400.00</td><td>90.72</td><td>342.91</td><td>1083.84</td><td>1330.03</td><td>-402.93</td><td>481059.53</td><td>1712424.81</td><td>39</td><td>48</td><td>58.602</td><td>N</td><td>80</td><td>31</td><td>25.588</td><td>W</td></tr> <tr><td>2500.00</td><td>91.72</td><td>340.71</td><td>1081.37</td><td>1425.40</td><td>-432.88</td><td>481154.90</td><td>1712394.86</td><td>39</td><td>48</td><td>59.541</td><td>N</td><td>80</td><td>31</td><td>25.985</td><td>W</td></tr> <tr><td>2600.00</td><td>92.84</td><td>339.54</td><td>1078.62</td><td>1519.06</td><td>-467.81</td><td>481248.56</td><td>1712359.93</td><td>39</td><td>49</td><td>0.463</td><td>N</td><td>80</td><td>31</td><td>26.427</td><td>W</td></tr> <tr><td>2700.00</td><td>89.09</td><td>339.26</td><td>1076.79</td><td>1612.67</td><td>-502.85</td><td>481342.17</td><td>1712324.89</td><td>39</td><td>49</td><td>1.384</td><td>N</td><td>80</td><td>31</td><td>26.889</td><td>W</td></tr> <tr><td>2800.00</td><td>91.14</td><td>341.78</td><td>1076.40</td><td>1708.87</td><td>-538.36</td><td>481436.37</td><td>1712291.38</td><td>39</td><td>49</td><td>2.311</td><td>N</td><td>80</td><td>31</td><td>27.333</td><td>W</td></tr> <tr><td>2900.00</td><td>91.77</td><td>343.93</td><td>1074.03</td><td>1802.47</td><td>-565.55</td><td>481531.97</td><td>1712262.19</td><td>39</td><td>49</td><td>3.253</td><td>N</td><td>80</td><td>31</td><td>27.721</td><td>W</td></tr> <tr><td>3000.00</td><td>90.15</td><td>343.08</td><td>1073.17</td><td>1898.53</td><td>-593.33</td><td>481628.03</td><td>1712234.41</td><td>39</td><td>49</td><td>4.199</td><td>N</td><td>80</td><td>31</td><td>28.091</td><td>W</td></tr> <tr><td>3100.00</td><td>92.57</td><td>339.86</td><td>1071.26</td><td>1993.36</td><td>-624.92</td><td>481722.86</td><td>1712202.82</td><td>39</td><td>49</td><td>5.132</td><td>N</td><td>80</td><td>31</td><td>28.509</td><td>W</td></tr> <tr><td>3200.00</td><td>92.20</td><td>339.80</td><td>1067.72</td><td>2087.00</td><td>-659.80</td><td>481816.50</td><td>1712167.94</td><td>39</td><td>49</td><td>6.054</td><td>N</td><td>80</td><td>31</td><td>28.970</td><td>W</td></tr> <tr><td>3300.00</td><td>89.77</td><td>339.05</td><td>1067.03</td><td>2180.57</td><td>-694.99</td><td>481910.07</td><td>1712132.75</td><td>39</td><td>49</td><td>6.975</td><td>N</td><td>80</td><td>31</td><td>29.435</td><td>W</td></tr> <tr><td>3400.00</td><td>88.06</td><td>338.75</td><td>1067.86</td><td>2273.60</td><td>-731.62</td><td>482003.10</td><td>1712098.12</td><td>39</td><td>49</td><td>7.890</td><td>N</td><td>80</td><td>31</td><td>29.918</td><td>W</td></tr> <tr><td>3500.00</td><td>92.36</td><td>340.88</td><td>1066.38</td><td>2367.49</td><td>-765.91</td><td>482096.99</td><td>1712061.83</td><td>39</td><td>49</td><td>8.814</td><td>N</td><td>80</td><td>31</td><td>30.371</td><td>W</td></tr> <tr><td>3600.00</td><td>88.91</td><td>340.91</td><td>1065.44</td><td>2461.92</td><td>-798.76</td><td>482191.42</td><td>1712028.98</td><td>39</td><td>49</td><td>9.744</td><td>N</td><td>80</td><td>31</td><td>30.806</td><td>W</td></tr> <tr><td>3700.00</td><td>89.53</td><td>341.59</td><td>1067.27</td><td>2556.66</td><td>-830.71</td><td>482286.16</td><td>1711997.03</td><td>39</td><td>49</td><td>10.676</td><td>N</td><td>80</td><td>31</td><td>31.229</td><td>W</td></tr> <tr><td>3800.00</td><td>89.97</td><td>340.56</td><td>1066.60</td><td>2651.31</td><td>-862.95</td><td>482380.81</td><td>1711964.79</td><td>39</td><td>49</td><td>11.608</td><td>N</td><td>80</td><td>31</td><td>31.656</td><td>W</td></tr> </tbody> </table>			MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →		← Longitude →		Deg	Min	Sec	Deg	Min	Sec	1600.00	90.73	342.42	1101.10	562.10	-180.53	480291.60	1712647.21	39	48	51.038	N	80	31	22.606	W	1700.00	90.76	345.45	1100.92	658.51	-207.01	480388.01	1712620.73	39	48	51.988	N	80	31	22.959	W	1800.00	92.23	345.55	1097.80	754.88	-233.13	480484.48	1712584.81	39	48	52.938	N	80	31	23.308	W	1900.00	90.87	343.87	1095.59	851.55	-258.86	480581.05	1712568.78	39	48	53.889	N	80	31	23.653	W	2000.00	90.07	344.63	1094.43	947.74	-286.25	480677.24	1712541.49	39	48	54.837	N	80	31	24.017	W	2100.00	93.32	344.14	1092.71	1043.72	-314.18	480773.22	1712513.56	39	48	55.782	N	80	31	24.388	W	2200.00	93.10	341.99	1086.82	1139.36	-342.75	480868.86	1712484.99	39	48	56.724	N	80	31	24.769	W	2300.00	90.40	342.39	1083.93	1234.49	-373.43	480963.99	1712454.31	39	48	57.661	N	80	31	25.178	W	2400.00	90.72	342.91	1083.84	1330.03	-402.93	481059.53	1712424.81	39	48	58.602	N	80	31	25.588	W	2500.00	91.72	340.71	1081.37	1425.40	-432.88	481154.90	1712394.86	39	48	59.541	N	80	31	25.985	W	2600.00	92.84	339.54	1078.62	1519.06	-467.81	481248.56	1712359.93	39	49	0.463	N	80	31	26.427	W	2700.00	89.09	339.26	1076.79	1612.67	-502.85	481342.17	1712324.89	39	49	1.384	N	80	31	26.889	W	2800.00	91.14	341.78	1076.40	1708.87	-538.36	481436.37	1712291.38	39	49	2.311	N	80	31	27.333	W	2900.00	91.77	343.93	1074.03	1802.47	-565.55	481531.97	1712262.19	39	49	3.253	N	80	31	27.721	W	3000.00	90.15	343.08	1073.17	1898.53	-593.33	481628.03	1712234.41	39	49	4.199	N	80	31	28.091	W	3100.00	92.57	339.86	1071.26	1993.36	-624.92	481722.86	1712202.82	39	49	5.132	N	80	31	28.509	W	3200.00	92.20	339.80	1067.72	2087.00	-659.80	481816.50	1712167.94	39	49	6.054	N	80	31	28.970	W	3300.00	89.77	339.05	1067.03	2180.57	-694.99	481910.07	1712132.75	39	49	6.975	N	80	31	29.435	W	3400.00	88.06	338.75	1067.86	2273.60	-731.62	482003.10	1712098.12	39	49	7.890	N	80	31	29.918	W	3500.00	92.36	340.88	1066.38	2367.49	-765.91	482096.99	1712061.83	39	49	8.814	N	80	31	30.371	W	3600.00	88.91	340.91	1065.44	2461.92	-798.76	482191.42	1712028.98	39	49	9.744	N	80	31	30.806	W	3700.00	89.53	341.59	1067.27	2556.66	-830.71	482286.16	1711997.03	39	49	10.676	N	80	31	31.229	W	3800.00	89.97	340.56	1066.60	2651.31	-862.95	482380.81	1711964.79	39	49	11.608	N	80	31	31.656	W
MD ft	Incl deg	Azim deg									TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →		← Longitude →																																																																																																																																																																																																																																																																																																																																																																																		
			Deg	Min	Sec	Deg	Min	Sec																																																																																																																																																																																																																																																																																																																																																																																												
1600.00	90.73	342.42	1101.10	562.10	-180.53	480291.60	1712647.21	39	48	51.038	N	80	31	22.606	W																																																																																																																																																																																																																																																																																																																																																																																					
1700.00	90.76	345.45	1100.92	658.51	-207.01	480388.01	1712620.73	39	48	51.988	N	80	31	22.959	W																																																																																																																																																																																																																																																																																																																																																																																					
1800.00	92.23	345.55	1097.80	754.88	-233.13	480484.48	1712584.81	39	48	52.938	N	80	31	23.308	W																																																																																																																																																																																																																																																																																																																																																																																					
1900.00	90.87	343.87	1095.59	851.55	-258.86	480581.05	1712568.78	39	48	53.889	N	80	31	23.653	W																																																																																																																																																																																																																																																																																																																																																																																					
2000.00	90.07	344.63	1094.43	947.74	-286.25	480677.24	1712541.49	39	48	54.837	N	80	31	24.017	W																																																																																																																																																																																																																																																																																																																																																																																					
2100.00	93.32	344.14	1092.71	1043.72	-314.18	480773.22	1712513.56	39	48	55.782	N	80	31	24.388	W																																																																																																																																																																																																																																																																																																																																																																																					
2200.00	93.10	341.99	1086.82	1139.36	-342.75	480868.86	1712484.99	39	48	56.724	N	80	31	24.769	W																																																																																																																																																																																																																																																																																																																																																																																					
2300.00	90.40	342.39	1083.93	1234.49	-373.43	480963.99	1712454.31	39	48	57.661	N	80	31	25.178	W																																																																																																																																																																																																																																																																																																																																																																																					
2400.00	90.72	342.91	1083.84	1330.03	-402.93	481059.53	1712424.81	39	48	58.602	N	80	31	25.588	W																																																																																																																																																																																																																																																																																																																																																																																					
2500.00	91.72	340.71	1081.37	1425.40	-432.88	481154.90	1712394.86	39	48	59.541	N	80	31	25.985	W																																																																																																																																																																																																																																																																																																																																																																																					
2600.00	92.84	339.54	1078.62	1519.06	-467.81	481248.56	1712359.93	39	49	0.463	N	80	31	26.427	W																																																																																																																																																																																																																																																																																																																																																																																					
2700.00	89.09	339.26	1076.79	1612.67	-502.85	481342.17	1712324.89	39	49	1.384	N	80	31	26.889	W																																																																																																																																																																																																																																																																																																																																																																																					
2800.00	91.14	341.78	1076.40	1708.87	-538.36	481436.37	1712291.38	39	49	2.311	N	80	31	27.333	W																																																																																																																																																																																																																																																																																																																																																																																					
2900.00	91.77	343.93	1074.03	1802.47	-565.55	481531.97	1712262.19	39	49	3.253	N	80	31	27.721	W																																																																																																																																																																																																																																																																																																																																																																																					
3000.00	90.15	343.08	1073.17	1898.53	-593.33	481628.03	1712234.41	39	49	4.199	N	80	31	28.091	W																																																																																																																																																																																																																																																																																																																																																																																					
3100.00	92.57	339.86	1071.26	1993.36	-624.92	481722.86	1712202.82	39	49	5.132	N	80	31	28.509	W																																																																																																																																																																																																																																																																																																																																																																																					
3200.00	92.20	339.80	1067.72	2087.00	-659.80	481816.50	1712167.94	39	49	6.054	N	80	31	28.970	W																																																																																																																																																																																																																																																																																																																																																																																					
3300.00	89.77	339.05	1067.03	2180.57	-694.99	481910.07	1712132.75	39	49	6.975	N	80	31	29.435	W																																																																																																																																																																																																																																																																																																																																																																																					
3400.00	88.06	338.75	1067.86	2273.60	-731.62	482003.10	1712098.12	39	49	7.890	N	80	31	29.918	W																																																																																																																																																																																																																																																																																																																																																																																					
3500.00	92.36	340.88	1066.38	2367.49	-765.91	482096.99	1712061.83	39	49	8.814	N	80	31	30.371	W																																																																																																																																																																																																																																																																																																																																																																																					
3600.00	88.91	340.91	1065.44	2461.92	-798.76	482191.42	1712028.98	39	49	9.744	N	80	31	30.806	W																																																																																																																																																																																																																																																																																																																																																																																					
3700.00	89.53	341.59	1067.27	2556.66	-830.71	482286.16	1711997.03	39	49	10.676	N	80	31	31.229	W																																																																																																																																																																																																																																																																																																																																																																																					
3800.00	89.97	340.56	1066.60	2651.31	-862.95	482380.81	1711964.79	39	49	11.608	N	80	31	31.656	W																																																																																																																																																																																																																																																																																																																																																																																					

RECEIVED
Office of Oil and Gas

APR 8 2021

11/05/2021

Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: West Center Leg	Date: 7/28/2008 Time: 11:11:58 Page: 2 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,341.64Az) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
								Deg	Min	Sec	Deg	Min	Sec		
3900.00	93.11	338.15	1064.99	2745.01	-897.74	482474.51	1711930.00	39	49	12.530	N	80	31	32.118	W
4000.00	91.11	337.21	1060.02	2837.30	-935.90	482686.80	1711891.84	39	49	13.438	N	80	31	32.618	W
4100.00	89.03	337.07	1059.68	2929.41	-974.82	482658.91	1711852.92	39	49	14.344	N	80	31	33.130	W
4200.00	87.83	337.38	1083.03	3021.57	-1013.48	482751.07	1711814.28	39	49	15.260	N	80	31	33.639	W
4300.00	88.83	336.36	1068.12	3113.48	-1052.75	482842.98	1711774.99	39	49	16.154	N	80	31	34.156	W
4400.00	89.57	334.91	1067.75	3204.59	-1093.93	482934.09	1711733.81	39	49	17.050	N	80	31	34.697	W
4478.00	90.10	334.75	1067.75	3275.16	-1127.14	483004.68	1711700.60	39	49	17.743	N	80	31	35.133	W

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →					
							Deg	Min	Sec	Deg	Min	Sec			
INTERCEPT TD		1103.20	342.08	-107.12	480071.56	1712720.82	39	48	48.871	N	80	31	21.633	W	
-Circle (Radius: 1)															
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.81	1711709.00	39	49	18.981	N	80	31	35.044	W	
-Rectangle (3007x200)															
WEST LEG TD		1103.20	2079.16	-1880.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W	
-Rectangle (1807x200)															
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W	
-Polygon 1		-1457.97	3134.00	837.14	482863.50	1713684.88	39	49	16.569	N	80	31	9.939	W	
-Polygon 2		-1457.97	2262.38	826.07	481991.88	1713653.81	39	49	7.954	N	80	31	9.954	W	

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CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: East Center Log
 Survey: Survey #1

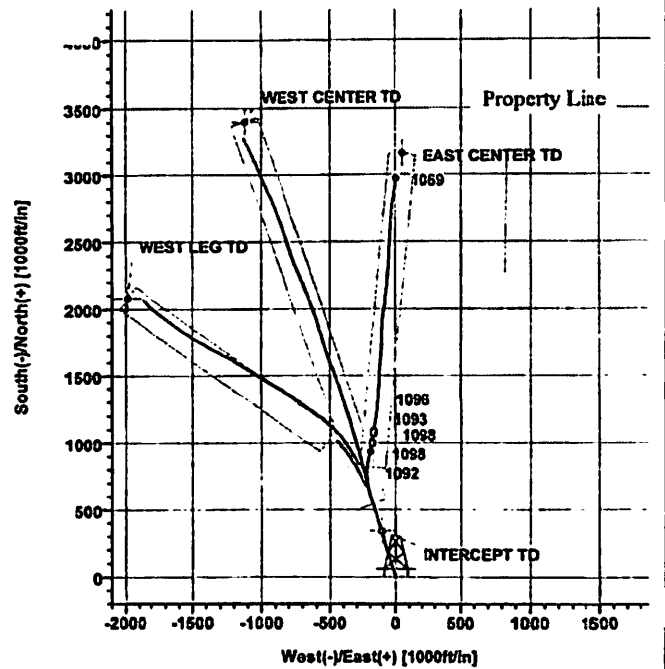
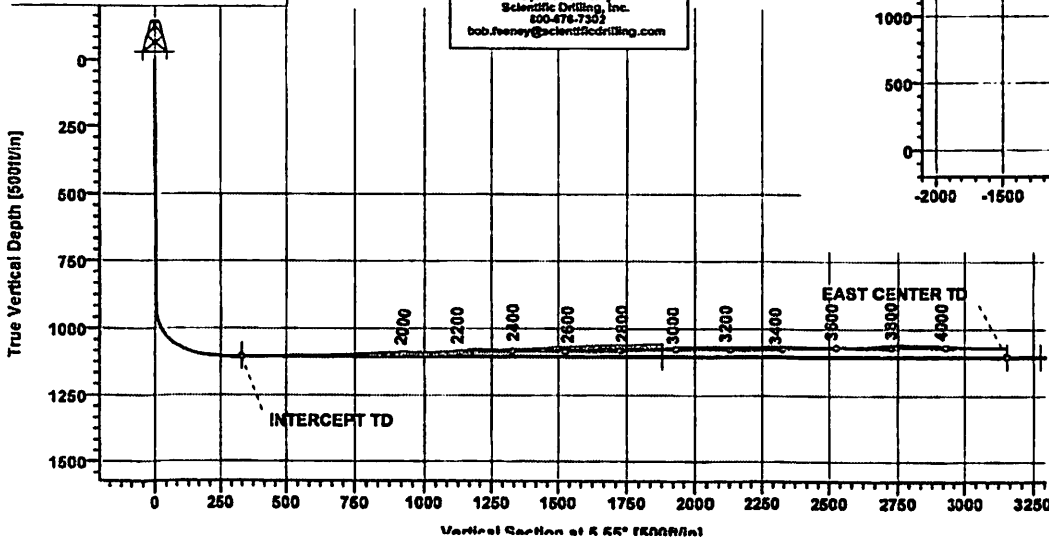


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
EAST CENTER TD	1103.20	3164.38	51.39	482893.88	1712579.12	Rectangle (2358x200)
INTERCEPT TD	1103.20	342.08	-107.12	480071.58	1712720.82	Circle (Radius: 1)
PROPERTY LINE	1457.97	0.00	0.00	479729.50	1712927.74	Polygon
WEST CENTER TD	1103.20	3400.31	-1118.74	483129.81	1711709.50	Rectangle (3007x200)
WEST LEG TD	1103.20	2078.16	-1880.58	481808.68	1710847.19	Rectangle (1807x200)

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/S) Reference: Well Centre, MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feeney
 Scientific Drilling, Inc.
 800-478-7362
 bob.feeney@scientificdrilling.com



Azimuths to Grid North
 True North 0.65°
 Magnetic North -7.86°
 Magnetic Field
 Strength: 53239nT
 Dip Angle: 67.77°
 Date: 7/9/2008
 Model: igrf2005

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:19:15	Page: 1
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North		
Site: MC-21 WELL LOCATION	Vertical (TYD) Reference: 1449.97 + 8 1458.0		
Well: MC-21 Access	Section (VS) Reference: Well (0.00N, 0.00E, 5.55Az)		
Wellpath: East Center Leg	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A	Map Zone: West Virginia, Northern Zone
Map System: US State Plane Coordinate System 1927	Coordinate System: Well Centre
Geo Datum: NAD27 (Clarke 1866)	Geomagnetic Model: Igrf2005
Sys Datum: Mean Sea Level	

Site: MC-21 WELL LOCATION			
Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg	

Well: MC-21 Access	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 39 48 45.503 N
+E/-W 0.00 ft	Longitude: 80 31 20.210 W
Position Uncertainty: 0.00 ft	

Wellpath: East Center Leg	Drilled From: East Leg	Tie-on Depth: 1968.00 ft	
Current Datum: 1449.97 + 8	Height: 1457.97 ft	Above System Datum: Mean Sea Level	
Magnetic Data: 7/9/2008		Declination: -8.52 deg	
Field Strength: 53239 nT		Mag Dip Angle: 67.77 deg	
Vertical Section: Depth From (TVD)	+N/-S	+E/-W	Direction
ft	ft	ft	deg
0.00	0.00	0.00	5.55

Survey: Survey #1	Start Date: 7/23/2008
Company: Scientific Drilling, Inc.	Engineer: Carl Bakay
Tool: MWD-SDI-SYS, Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #1										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
2000.00	83.09	13.37	1093.98	952.43	-190.73	929.52	0.00	0.00	0.00	MWD-SDI-SYS
2100.00	93.84	8.27	1098.87	1050.78	-174.19	1028.99	11.89	10.75	-5.10	MWD-SDI-SYS
2200.00	92.18	8.83	1089.47	1149.21	-158.42	1128.50	1.75	-1.68	0.66	MWD-SDI-SYS
2300.00	91.08	6.48	1086.85	1248.23	-144.77	1228.38	2.80	-1.12	-2.35	MWD-SDI-SYS
2400.00	93.28	5.18	1083.40	1347.59	-134.00	1328.31	2.57	2.22	-1.30	MWD-SDI-SYS
2500.00	88.58	4.22	1081.50	1447.15	-125.35	1428.24	4.80	-4.70	-0.96	MWD-SDI-SYS
2600.00	90.63	2.37	1084.17	1546.94	-119.78	1528.11	2.76	2.05	-1.85	MWD-SDI-SYS
2700.00	88.20	4.82	1085.01	1646.64	-112.41	1628.05	3.45	-2.43	2.46	MWD-SDI-SYS
2800.00	93.72	1.73	1080.75	1746.32	-106.32	1727.85	6.33	5.52	-3.10	MWD-SDI-SYS
2900.00	92.45	1.55	1078.20	1846.17	-104.26	1827.44	1.29	-1.27	-0.17	MWD-SDI-SYS
3000.00	90.19	6.41	1075.17	1945.91	-97.68	1927.34	5.35	-2.28	4.86	MWD-SDI-SYS
3100.00	90.79	7.31	1074.94	2045.03	-84.53	2027.27	1.08	0.60	0.90	MWD-SDI-SYS
3200.00	88.71	6.94	1076.23	2144.25	-72.29	2127.21	2.12	-2.08	-0.37	MWD-SDI-SYS
3300.00	92.02	6.09	1078.37	2243.67	-61.68	2227.19	3.42	3.31	-0.85	MWD-SDI-SYS
3400.00	91.42	2.91	1073.14	2343.24	-53.23	2327.10	3.24	-0.60	-3.19	MWD-SDI-SYS
3500.00	91.88	3.84	1069.44	2443.07	-48.87	2428.89	1.04	0.46	0.93	MWD-SDI-SYS
3600.00	89.29	4.82	1067.68	2542.76	-41.38	2526.84	2.77	-2.59	0.98	MWD-SDI-SYS
3700.00	88.29	3.98	1070.87	2642.46	-34.46	2626.74	1.31	-1.00	-0.84	MWD-SDI-SYS
3800.00	92.34	5.36	1068.15	2742.12	-27.16	2726.64	4.28	4.08	1.38	MWD-SDI-SYS
3900.00	89.70	9.81	1068.15	2841.06	-13.04	2826.48	5.17	-2.65	4.45	MWD-SDI-SYS
4000.00	88.92	7.31	1068.16	2939.90	1.95	2926.30	2.61	-0.78	-2.50	MWD-SDI-SYS
4035.00	88.82	7.31	1068.82	2974.60	6.40	2961.28	0.00	0.00	0.00	MWD-SDI-SYS

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:19:15	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1458.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,5.55Azi)	
Wellpath: East Center Leg	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
EAST CENTER TD		1103.20	3164.38	51.38	482893.88	1712879.12	39	49	16.781	N	80	31	20.013	W
	-Rectangle (2358x200)													
INTERCEPT TD		1103.20	342.06	-107.12	480071.56	1712720.62	39	48	48.871	N	80	31	21.633	W
	-Circle (Radius: 1)													
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
	-Polygon 1	-1457.97	3134.00	837.14	482863.50	1713664.88	39	49	16.569	N	80	31	9.939	W
	-Polygon 2	-1457.97	2262.38	826.07	481991.88	1713653.81	39	49	7.954	N	80	31	9.954	W
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.81	1711709.00	39	49	18.981	N	80	31	35.044	W
	-Rectangle (3007x200)													
WEST LEG TD		1103.20	2079.16	-1680.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W
	-Rectangle (1807x200)													

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: East Center Leg	Date: 7/28/2008 Time: 11:20:11 Page: 1 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,5.55Az) Survey Calculation Method: Minimum Curvature Db: Sybase
--	---

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A.	
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Northern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: Igrf2005

Site: MC-21 WELL LOCATION

Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W
Position Uncertainty: 0.00 ft		North Reference: Grid
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg

Well: MC-21 Access	Slot Name:
Well Position: +N-S 0.00 ft Northing: 479729.50 ft Latitude: 39 48 45.503 N	
+E-W 0.00 ft Easting: 1712827.74 ft Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft	

Wellpath: East Center Leg	Drilled From: East Leg		
Current Datum: 1449.97 + 8	Tie-on Depth: 1968.00 ft		
Magnetic Data: 7/8/2008	Above System Datum: Mean Sea Level		
Field Strength: 53239 aT	Declination: -8.52 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 67.77 deg		
ft	+N-S	+E-W	Direction
	ft	ft	deg
0.00	0.00	0.00	5.55

Survey: Survey #1	Start Date: 7/23/2008
Company: Scientific Drilling, Inc.	Engineer: Carl Bakay
Tool: MWD-SDI-SYS, Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #1

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →		
								Deg	Min	Sec	Deg	Min	Sec
2000.00	83.09	13.37	1093.98	952.43	-190.73	480681.93	1712637.01	39 48	54.894 N	80 31	22.793 W		
2100.00	93.84	8.27	1098.87	1050.76	-174.19	480780.28	1712653.55	39 48	55.868 N	80 31	22.596 W		
2200.00	92.18	8.83	1089.47	1149.21	-158.42	480878.71	1712669.32	39 48	56.843 N	80 31	22.408 W		
2300.00	91.06	6.48	1086.65	1248.23	-144.77	480977.73	1712682.97	39 48	57.823 N	80 31	22.247 W		
2400.00	93.28	5.18	1083.40	1347.59	-134.00	481077.09	1712693.74	39 48	58.806 N	80 31	22.124 W		
2500.00	88.58	4.22	1081.50	1447.15	-125.35	481176.65	1712702.39	39 48	59.791 N	80 31	22.028 W		
2600.00	80.63	2.37	1084.17	1546.94	-119.78	481276.44	1712707.96	39 49	0.778 N	80 31	21.971 W		
2700.00	88.20	4.82	1085.01	1646.64	-112.41	481376.14	1712715.33	39 49	1.764 N	80 31	21.891 W		
2800.00	93.72	1.73	1080.75	1746.32	-106.32	481475.82	1712721.42	39 49	2.749 N	80 31	21.827 W		
2900.00	92.45	1.55	1076.20	1846.17	-104.26	481575.67	1712723.48	39 49	3.737 N	80 31	21.816 W		
3000.00	90.19	6.41	1075.17	1945.91	-97.68	481675.41	1712730.06	39 49	4.723 N	80 31	21.746 W		
3100.00	90.79	7.31	1074.94	2045.03	-84.53	481774.53	1712743.21	39 49	5.704 N	80 31	21.692 W		
3200.00	88.71	6.94	1076.23	2144.25	-72.29	481873.75	1712755.45	39 49	6.686 N	80 31	21.449 W		
3300.00	92.02	6.09	1076.37	2243.67	-61.66	481973.17	1712766.08	39 49	7.670 N	80 31	21.328 W		
3400.00	91.42	2.91	1073.14	2343.24	-53.23	482072.74	1712774.51	39 49	8.655 N	80 31	21.234 W		
3500.00	91.88	3.84	1069.44	2443.07	-48.87	482172.57	1712778.87	39 49	9.642 N	80 31	21.193 W		
3600.00	89.29	4.82	1067.68	2542.76	-41.38	482272.26	1712786.36	39 49	10.628 N	80 31	21.111 W		
3700.00	88.29	3.98	1070.87	2642.46	-34.46	482371.66	1712793.28	39 49	11.614 N	80 31	21.037 W		
3800.00	92.34	5.36	1068.15	2742.12	-27.16	482471.62	1712800.58	39 49	12.600 N	80 31	20.858 W		
3900.00	89.70	9.81	1066.15	2841.06	-13.04	482570.56	1712814.70	39 49	13.579 N	80 31	20.792 W		
4000.00	88.92	7.31	1068.16	2939.90	1.95	482669.40	1712829.69	39 49	14.557 N	80 31	20.614 W		
4035.00	88.92	7.31	1068.82	2974.60	6.40	482704.10	1712834.14	39 49	14.901 N	80 31	20.562 W		

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:20:11	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1468.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,5.55Az)	
Wellpath: East Center Leg	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
EAST CENTER TD		1103.20	3184.38	61.38	482893.88	1712879.12	39	49	16.781	N	80	31	20.013	W
	-Rectangle (2358x200)													
INTERCEPT TD		1103.20	342.06	-107.12	480071.58	1712720.62	39	48	48.871	N	80	31	21.833	W
	-Circle (Radius: 1)													
PROPERTY LINE		-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
	-Polygon 1	-1457.97	3134.00	837.14	482883.50	1713884.88	39	49	16.669	N	80	31	8.939	W
	-Polygon 2	-1457.97	2262.38	826.07	481981.88	1713853.81	39	49	7.954	N	80	31	8.954	W
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.81	1711709.00	39	49	18.981	N	80	31	35.044	W
	-Rectangle (3007x200)													
WEST LEG TD		1103.20	2079.16	-1880.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.895	W
	-Rectangle (1807x200)													

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CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: East Leg
 Survey: Survey #1

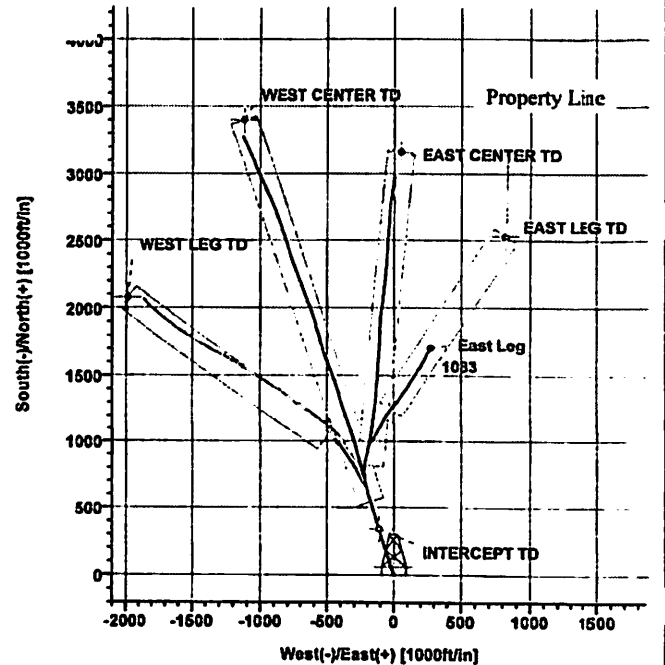
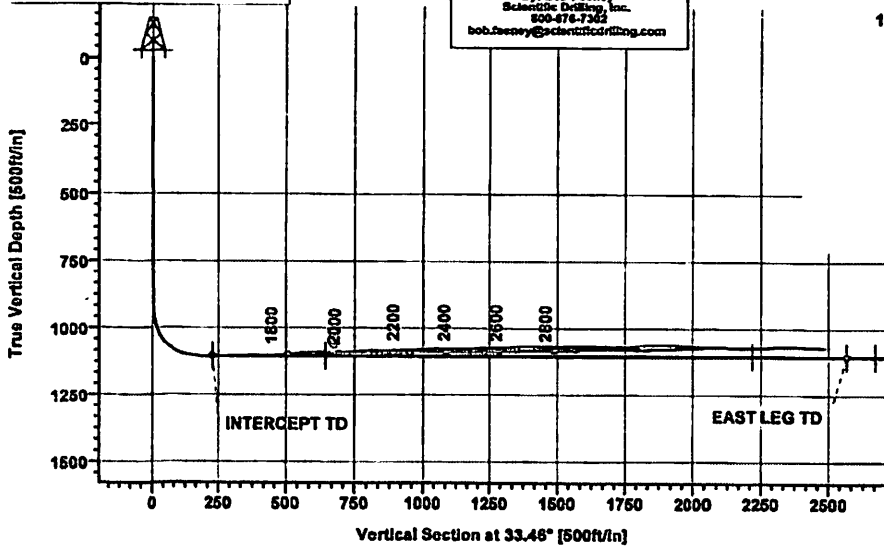


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
INTERCEPT TD	1103.20	342.08	-107.12	480071.56	1712720.82	Circle (Radius: 1)
PROPERTY LINE	-1457.97	0.00	0.00	478728.50	1712827.74	Polygon
WEST CENTER TD	1103.20	3450.31	-1118.74	483129.81	1711709.00	Rectangle (3007x200)
WEST LEG TD	1103.20	2079.16	-1980.58	481808.56	1710847.19	Rectangle (1807x200)
EAST LEG TD	1103.20	2831.82	823.20	482281.12	1713860.94	Rectangle (1535x200)
EAST CENTER TD	1103.20	3164.38	51.38	482893.88	1712879.12	Rectangle (2358x200)

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinate (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449 97 + 8 1457 97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449 97 + 8 1457 97
 Calculation Method: Radius of Curvature

Plot Date: 7/28/2008
 By: Bob Feeney
 Scientific Drilling, Inc.
 600-678-7362
 bob.feeney@scientificdrilling.com



Azimuths to Grid North
 True North 0.65°
 Magnetic North -7.86°
 Magnetic Field
 Strength: 53239nT
 Dip Angle: 67.77°
 Date: 7/9/2008
 Model: lgrf2005

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:42:30	Page: 1
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North		
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference: 1449.97 + 8 1458.0		
Well: MC-21 Access	Section (VS) Reference: Well (0.00N,0.00E,33.46Az)		
Wellpath: East Leg	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A.		
Map System: US State Plane Coordinate System 1927	Map Zone: West Virginia, Northern Zone	
Geo Datum: NAD27 (Clarke 1886)	Coordinate System: Well Centre	
Sys Datum: Mean Sea Level	Geomagnetic Model: lgr2005	

Site: MC-21 WELL LOCATION			
Site Position:	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
From: Map	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 1449.97 ft		Grid Convergence: -0.65 deg	

Well: MC-21 Access		Slot Name:	
Well Position: +N/-S 0.00 ft	Northing: 479729.50 ft	Latitude: 39 48 45.503 N	
+E/-W 0.00 ft	Easting: 1712827.74 ft	Longitude: 80 31 20.210 W	
Position Uncertainty: 0.00 ft			

Wellpath: East Leg		Drilled From: West Center Leg
Current Datum: 1449.97 + 8	Height: 1457.97 ft	Tie-on Depth: 1713.00 ft
Magnetic Data: 7/8/2008		Above System Datum: Mean Sea Level
Field Strength: 53239 nT		Declination: -8.52 deg
Vertical Section: Depth From (TVD)	+N/-S	Mag Dip Angle: 67.77 deg
ft	ft	+E/-W
		ft
0.00	0.00	0.00
		33.46
		deg

Survey: Survey #1	Start Date: 7/20/2008
Company: Scientific Drilling	Engineer: Carl Bakay
Tool: MWD-SDI-SYS, Scientific MWD Systematic	Tied-to: User Defined

Survey: Survey #1										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1800.00	93.92	358.68	1097.49	756.84	-223.70	508.07	0.00	0.00	0.00	MWD-SDI-SYS
1900.00	92.50	10.83	1090.59	856.05	-216.41	594.86	14.00	-1.42	13.95	MWD-SDI-SYS
2000.00	87.40	21.04	1092.74	951.89	-188.68	690.11	11.59	-5.11	10.41	MWD-SDI-SYS
2100.00	93.25	30.86	1093.53	1040.92	-143.59	789.24	11.43	5.85	9.82	MWD-SDI-SYS
2200.00	90.36	27.29	1090.99	1128.02	-94.61	888.92	4.59	-2.89	-3.57	MWD-SDI-SYS
2300.00	92.45	34.91	1088.88	1214.81	-45.20	988.56	7.90	2.09	7.62	MWD-SDI-SYS
2400.00	91.37	37.85	1085.51	1294.18	15.52	1088.25	3.13	-1.08	2.94	MWD-SDI-SYS
2500.00	88.13	34.17	1087.75	1374.65	74.73	1188.03	4.90	-3.24	-3.68	MWD-SDI-SYS
2600.00	95.41	33.17	1084.98	1458.41	129.05	1287.86	7.35	7.28	-1.00	MWD-SDI-SYS
2700.00	89.43	32.42	1080.44	1542.33	183.15	1387.70	6.02	-5.98	-0.75	MWD-SDI-SYS
2800.00	90.98	28.32	1081.19	1628.74	233.40	1487.50	4.39	1.55	-4.10	MWD-SDI-SYS
2880.00	84.95	28.80	1082.62	1707.97	278.00	1677.09	6.72	-6.70	0.54	MWD-SDI-SYS

Targets														
Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec			← Longitude → Deg Min Sec				
INTERCEPT TD	-Circle (Radius: 1)	1103.20	342.06	-107.12	480071.66	1712720.82	39	48	48.671	N	80	31	21.833	W
PROPERTY LINE	-Polygon 1	-1457.97	0.00	0.00	479729.50	1712827.74	39	48	45.503	N	80	31	20.210	W
	-Polygon 2	-1457.97	3134.00	837.14	482863.50	1713664.88	39	49	16.569	N	80	31	9.939	W
	-Polygon 2	-1457.97	2282.38	826.07	481991.88	1713853.81	39	49	7.954	N	80	31	9.954	W
WEST CENTER TD	-Rectangle (3007x200)	1103.20	3400.31	-1118.74	483129.81	1711709.00	39	49	18.981	N	80	31	35.044	W
WEST LEG TD		1103.20	2079.16	-1980.55	481808.66	1710847.19	39	49	5.827	N	80	31	45.885	W

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 11:42:30	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1458.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,33.48Az)	
Wellpath: East Leg	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
-Rectangle (1807x200) EAST LEG TD		1103.20	2531.62	823.20	482281.12	1713650.84	39	49	10.615	N	80	31	10.030	W
-Rectangle (1535x200) EAST CENTER TD		1103.20	3164.38	61.38	482893.88	1712879.12	39	49	16.781	N	80	31	20.013	W
-Rectangle (2358x200)														

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 WV Department of
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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: East Leg	Date: 7/28/2008 Co-ordinate(NE) Reference: Vertical (TVD) Reference: Section (VS) Reference: Survey Calculation Method:	Time: 11:43:27 Well: MC-21 Access, Grid North Well (0.00N,0.00E,33.48Azi) Minimum Curvature Db: Sybase
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Targets

Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
WEST LEG TD	-Rectangle (1807x200)	1103.20	2079.18	-1980.55	481808.88	1710847.19	39	49	5.827	N	80	31	45.895	W
EAST LEG TD	-Rectangle (1535x200)	1103.20	2531.62	823.20	482261.12	1713650.94	39	49	10.615	N	80	31	10.030	W
EAST CENTER TD	-Rectangle (2358x200)	1103.20	3164.38	51.38	482893.88	1712879.12	39	49	16.781	N	80	31	20.013	W

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4705101142



CNX Gas Company, LLC

Field: MARSHALL COUNTY, WV
 Site: MC-21 WELL LOCATION
 Well: MC-21 Access
 Wellpath: East Leg Stk
 Survey: Survey #1

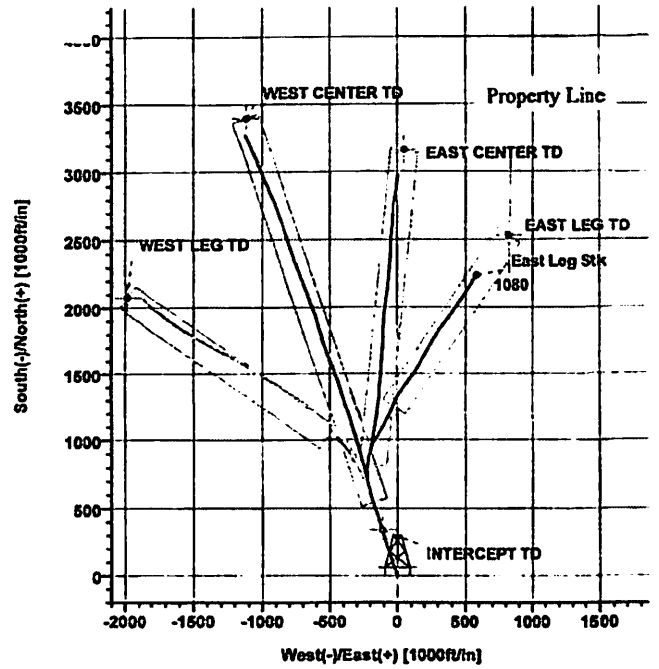
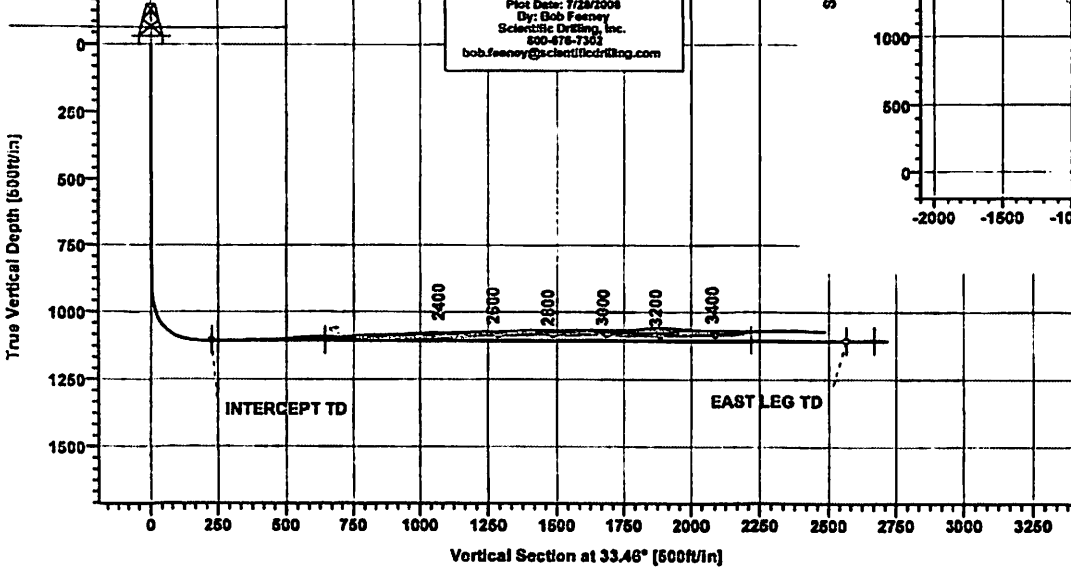


TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Shape
EAST LEG TD	1103.20	2531.62	823.20	482261.12	1713850.94	Rectangle (1635x200)
EAST CENTER TD	1103.20	3164.38	51.38	482893.88	1712879.12	Rectangle (2358x200)
INTERCEPT TD	1103.20	342.06	-107.12	480071.56	1712720.62	Circle (Radius: 1)
PROPERTY LINE	-1457.97	0.00	0.00	479729.50	1712827.74	Polygon
WEST CENTER TD	1103.20	3409.31	-1118.74	483129.81	1711709.60	Rectangle (3007x200)
WEST LEG TD	1103.20	2079.16	-1980.55	481608.66	1710847.19	Rectangle (1897x200)

SITE DETAILS
 MC-21 WELL LOCATION
 Site Centre Northing: 479729.50
 Easting: 1712827.74
 Ground Level: 1449.97
 Positional Uncertainty: 0.00
 Convergence: -0.65

REFERENCE INFORMATION
 Co-ordinates (N/E) Reference: Well Centre: MC-21 Access, Grid North
 Vertical (TVD) Reference: 1449.97 + 8 1457.97
 Section (VS) Reference: Slot - (0.00N,0.00E)
 Measured Depth Reference: 1449.97 + 8 1457.97
 Calculation Method: Radius of Curvature

Plot Date: 7/21/2008
 By: Bob Feeney
 Scientific Drilling, Inc.
 800-478-7303
 bob.feeney@scientificdrilling.com



Azimuths to Grid North
 True North: 0.65°
 Magnetic North: -7.86°
 Magnetic Field Strength: 53235nT
 Dip Angle: 67.76°
 Date: 7/21/2008
 Model: igr2005

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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC Field: MARSHALL COUNTY, WV Site: MC-21 WELL LOCATION Well: MC-21 Access Wellpath: East Leg Stk	Date: 7/28/2008 Time: 12:02:03 Page: 1 Co-ordinate(NE) Reference: Well: MC-21 Access, Grid North Vertical (TVD) Reference: 1449.97 + 8 1458.0 Section (VS) Reference: Well (0.00N,0.00E,33.46Azl) Survey Calculation Method: Minimum Curvature Db: Sybase																																																																																																																																																																																													
Field: MARSHALL COUNTY, WV Northern West Virginia and Pennsylvania Operations U.S.A. Map System: US State Plane Coordinate System 1927 Map Zone: West Virginia, Northern Zone Geo Datum: NAD27 (Clarke 1888) Coordinate System: Well Centre Sys Datum: Mean Sea Level Geomagnetic Model: lgr2005																																																																																																																																																																																														
Site: MC-21 WELL LOCATION <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">Site Position:</td> <td style="width: 15%;">Northing:</td> <td style="width: 15%;">479729.50 ft</td> <td style="width: 15%;">Latitude:</td> <td style="width: 25%;">39 48 45.503 N</td> </tr> <tr> <td>From: Map</td> <td>Easting:</td> <td>1712827.74 ft</td> <td>Longitude:</td> <td>80 31 20.210 W</td> </tr> <tr> <td>Position Uncertainty:</td> <td>0.00 ft</td> <td></td> <td>North Reference:</td> <td>Grid</td> </tr> <tr> <td>Ground Level:</td> <td>1449.97 ft</td> <td></td> <td>Grid Convergence:</td> <td>-0.65 deg</td> </tr> </table>		Site Position:	Northing:	479729.50 ft	Latitude:	39 48 45.503 N	From: Map	Easting:	1712827.74 ft	Longitude:	80 31 20.210 W	Position Uncertainty:	0.00 ft		North Reference:	Grid	Ground Level:	1449.97 ft		Grid Convergence:	-0.65 deg																																																																																																																																																																									
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Scientific Drilling Survey Report

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 12:02:03	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
Site: MC-21 WELL LOCATION	Vertical (TVD) Reference:	1449.97 + 8 1458.0	
Well: MC-21 Access	Section (VS) Reference:	Well (0.00N,0.00E,33.46Azi)	
Wellpath: East Leg Stk	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Targets

Name	Description	TVD ft	+N-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude → Deg Min Sec	← Longitude → Deg Min Sec
PROPERTY LINE		-1457.97	0.00	0.00	479729.501712827.74	39 48 45.503 N	80 31 20.210 W	
-Polygon 1		-1457.97	3134.00	837.14	482883.501713884.88	39 49 16.569 N	80 31 9.939 W	
-Polygon 2		-1457.97	2262.38	826.07	481991.881713653.81	39 49 7.954 N	80 31 9.954 W	
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.811711709.00	39 49 18.981 N	80 31 35.044 W	
-Rectangle (3007x200)								
WEST LEG TD		1103.20	2079.16	-1980.55	481808.681710847.19	39 49 5.827 N	80 31 45.895 W	
-Rectangle (1807x200)								

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Scientific Drilling Survey Report - Geographic

Company: CNX Gas Company, LLC	Date: 7/28/2008	Time: 12:03:05	Page: 2
Field: MARSHALL COUNTY, WV	Co-ordinate(NE) Reference:	Well: MC-21 Access, Grid North	
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Name	Description	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
							Deg	Min	Sec	Deg	Min	Sec		
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PROPERTY LINE		-1457.97	0.00	0.00	479729.501712827.74		39	48	45.503	N	80	31	20.210	W
-Polygon 1		-1457.97	3134.00	837.14	482883.501713684.88		39	49	16.569	N	80	31	9.939	W
-Polygon 2		-1457.97	2282.38	828.07	481991.881713653.81		39	49	7.954	N	80	31	9.854	W
WEST CENTER TD		1103.20	3400.31	-1118.74	483129.811711709.00		39	49	18.981	N	80	31	35.044	W
-Rectangle (3007x200)														
WEST LEG TD		1103.20	2079.16	-1880.55	481808.661710847.19		39	49	5.827	N	80	31	45.895	W
-Rectangle (1807x200)														

Prepared by:
On: 04/08/2021

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Environmental Protection

11/05/2021