

February 4, 2014

JR

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work



API 47-001-03287 County Barbour District Philippi
Quad Audra Pad Name Audra 3 Field/Pool Name Philippi
Farm name MIKE ROSS, INC. Well Number AUD3DHS
Operator (as registered with the OOG) CNX Gas Company, LLC
Address P.O. Box 1248 City Jane Lew State WV Zip 26378

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,329,966.26m Easting 578,747.50m
Landing Point of Curve Northing 4,329,527.50m Easting 578,494.32m
Bottom Hole Northing 4,328,067.32m Easting 580,113.26m

Elevation (ft) 1546' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Bactericide, Polymers and Weighting Agents.

Date permit issued 3/28/2013 Date drilling commenced 6/7/2013 Date drilling ceased 8/30/2013
Date completion activities began 10/18/2013 Date completion activities ceased 10/29/2013
Verbal plugging (Y/N) N/A Date permission granted N/A Granted by N/A

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 220', 640' Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Reported Void(s) encountered (Y/N) depths N
Coal depth(s) ft None Reported Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
[Signature] 1/29/14

04/04/2014

API 47-001 - 03287 Farm name MIKE ROSS, INC. Well number AUD3DHS

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	26"	20"	79'	N	L.S. 81.3 / 79'	N/A	N
Surface	17 1/2"	13 3/8"	515'	N	J-55 54.5 / 515'	2	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	4180'	N	J-55 36 / 4180'	2	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4" & 8 1/2"	5 1/2"	17471'	N	P-110 20 / 17471'	N/A	Y
Tubing	5 1/2"	2 3/8"	8021.2'	N	J-55 4.7 / 8021.2'	N/A	N
Packer type and depth set		None					

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	Grouted In	15.6	1.18	N/A	Surface	24
Surface	Class A	368	14.6	1.39	393	Surface	12
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	1282	14.6	1.18	1370	Surface	12
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	115 (bbbls), 85 (bbbls) / 564 (bbbls)	13.0, 14.2 / 14.8	1.26	4267.79	2000'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 17,533' Loggers TD (ft) 17,533'
 Deepest formation penetrated Onodaga Plug back to (ft) 7830'-6201'
 Plug back procedure Solid Plug

Kick off depth (ft) 6201'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Conductor - No centralizers used. Fresh water & Coal - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface. Intermediate - Bow spring centralizers one on the first two joints and every fourth joint until inside surface casing. Production - Rigid bow spring centralizer on first joint then every 2 casing joints (free floating) through the lateral and the curve.
 (Note: cementing the 5 1/2" casing completely in open hole lateral and curve.)

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS Plug and Perforation Shot Hole

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED Emulsion

API 47- 001 - 03287 Farm name MIKE ROSS, INC. Well number AUD3DHS

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>UPPER MARCELLUS</u>	<u>7506'</u>	<u>TVD</u> <u>MD</u>
<u>MIDDLE MARCELLUS</u>	<u>7524'</u>	
<u>LOWER MARCELLUS</u>	<u>7568'</u>	

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1200 psi Bottom Hole 5609 psi DURATION OF TEST 202 hrs

OPEN FLOW Gas 5441 mcfpd Oil N/A bpd NGL N/A bpd Water 636 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	<u>0</u>		<u>0</u>		
					See Attached

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI
Address 450 Gears Road Suit 500 City Houston State TX Zip 77067

Logging Company Diversified Mud Logging
Address 440 Route 519 City Eighty Four State PA Zip 15332

Cementing Company CalFrac
Address 2001 Summit View Rd City Smithfield State PA Zip 15478

Stimulating Company CalFrac
Address 2001 Summit View Rd City Smithfield State PA Zip 15478

Please insert additional pages as applicable.

Completed by CNX Gas WV Operations Company, LLC - Drilling and Completions Telephone 304-884-2000
Signature [Signature] Title Manager Gas Permitting - WV Date 2/4/14

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

API 47-001-03287H Farm name MIKE ROSS, INC. Well number AUD3DHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1	10/18/2013	17427	17361	4	Marcellus
2	10/18/2013	17325	17083	5	Marcellus
3	10/18/2013	17025	16783	5	Marcellus
4	10/19/2013	16725	16483	5	Marcellus
5	10/19/2013	16425	16183	5	Marcellus
6	10/19/2013	16125	15883	5	Marcellus
7	10/20/2013	15818	15516	5	Marcellus
8	10/20/2013	15220	14970	4	Marcellus
9	10/20/2013	14901	14659	5	Marcellus
10	10/21/2013	14601	14359	5	Marcellus
11	10/22/2013	14301	14059	5	Marcellus
12	10/22/2013	14001	13759	5	Marcellus
13	10/23/2013	13701	13459	5	Marcellus
14	10/23/2013	13401	13159	5	Marcellus
15	10/23/2013	13101	12859	5	Marcellus
16	10/24/2013	12801	12559	5	Marcellus
17	10/24/2013	12501	12259	5	Marcellus
18	10/25/2013	12201	11959	5	Marcellus
19	10/26/2013	11901	11659	5	Marcellus
20	10/26/2013	11601	11359	5	Marcellus
21	10/26/2013	11301	11059	5	Marcellus
22	10/26/2013	11001	10759	5	Marcellus
23	10/27/2013	10701	10459	5	Marcellus
24	10/27/2013	10401	10159	5	Marcellus
25	10/27/2013	10101	9859	5	Marcellus
26	10/28/2013	9801	9559	5	Marcellus
27	10/28/2013	9501	9259	5	Marcellus
28	10/29/2013	9201	8959	5	Marcellus
29	10/29/2013	8910	8736	5	Marcellus

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STIMULATION INFORMATION PER STAGE

Stage No.	Stimulations Date	Avg Pump Rate (BPM)	Avg Treatment Pressure (PSI)	Max Breakdown Perforations	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
1	10/18/2013	64.1	8495	0	5504	218750	8482	3972
2	10/18/2013	69.2	8568	7362	5398	349600	9055	4052
3	10/18/2013	56.2	8132	9227	5451	288100	8597	3727
4	10/19/2013	71	8438	7525	5253	351500	8974	3601
5	10/19/2013	69.9	8496	7159	5349	350600	10367	4121
6	10/19/2013	70.3	8220	7221	5597	351450	12293	4568
7	10/20/2013	73.2	8432	7065	4939	401350	11054	4069
8	10/20/2013	73.6	8467	7112	4960	351100	9743	3845
9	10/20/2013	65.4	8111	6751	4969	350850	8303	3865
10	10/21/2013	67.2	7999	6379	5827	351500	9475	7024
11	10/22/2013	71.4	8229	7398	4758	349200	9178	6926
12	10/22/2013	70.4	8068	6643	5221	352400	7709	6998
13	10/23/2013	75.5	8128	7476	5204	350600	7384	6688
14	10/23/2013	73.4	8117	6197	6140	351000	7813	6905
15	10/23/2013	72.9	7879	6341	5099	305300	6905	6703
16	10/24/2013	70.7	8001	6417	5556	352450	8156	7112
17	10/24/2013	82	8540	6684	5994	349600	11437	13639
18	10/25/2013	68.9	7876	6778	5078	350450	7782	6902
19	10/26/2013	68	8049	7331	5227	349900	7059	6862
20	10/26/2013	72	7750	6454	5592	349900	7208	6920
21	10/26/2013	67.6	8061	7177	5318	322900	7830	6834
22	10/26/2013	69.4	8053	6652	5409	351400	8893	7459
23	10/27/2013	77.1	7880	6454	5345	350700	7244	7053
24	10/27/2013	74.2	7738	6515	4830	351900	7018	6657
25	10/27/2013	77.5	7769	6957	4595	350550	7128	6590
26	10/28/2013	85.4	7978	6814	6109	352200	10361	7162
27	10/28/2013	83.2	7715	6503	4895	353800	7791	6679
28	10/29/2013	89.1	7927	6565	5040	360200	7862	6748
29	10/29/2013	87.7	7511	6626	5063	376190	7995	6754

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LITHOLOGY / FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER,BRINE,GAS,H2S, ETC)
	DEPTH IN FT TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
FILL	0	80			Brown
SAND	80	95			Gray
SHALE	95	150			Gray
SAND	150	210			Brown
SAND/SHALE	210	300			Brown / 1" stream of water @220'
SAND	300	445			Brown
SHALE	445	500			Black
SAND/SHALE	500	550			Gray
SHALE	550	730			Gray / wet @ 640'
SAND	730	880			Gray
REDROCK	880	910			Red
SAND/SHALE	910	967			Gray
REDROCK	967	976			Red
SAND	976	1100			Blue/Gray
REDROCK	1100	1130			Red
SHALE	1130				Dark Gray
BIGLIME	1160	1360			
BIG INJUN	1360	1508			
GANTZ	1508	1956			
FOURTH SAND	1956	2074			
FIFTH SAND	2074	2894			
BALLTOWN	2894	3262			
BRADFORD	3262	3695			
RILEY	3695	4032			
BENSON	4032	4208			
FIRST ELK	4208	4335			
SECOND ELK	4335	4634			
THIRD ELK	4634	4812			
FOURTH ELK	4812	5283			
RHINESTREET SHALE	5283	5407			
HAVERTY	5407	6258			
SYCAMORE GRIT	6258	6537			
CASHAQUA	6537	6777			
FRIB	6777	6985			
MIDDLESEX SHALE	6985	7050			
WEST RIVER	7050	7284			
BURKETT	7284	7314			

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LITHOLOGY / FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER,BRINE,GAS,H2S, ETC)
	DEPTH IN FT TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
TULLY LIMESTONE	7314	7351			
HAMILTON SHALE	7351	7506			
MARCELLUS SHALE	7506	7524			
Middle Marcellus	7524	7568			
Lower Marcellus	7568	7595			
Onondaga	7595	7608			
Huntersville Chert	7608				



CNX GAS COMPANY, LLC

Location: Barbour County, WV
 Field: Barbour
 Facility: AUD Pad

Slot: Slot #3
 Well: AUD 3D
 Wellbore: AUD 3D (PWB)



Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
AUD Pad		1832785.360	224616.950	39°06'54.718"N	80°05'21.527"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #3	0.00	0.00	1832785.360	224616.950	39°06'54.718"N	80°05'21.527"W
Patterson 331 (RT) to Mud line (At Slot: Slot #3)				25ft		
Mean Sea Level to Mud line (At Slot: Slot #3)				-1532ft		
Patterson 331 (RT) to Mean Sea Level				1557ft		

Well Profile Data

Design Comment	MD (ft)	Inc. (")	Az. (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	5612.20	0.420	116.040	5611.68	-40.10	55.46	0.00	67.91
T.O.C.	5700.00	0.420	116.040	5699.48	-40.39	56.03	0.00	68.52
Curve KOP	5850.00	0.420	116.040	5849.48	-40.87	57.02	0.00	69.58
Build	6575.82	57.804	244.560	6458.81	-186.65	-244.15	8.00	-51.26
Hold	7565.66	57.804	244.560	6986.22	-546.47	-1000.56	0.00	-359.07
End of 3D Arc	8861.15	85.000	135.000	7550.87	-1519.09	-1054.98	8.00	264.45
Landing PL	9011.15	91.000	135.000	7556.10	-1625.04	-949.03	4.00	414.20
End of Tangent	12111.15	91.000	135.000	7502.00	-3816.74	1242.67	0.00	3511.84
Turn	12386.08	91.000	129.501	7497.20	-4001.49	1446.07	2.00	3786.60
BHL	17537.44	91.000	129.501	7407.28	-7277.70	5420.35	0.00	8927.57

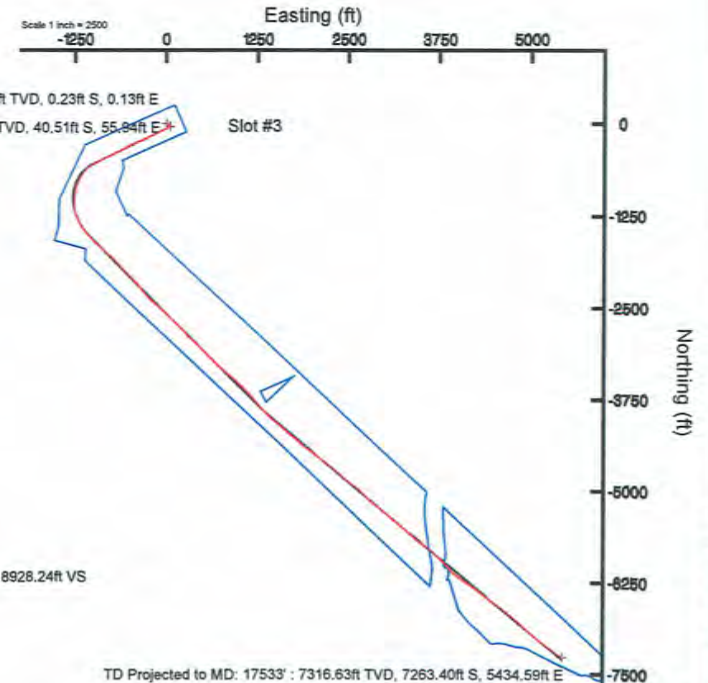
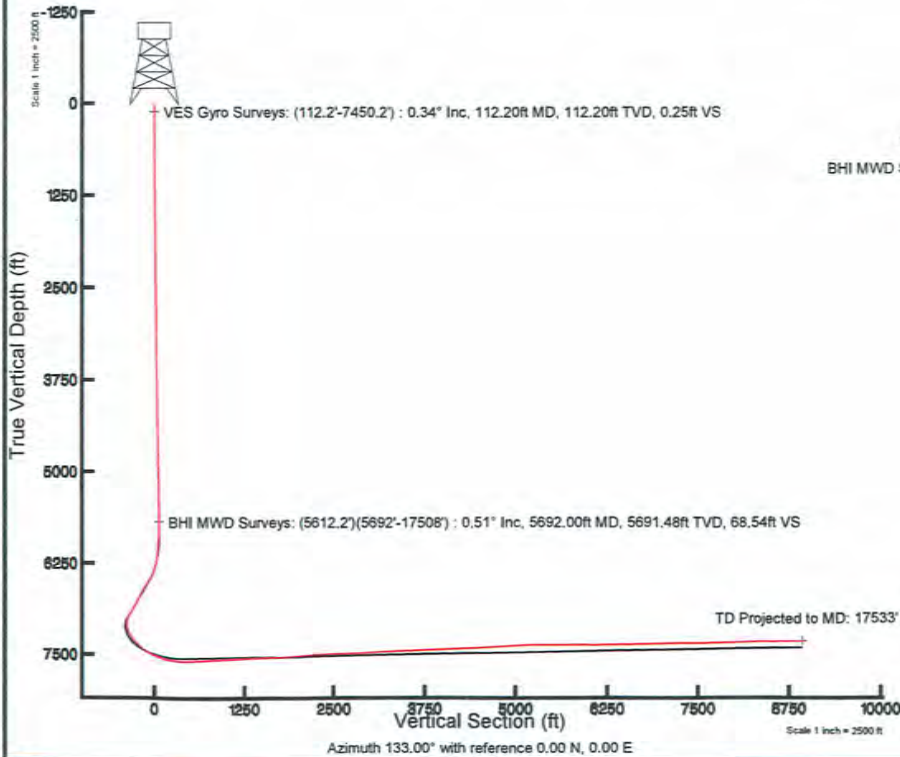
Targets

Name	MD (ft)	TVD (ft)	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
AUD 3D BHL Rev-3	17537.44	7407.28	-7277.70	5420.35	1838205.59	217339.41	39°05'43.132"N	80°04'12.174"W
AUD 3D LP Rev-3	9011.15	7556.10	-1625.04	-949.03	1831836.35	222991.95	39°06'38.594"N	80°05'33.431"W
AUD-3D LL	7598.00	-3786.09	1362.02	1834147.35	220830.94	39°06'17.385"N	80°05'03.935"W	
AUD-3D LP	7598.00	-1426.02	-854.80	1831930.58	223190.96	39°06'40.566"N	80°05'32.252"W	

Plot reference wellpath is AUD 3D PWP Rev-E.0	
True vertical depths are referenced to Patterson 331 (RT)	Grid System: NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
Measured depths are referenced to Patterson 331 (RT)	North Reference: Grid north
Patterson 331 (RT) to Mean Sea Level: 1557 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot: Slot #3): -1532 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: frsjesl on 27/Aug/2013



BOGM (1945.0 to 2015.0) Dip: 66.69° Field: 52186.8 nT
 Magnetic North is 8.52 degrees West of True North (at 02/Aug/2013)
 Grid North is 0.38 degrees West of True North
 To correct azimuth from True to Grid add 0.38 degrees
 To correct azimuth from Magnetic to Grid subtract 8.54 degrees



1-032817



Actual Wellpath Report

AUD 3D AWP Proj: 17533'

Page 1 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

REPORT SETUP INFORMATION

Projection System	NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Frisjesl
Scale	0.99998	Report Generated	27/Aug/2013 at 13:46
Convergence at slot	0.38° West	Database/Source file	WA_EasternUS/AUD_3D__AWB_.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	1832785.36	224616.95	39°06'54.718"N	80°05'21.527"W
Facility Reference Pt			1832785.36	224616.95	39°06'54.718"N	80°05'21.527"W
Field Reference Pt			1853088.00	260038.65	39°12'46.064"N	80°01'06.538"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 331 (RT) to Facility Vertical Datum	25.00ft
Horizontal Reference Pt	Slot	Patterson 331 (RT) to Mean Sea Level	1557.00ft
Vertical Reference Pt	Patterson 331 (RT)	Patterson 331 (RT) to Mud Line at Slot (Slot #3)	25.00ft
MD Reference Pt	Patterson 331 (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	133.00°

1-03287

Actual Wellpath Report

AUD 3D AWP Proj: 17533
Page 2 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC
Area	Barbour County, WV
Field	Barbour
Facility	AUD Pad
Slot	Wellbore
Slot #3	AUD 3D (AWB)

WELLPATH DATA (187 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS ["/100ft]
0.00†	0.000	150.630	0.00	0.00	0.00	0.00	1832785.36	224616.95	39°06'54.718"N	80°05'21.527"W	0.00	0.000	0.00
25.00	0.000	150.630	25.00	0.00	0.00	0.00	1832785.36	224616.95	39°06'54.718"N	80°05'21.527"W	0.00	0.000	0.00
112.20	0.340	150.630	112.20	0.25	-0.23	0.13	1832785.49	224616.72	39°06'54.715"N	80°05'21.525"W	0.26	150.630	0.39
212.20	0.410	107.900	212.20	0.85	-0.59	0.61	1832785.97	224616.36	39°06'54.712"N	80°05'21.519"W	0.85	134.104	0.28
312.20	0.300	102.790	312.20	1.40	-0.76	1.21	1832786.57	224616.19	39°06'54.710"N	80°05'21.512"W	1.43	122.227	0.11
412.20	0.440	113.900	412.19	1.99	-0.98	1.82	1832787.17	224615.97	39°06'54.708"N	80°05'21.504"W	2.06	118.255	0.16
512.20	0.290	64.440	512.19	2.45	-1.02	2.39	1832787.75	224615.93	39°06'54.708"N	80°05'21.497"W	2.60	113.111	0.33
612.20	0.420	77.180	612.19	2.75	-0.83	2.98	1832788.34	224616.12	39°06'54.710"N	80°05'21.489"W	3.09	105.587	0.15
712.20	0.950	77.240	712.18	3.42	-0.57	4.15	1832789.51	224616.38	39°06'54.712"N	80°05'21.474"W	4.18	97.786	0.53
812.20	0.940	89.040	812.17	4.48	-0.37	5.77	1832791.13	224616.58	39°06'54.714"N	80°05'21.454"W	5.79	93.667	0.19
912.20	0.880	86.450	912.16	5.59	-0.31	7.36	1832792.72	224616.64	39°06'54.715"N	80°05'21.434"W	7.37	92.402	0.07
1012.20	0.640	113.660	1012.15	6.65	-0.49	8.64	1832794.00	224616.46	39°06'54.713"N	80°05'21.417"W	8.65	93.215	0.43
1112.20	0.510	103.370	1112.14	7.56	-0.81	9.58	1832794.94	224616.14	39°06'54.710"N	80°05'21.405"W	9.62	94.845	0.17
1212.20	0.820	105.300	1212.14	8.58	-1.10	10.71	1832796.07	224615.85	39°06'54.707"N	80°05'21.391"W	10.76	95.888	0.31
1312.20	0.550	117.330	1312.13	9.68	-1.51	11.82	1832797.18	224615.44	39°06'54.703"N	80°05'21.377"W	11.92	97.294	0.30
1412.20	0.670	115.270	1412.12	10.70	-1.98	12.78	1832798.14	224614.97	39°06'54.699"N	80°05'21.365"W	12.93	98.822	0.12
1512.20	0.620	112.080	1512.12	11.76	-2.44	13.81	1832799.17	224614.51	39°06'54.694"N	80°05'21.352"W	14.02	100.005	0.06
1612.20	0.510	136.200	1612.11	12.71	-2.96	14.62	1832799.98	224613.99	39°06'54.689"N	80°05'21.341"W	14.91	101.450	0.26
1712.20	0.380	99.050	1712.11	13.43	-3.33	15.25	1832800.61	224613.62	39°06'54.686"N	80°05'21.333"W	15.61	102.330	0.31
1812.20	0.640	120.520	1812.10	14.25	-3.67	16.06	1832801.42	224613.28	39°06'54.682"N	80°05'21.323"W	16.48	102.870	0.32
1912.20	0.620	123.890	1912.10	15.33	-4.26	16.99	1832802.35	224612.69	39°06'54.677"N	80°05'21.311"W	17.52	104.059	0.04
2012.20	0.630	132.300	2012.09	16.41	-4.93	17.85	1832803.21	224612.02	39°06'54.670"N	80°05'21.300"W	18.52	105.432	0.09
2112.20	0.460	133.760	2112.09	17.36	-5.57	18.54	1832803.90	224611.38	39°06'54.664"N	80°05'21.291"W	19.36	106.731	0.17
2212.20	0.720	121.260	2212.08	18.38	-6.18	19.37	1832804.73	224610.77	39°06'54.658"N	80°05'21.281"W	20.33	107.689	0.29
2312.20	0.560	148.930	2312.08	19.47	-6.92	20.16	1832805.52	224610.03	39°06'54.651"N	80°05'21.271"W	21.32	108.951	0.34
2412.20	0.600	114.090	2412.07	20.43	-7.56	20.89	1832806.25	224609.39	39°06'54.644"N	80°05'21.261"W	22.22	109.882	0.35
2512.20	0.860	135.190	2512.06	21.68	-8.30	21.90	1832807.26	224608.65	39°06'54.637"N	80°05'21.249"W	23.42	110.761	0.37
2612.20	0.870	119.730	2612.05	23.17	-9.21	23.09	1832808.45	224607.74	39°06'54.628"N	80°05'21.233"W	24.86	111.749	0.23
2712.20	0.650	125.790	2712.04	24.47	-9.92	24.21	1832809.57	224607.03	39°06'54.621"N	80°05'21.219"W	26.16	112.282	0.23
2812.20	0.860	143.210	2812.04	25.77	-10.85	25.12	1832810.47	224606.10	39°06'54.612"N	80°05'21.208"W	27.36	113.367	0.31

1-03287

Actual Wellpath Report
 AUD 3D AWP Proj: 17533
 Page 3 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC
Area	Barbour County, WV
Field	Barbour
Facility	AUD Pad
Slot	Slot #3
Well	AUD 3D
Wellbore	AUD 3D (AWB)

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	East [ft]	Grid East [ft]	Grid North [ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [1/100ft]
2912.20	0.570	128.850	2912.03	27.00	-11.76	25.95	1832811.31	224605.19	39°06'54.603"N	80°05'21.197"W	28.49	114.385	0.34	
3012.20	0.650	128.440	3012.02	28.06	-12.43	26.78	1832812.14	224604.52	39°06'54.597"N	80°05'21.186"W	29.53	114.893	0.08	
3112.20	0.840	139.580	3112.01	29.36	-13.34	27.70	1832813.06	224603.61	39°06'54.588"N	80°05'21.174"W	30.75	115.711	0.24	
3212.20	0.650	127.490	3212.01	30.65	-14.24	28.63	1832813.99	224602.71	39°06'54.579"N	80°05'21.163"W	31.98	116.450	0.25	
3312.20	0.840	149.730	3312.00	31.92	-15.22	29.45	1832814.81	224601.73	39°06'54.569"N	80°05'21.152"W	33.15	117.333	0.34	
3412.20	0.680	124.300	3411.99	33.21	-16.19	30.31	1832815.67	224600.76	39°06'54.560"N	80°05'21.141"W	34.36	118.108	0.37	
3512.20	0.520	135.380	3511.98	34.25	-16.85	31.12	1832816.48	224600.10	39°06'54.553"N	80°05'21.131"W	35.38	118.430	0.20	
3612.20	0.810	120.370	3611.98	35.39	-17.53	32.05	1832817.40	224599.42	39°06'54.547"N	80°05'21.119"W	36.53	118.675	0.34	
3712.20	0.730	119.970	3711.97	36.70	-18.20	33.21	1832818.57	224598.75	39°06'54.540"N	80°05'21.104"W	37.87	118.729	0.08	
3812.20	0.970	122.550	3811.96	38.15	-18.98	34.47	1832819.83	224597.97	39°06'54.532"N	80°05'21.088"W	39.35	118.831	0.24	
3912.20	0.980	148.270	3911.94	39.81	-20.16	35.64	1832820.99	224596.79	39°06'54.521"N	80°05'21.073"W	40.94	119.496	0.43	
4012.20	1.050	147.210	4011.93	41.52	-21.66	36.58	1832821.94	224595.29	39°06'54.506"N	80°05'21.061"W	42.51	120.625	0.07	
4112.20	0.920	154.380	4111.91	43.16	-23.15	37.42	1832822.78	224593.80	39°06'54.491"N	80°05'21.050"W	44.01	121.740	0.18	
4212.20	0.780	140.550	4211.90	44.58	-24.40	38.20	1832823.56	224592.55	39°06'54.479"N	80°05'21.040"W	45.33	122.565	0.25	
4312.20	0.910	144.230	4311.89	46.04	-25.57	39.10	1832824.46	224591.38	39°06'54.467"N	80°05'21.029"W	46.72	123.182	0.14	
4412.20	1.040	144.670	4411.88	47.70	-26.95	40.09	1832825.45	224590.00	39°06'54.454"N	80°05'21.016"W	48.31	123.914	0.13	
4512.20	0.880	134.420	4511.86	49.36	-28.23	41.16	1832826.52	224588.72	39°06'54.441"N	80°05'21.002"W	49.91	124.444	0.23	
4612.20	1.220	124.830	4611.84	51.18	-29.38	42.59	1832827.94	224587.57	39°06'54.430"N	80°05'20.984"W	51.74	124.600	0.38	
4712.20	1.120	125.030	4711.82	53.20	-30.55	44.26	1832829.62	224586.40	39°06'54.419"N	80°05'20.963"W	53.78	124.612	0.10	
4812.20	1.130	129.890	4811.80	55.15	-31.74	45.82	1832831.18	224585.21	39°06'54.407"N	80°05'20.943"W	55.74	124.712	0.10	
4912.20	1.460	137.260	4911.78	57.41	-33.31	47.44	1832832.80	224583.64	39°06'54.392"N	80°05'20.922"W	57.96	125.074	0.37	
5012.20	1.450	132.990	5011.75	59.95	-35.11	49.23	1832834.59	224581.84	39°06'54.374"N	80°05'20.900"W	60.46	125.494	0.11	
5112.20	1.140	135.030	5111.72	62.20	-36.67	50.86	1832836.22	224580.28	39°06'54.359"N	80°05'20.879"W	62.70	125.795	0.31	
5212.20	0.760	125.360	5211.71	63.86	-37.76	52.10	1832837.46	224579.19	39°06'54.348"N	80°05'20.863"W	64.35	125.933	0.41	
5312.20	0.740	106.680	5311.70	65.09	-38.33	53.26	1832838.62	224578.62	39°06'54.342"N	80°05'20.848"W	65.62	125.741	0.24	
5412.20	0.600	130.580	5411.69	66.19	-38.86	54.28	1832839.64	224578.10	39°06'54.337"N	80°05'20.833"W	66.75	125.598	0.31	
5512.20	0.500	148.770	5511.69	67.14	-39.57	54.90	1832840.26	224577.38	39°06'54.330"N	80°05'20.827"W	67.67	125.782	0.20	
5612.20	0.420	116.040	5611.68	67.91	-40.10	55.46	1832840.81	224576.85	39°06'54.325"N	80°05'20.820"W	68.44	125.873	0.27	
5692.00	0.510	141.210	5691.48	68.54	-40.51	55.94	1832841.30	224576.44	39°06'54.321"N	80°05'20.814"W	69.07	125.909	0.28	
5737.00	1.230	168.410	5736.48	69.13	-41.14	56.16	1832841.52	224575.81	39°06'54.315"N	80°05'20.811"W	69.62	126.221	1.80	

1-03287

Actual Wellpath Report

AUD 3D AWP Proj: 17533'
Page 4 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
5784.00	5.440	209.620	5783.39	70.06	-43.57	55.16	1832840.52	224573.38	39°06'54.291"N	80°05'20.824"W	70.29	128.303	9.76
5879.00	6.180	265.640	5877.97	67.63	-47.88	47.83	1832833.19	224569.07	39°06'54.248"N	80°05'20.916"W	67.68	135.026	5.78
5974.00	11.450	248.340	5971.83	60.13	-51.75	33.96	1832819.32	224565.20	39°06'54.208"N	80°05'21.092"W	61.90	146.726	6.15
6068.00	15.550	238.930	6063.23	52.67	-61.70	14.48	1832799.84	224555.25	39°06'54.109"N	80°05'21.338"W	63.38	166.788	4.93
6163.00	24.210	240.990	6152.48	43.14	-77.75	-13.51	1832771.85	224539.20	39°06'53.948"N	80°05'21.692"W	78.91	189.858	9.14
6257.00	31.060	243.730	6235.71	28.59	-97.85	-52.16	1832733.20	224519.10	39°06'53.747"N	80°05'22.181"W	110.89	208.059	7.41
6351.00	40.990	244.700	6311.64	8.56	-121.82	-101.90	1832683.46	224495.13	39°06'53.507"N	80°05'22.810"W	158.82	219.911	10.58
6445.00	47.780	244.860	6378.78	-15.83	-149.82	-161.35	1832624.01	224467.14	39°06'53.226"N	80°05'23.562"W	220.18	227.123	7.22
6540.00	54.860	245.210	6438.11	-43.65	-181.09	-228.54	1832556.82	224435.87	39°06'52.913"N	80°05'24.411"W	291.59	231.608	7.46
6634.00	57.830	246.540	6490.20	-74.07	-213.05	-299.95	1832485.42	224403.91	39°06'52.592"N	80°05'25.315"W	367.91	234.615	3.37
6728.00	57.810	247.080	6540.27	-106.19	-244.38	-373.08	1832412.29	224372.58	39°06'52.278"N	80°05'26.240"W	445.99	236.774	0.49
6823.00	57.790	245.250	6590.89	-137.81	-276.86	-446.61	1832338.76	224340.09	39°06'51.952"N	80°05'27.170"W	525.46	238.204	1.63
6918.00	57.800	242.780	6641.53	-166.63	-312.08	-518.86	1832266.51	224304.88	39°06'51.599"N	80°05'28.084"W	605.48	238.974	2.20
7012.00	57.750	242.630	6691.65	-193.45	-348.54	-589.52	1832195.85	224268.42	39°06'51.234"N	80°05'28.977"W	684.85	239.407	0.15
7107.00	57.790	243.230	6742.32	-220.84	-385.11	-661.08	1832124.29	224231.85	39°06'50.868"N	80°05'29.882"W	765.08	239.777	0.54
7201.00	57.790	243.780	6792.42	-248.70	-420.59	-732.26	1832053.11	224196.37	39°06'50.513"N	80°05'30.782"W	844.46	240.128	0.50
7295.00	57.720	244.060	6842.58	-277.09	-455.54	-803.67	1831981.71	224161.41	39°06'50.163"N	80°05'31.685"W	923.80	240.454	0.26
7390.00	57.790	244.640	6893.26	-306.34	-490.33	-876.10	1831909.28	224126.64	39°06'49.814"N	80°05'32.601"W	1003.98	240.766	0.52
7485.00	57.830	243.680	6943.87	-335.36	-525.37	-948.46	1831836.92	224091.59	39°06'49.463"N	80°05'33.516"W	1084.24	241.017	0.86
7580.00	55.890	239.520	6995.82	-360.75	-563.16	-1018.42	1831766.96	224053.80	39°06'49.085"N	80°05'34.400"W	1163.75	241.059	4.20
7674.00	55.770	229.740	7048.70	-376.40	-608.08	-1081.71	1831703.67	224008.88	39°06'48.637"N	80°05'35.200"W	1240.92	240.658	8.61
7770.00	55.780	216.540	7102.86	-376.60	-665.79	-1135.79	1831649.59	223951.17	39°06'48.063"N	80°05'35.881"W	1316.55	239.621	11.36
7864.00	55.770	211.800	7155.75	-364.67	-730.07	-1179.43	1831605.96	223886.90	39°06'47.425"N	80°05'36.429"W	1387.10	238.242	4.17
7958.00	55.770	201.140	7208.73	-342.61	-799.48	-1213.99	1831571.40	223817.49	39°06'46.737"N	80°05'36.862"W	1453.59	236.633	9.37
8053.00	56.730	192.600	7261.58	-307.85	-874.96	-1236.84	1831548.54	223742.01	39°06'45.989"N	80°05'37.145"W	1515.04	234.724	7.54
8148.00	56.750	188.910	7313.69	-265.47	-952.98	-1251.66	1831533.73	223663.99	39°06'45.217"N	80°05'37.327"W	1573.16	232.715	3.25
8242.00	58.720	184.870	7363.89	-218.62	-1031.87	-1261.16	1831524.22	223585.10	39°06'44.437"N	80°05'37.441"W	1629.51	230.710	4.19
8336.00	60.740	177.750	7411.31	-164.64	-1112.95	-1262.97	1831522.42	223504.02	39°06'43.635"N	80°05'37.457"W	1683.37	228.613	6.88
8430.00	63.800	168.270	7455.13	-100.97	-1195.38	-1252.76	1831532.63	223421.60	39°06'42.821"N	80°05'37.320"W	1731.57	226.343	9.50
8525.00	66.810	156.830	7494.92	-26.01	-1277.49	-1226.84	1831558.55	223339.48	39°06'42.011"N	80°05'36.985"W	1771.19	223.841	11.39

1-03287

Actual Wellpath Report

AUD 3D AWP Proj: 17533'

Page 5 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
8619.00	70.840	148.740	7528.92	56.40	-1355.31	-1186.73	1831598.66	223261.67	39°06'41.245"N	80°05'36.469"W	1801.44	221.206	9.10
8714.00	74.360	142.420	7557.35	144.82	-1430.00	-1135.49	1831649.90	223186.98	39°06'40.510"N	80°05'35.813"W	1825.99	218.451	7.35
8810.00	82.100	138.910	7576.92	237.88	-1502.60	-1075.94	1831709.44	223114.38	39°06'39.796"N	80°05'35.051"W	1848.10	215.605	8.82
8905.00	85.100	136.720	7587.51	331.94	-1572.54	-1012.55	1831772.83	223044.44	39°06'39.109"N	80°05'34.241"W	1870.33	212.777	3.90
9000.00	91.390	133.590	7590.42	426.77	-1639.82	-945.63	1831839.75	222977.17	39°06'38.449"N	80°05'33.387"W	1892.94	209.971	7.39
9094.00	91.880	127.940	7587.74	520.62	-1701.15	-874.49	1831910.89	222915.84	39°06'37.847"N	80°05'32.479"W	1912.76	207.206	6.03
9188.00	92.460	129.300	7584.18	614.27	-1759.77	-801.10	1831984.28	222857.21	39°06'37.272"N	80°05'31.543"W	1933.54	204.476	1.57
9283.00	92.460	132.850	7580.10	709.12	-1822.13	-729.56	1832055.81	222794.86	39°06'36.661"N	80°05'30.631"W	1962.76	201.821	3.73
9377.00	92.490	137.650	7576.04	802.93	-1888.80	-663.47	1832121.91	222728.19	39°06'36.006"N	80°05'29.787"W	2001.94	199.355	5.10
9472.00	92.400	136.650	7571.98	897.59	-1958.39	-598.92	1832186.45	222658.61	39°06'35.322"N	80°05'28.962"W	2047.92	197.005	1.06
9567.00	93.020	134.190	7567.49	992.39	-2025.97	-532.32	1832253.05	222591.02	39°06'34.659"N	80°05'28.111"W	2094.74	194.722	2.67
9662.00	92.590	136.240	7562.84	1087.20	-2093.31	-465.48	1832319.89	222523.68	39°06'33.998"N	80°05'27.258"W	2144.44	192.537	2.20
9757.00	92.860	139.760	7558.32	1181.72	-2163.82	-402.00	1832383.37	222453.18	39°06'33.305"N	80°05'26.447"W	2200.84	190.524	3.71
9851.00	92.710	142.300	7553.75	1274.68	-2236.81	-342.95	1832442.42	222380.19	39°06'32.587"N	80°05'25.692"W	2262.95	188.717	2.70
9945.00	92.520	138.930	7549.46	1367.74	-2309.38	-283.38	1832501.99	222307.62	39°06'31.874"N	80°05'24.930"W	2326.70	186.996	3.59
10040.00	92.590	133.490	7545.23	1462.46	-2377.86	-217.73	1832567.64	222239.14	39°06'31.201"N	80°05'24.091"W	2387.81	185.232	5.72
10134.00	92.340	131.600	7541.18	1556.37	-2441.36	-148.54	1832636.82	222175.64	39°06'30.578"N	80°05'23.208"W	2445.87	183.482	2.03
10228.00	92.740	132.950	7537.02	1650.27	-2504.53	-79.06	1832706.31	222112.48	39°06'29.958"N	80°05'22.322"W	2505.78	181.808	1.50
10323.00	92.590	133.330	7532.60	1745.16	-2569.42	-9.81	1832775.55	222047.59	39°06'29.321"N	80°05'21.438"W	2569.44	180.219	0.43
10418.00	93.390	134.660	7527.64	1840.02	-2635.31	58.44	1832843.80	221981.70	39°06'28.675"N	80°05'20.566"W	2635.96	178.730	1.63
10512.00	93.480	134.460	7522.01	1933.81	-2701.15	125.29	1832910.65	221915.86	39°06'28.028"N	80°05'19.713"W	2704.05	177.344	0.23
10607.00	93.900	135.830	7515.90	2028.55	-2768.35	192.16	1832977.51	221848.66	39°06'27.368"N	80°05'18.859"W	2775.01	176.029	1.51
10702.00	93.450	138.780	7509.81	2123.07	-2838.02	256.44	1833041.79	221778.99	39°06'26.684"N	80°05'18.038"W	2849.59	174.837	3.13
10796.00	93.510	134.120	7504.10	2216.70	-2906.01	321.06	1833106.42	221711.00	39°06'26.016"N	80°05'17.212"W	2923.69	173.695	4.95
10890.00	92.710	132.780	7499.00	2310.56	-2970.56	389.20	1833174.56	221646.46	39°06'25.382"N	80°05'16.343"W	2995.94	172.536	1.66
10984.00	92.800	134.600	7494.48	2404.44	-3035.41	457.09	1833242.44	221581.61	39°06'24.746"N	80°05'15.476"W	3069.63	171.436	1.94
11078.00	92.190	135.290	7490.39	2498.30	-3101.75	523.56	1833308.91	221515.27	39°06'24.094"N	80°05'14.627"W	3145.63	170.419	0.98
11173.00	91.720	135.750	7487.15	2593.15	-3169.49	590.08	1833375.43	221447.53	39°06'23.429"N	80°05'13.778"W	3223.95	169.454	0.69
11267.00	92.650	133.000	7483.56	2687.04	-3235.18	657.22	1833442.56	221381.84	39°06'22.784"N	80°05'12.921"W	3301.26	168.517	3.09
11362.00	92.400	131.680	7479.38	2781.94	-3299.10	727.37	1833512.71	221317.92	39°06'22.157"N	80°05'12.026"W	3378.33	167.567	1.41

1-03287



Actual Wellpath Report

AUD 3D AWP Proj: 17533'

Page 6 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
11456.00	92.650	131.680	7475.24	2875.83	-3361.55	797.50	1833582.85	221255.48	39°06'21.544"N	80°05'11.131"W	3454.85	166.654	0.27
11550.00	92.620	129.930	7470.91	2969.65	-3422.91	868.58	1833653.92	221194.12	39°06'20.942"N	80°05'10.224"W	3531.39	165.761	1.86
11644.00	92.520	130.630	7466.70	3063.45	-3483.62	940.22	1833725.56	221133.41	39°06'20.347"N	80°05'09.310"W	3608.27	164.896	0.75
11739.00	92.590	134.600	7462.46	3158.34	-3547.86	1010.05	1833795.39	221069.17	39°06'19.717"N	80°05'08.419"W	3688.84	164.109	4.18
11834.00	92.740	134.490	7458.05	3253.20	-3614.43	1077.68	1833863.02	221002.60	39°06'19.063"N	80°05'07.556"W	3771.67	163.397	0.20
11928.00	92.650	139.140	7453.62	3346.86	-3682.87	1141.92	1833927.26	220934.16	39°06'18.391"N	80°05'06.735"W	3855.85	162.773	4.94
12024.00	92.090	138.790	7449.65	3442.26	-3755.23	1204.89	1833990.23	220861.81	39°06'17.680"N	80°05'05.931"W	3943.79	162.211	0.69
12118.00	92.340	139.720	7446.02	3535.63	-3826.39	1266.20	1834051.53	220790.64	39°06'16.980"N	80°05'05.147"W	4030.45	161.690	1.02
12213.00	92.160	138.470	7442.29	3630.02	-3898.13	1328.36	1834113.69	220718.90	39°06'16.275"N	80°05'04.353"W	4118.25	161.183	1.33
12308.00	92.130	133.330	7438.73	3724.80	-3966.28	1394.40	1834179.73	220650.75	39°06'15.606"N	80°05'03.509"W	4204.25	160.630	5.41
12402.00	92.280	129.430	7435.11	3818.67	-4028.36	1464.87	1834250.19	220588.67	39°06'14.997"N	80°05'02.610"W	4286.44	160.017	4.15
12496.00	92.090	130.000	7431.53	3912.45	-4088.38	1537.12	1834322.45	220528.66	39°06'14.408"N	80°05'01.689"W	4367.79	159.395	0.64
12591.00	92.310	130.320	7427.88	4007.26	-4149.61	1609.67	1834395.00	220467.43	39°06'13.808"N	80°05'00.763"W	4450.87	158.798	0.41
12685.00	92.280	129.360	7424.12	4101.04	-4209.78	1681.79	1834467.11	220407.26	39°06'13.217"N	80°04'59.844"W	4533.28	158.223	1.02
12779.00	92.120	130.680	7420.51	4194.85	-4270.18	1753.72	1834539.04	220346.86	39°06'12.625"N	80°04'58.926"W	4616.27	157.673	1.41
12874.00	93.200	130.030	7416.10	4289.64	-4331.63	1826.04	1834611.36	220285.42	39°06'12.022"N	80°04'58.004"W	4700.79	157.142	1.33
12968.00	92.370	127.630	7411.53	4383.27	-4390.49	1899.17	1834684.49	220226.56	39°06'11.445"N	80°04'57.071"W	4783.64	156.608	2.70
13063.00	92.960	126.970	7407.12	4477.70	-4448.00	1974.66	1834759.98	220169.05	39°06'10.882"N	80°04'56.109"W	4866.62	156.061	0.93
13157.00	92.860	126.160	7402.34	4570.99	-4503.92	2050.06	1834835.37	220113.13	39°06'10.334"N	80°04'55.148"W	4948.54	155.526	0.87
13251.00	93.390	126.760	7397.22	4664.24	-4559.70	2125.55	1834910.86	220057.35	39°06'09.787"N	80°04'54.186"W	5030.79	155.007	0.85
13346.00	93.420	127.830	7391.58	4758.60	-4617.16	2200.99	1834986.30	219999.89	39°06'09.224"N	80°04'53.224"W	5114.93	154.513	1.12
13441.00	94.190	127.480	7385.27	4852.97	-4675.07	2276.03	1835061.34	219941.98	39°06'08.657"N	80°04'52.268"W	5199.67	154.041	0.89
13536.00	93.360	129.980	7379.02	4947.50	-4734.37	2349.98	1835135.28	219882.68	39°06'08.075"N	80°04'51.325"W	5285.51	153.602	2.77
13631.00	92.560	132.090	7374.11	5042.31	-4796.65	2421.53	1835206.84	219820.40	39°06'07.464"N	80°04'50.412"W	5373.24	153.214	2.37
13726.00	91.790	129.220	7370.51	5137.15	-4858.49	2493.55	1835278.85	219758.56	39°06'06.858"N	80°04'49.494"W	5461.02	152.832	3.13
13820.00	90.680	124.960	7368.48	5230.60	-4915.15	2568.49	1835353.80	219701.90	39°06'06.302"N	80°04'48.538"W	5545.80	152.410	4.68
13915.00	90.490	130.120	7367.51	5325.14	-4973.02	2643.79	1835429.09	219644.04	39°06'05.735"N	80°04'47.579"W	5632.10	152.004	5.43
14009.00	90.400	136.820	7366.78	5419.08	-5037.65	2711.97	1835497.27	219579.41	39°06'05.101"N	80°04'46.708"W	5721.25	151.705	7.13
14103.00	90.400	133.050	7366.12	5513.00	-5104.03	2778.50	1835563.80	219513.03	39°06'04.449"N	80°04'45.859"W	5811.30	151.437	4.01
14198.00	89.880	126.830	7365.89	5607.82	-5164.99	2851.30	1835636.60	219452.08	39°06'03.851"N	80°04'44.931"W	5899.75	151.099	6.57

103287

Actual Wellpath Report

AUD 3D AWP Proj: 17533'
Page 7 of 9

REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
14292.00	89.850	127.360	7366.11	5701.32	-5221.68	2926.28	1835711.58	219395.38	39°06'03.296"N	80°04'43.975"W	5985.74	150.733	0.56
14386.00	89.820	130.590	7366.38	5795.08	-5280.80	2999.35	1835784.64	219336.27	39°06'02.716"N	80°04'43.043"W	6073.13	150.405	3.44
14480.00	88.890	131.170	7367.44	5889.01	-5342.31	3070.41	1835855.71	219274.75	39°06'02.112"N	80°04'42.137"W	6161.80	150.113	1.17
14574.00	89.450	129.660	7368.80	5982.90	-5403.25	3141.97	1835927.26	219213.82	39°06'01.515"N	80°04'41.224"W	6250.36	149.822	1.71
14668.00	89.910	128.290	7369.33	6076.66	-5462.37	3215.05	1836000.34	219154.70	39°06'00.935"N	80°04'40.293"W	6338.29	149.520	1.54
14762.00	90.650	128.990	7368.87	6170.39	-5521.06	3288.47	1836073.75	219096.01	39°06'00.360"N	80°04'39.357"W	6426.21	149.221	1.08
14857.00	90.890	134.090	7367.59	6265.32	-5584.03	3359.54	1836144.83	219033.04	39°05'59.742"N	80°04'38.450"W	6516.74	148.967	5.37
14951.00	91.170	131.350	7365.90	6359.29	-5647.79	3428.59	1836213.87	218969.28	39°05'59.116"N	80°04'37.569"W	6607.02	148.739	2.93
15045.00	90.920	122.720	7364.18	6452.68	-5704.34	3503.54	1836288.82	218912.73	39°05'58.562"N	80°04'36.614"W	6694.35	148.442	9.18
15139.00	91.320	124.390	7362.34	6545.38	-5756.29	3581.86	1836367.14	218860.79	39°05'58.053"N	80°04'35.616"W	6779.72	148.108	1.83
15234.00	91.080	131.880	7360.35	6639.95	-5814.90	3656.51	1836441.79	218802.18	39°05'57.479"N	80°04'34.664"W	6868.99	147.838	7.89
15328.00	90.950	133.570	7358.69	6733.93	-5878.66	3725.55	1836510.83	218738.42	39°05'56.853"N	80°04'33.783"W	6959.77	147.636	1.80
15422.00	91.140	135.230	7356.97	6827.89	-5944.42	3792.70	1836577.97	218672.66	39°05'56.207"N	80°04'32.926"W	7051.29	147.461	1.78
15516.00	91.450	138.600	7354.85	6921.63	-6013.04	3856.88	1836642.16	218604.04	39°05'55.533"N	80°04'32.107"W	7143.68	147.323	3.60
15610.00	91.750	137.370	7352.22	7015.23	-6082.85	3919.77	1836705.05	218534.23	39°05'54.847"N	80°04'31.303"W	7236.41	147.202	1.35
15704.00	91.450	126.870	7349.59	7109.06	-6145.78	3989.37	1836774.64	218471.30	39°05'54.229"N	80°04'30.415"W	7327.05	147.011	11.17
15799.00	90.620	124.870	7347.87	7203.30	-6201.44	4066.34	1836851.61	218415.65	39°05'53.684"N	80°04'29.435"W	7415.72	146.747	2.28
15892.00	89.940	122.850	7347.42	7295.11	-6253.25	4143.56	1836928.83	218363.84	39°05'53.177"N	80°04'28.451"W	7501.48	146.471	2.29
15987.00	90.310	126.380	7347.21	7389.08	-6307.20	4221.73	1837007.00	218309.88	39°05'52.649"N	80°04'27.455"W	7589.72	146.204	3.74
16081.00	90.430	128.650	7346.60	7482.64	-6364.44	4296.28	1837081.55	218252.65	39°05'52.088"N	80°04'26.505"W	7678.81	145.979	2.42
16175.00	91.140	126.860	7345.32	7576.24	-6421.99	4370.59	1837155.86	218195.10	39°05'51.524"N	80°04'25.558"W	7768.14	145.762	2.05
16269.00	90.950	125.210	7343.60	7669.52	-6477.28	4446.59	1837231.86	218139.81	39°05'50.982"N	80°04'24.589"W	7856.67	145.531	1.77
16363.00	91.420	125.970	7341.66	7762.72	-6531.97	4523.02	1837308.28	218085.12	39°05'50.446"N	80°04'23.616"W	7945.08	145.300	0.95
16457.00	91.480	127.420	7339.28	7856.12	-6588.12	4598.36	1837383.62	218028.97	39°05'49.896"N	80°04'22.655"W	8034.19	145.086	1.54
16551.00	91.420	128.300	7336.90	7949.71	-6645.79	4672.55	1837457.81	217971.30	39°05'49.331"N	80°04'21.710"W	8124.00	144.890	0.94
16645.00	92.400	129.860	7333.77	8043.43	-6705.02	4745.48	1837530.73	217912.08	39°05'48.750"N	80°04'20.780"W	8214.43	144.711	1.96
16739.00	92.340	129.220	7329.88	8137.18	-6764.81	4817.91	1837603.16	217852.29	39°05'48.163"N	80°04'19.857"W	8305.11	144.541	0.68
16833.00	92.370	133.620	7326.02	8231.04	-6826.93	4888.32	1837673.57	217790.17	39°05'47.554"N	80°04'18.958"W	8396.58	144.396	4.68
16927.00	91.450	132.650	7322.88	8324.99	-6891.16	4956.87	1837742.13	217725.94	39°05'46.923"N	80°04'18.084"W	8488.74	144.272	1.42
17021.00	90.960	129.590	7320.91	8418.90	-6952.96	5027.66	1837812.91	217664.15	39°05'46.317"N	80°04'17.181"W	8580.27	144.129	3.30

1-03257

Actual Wellpath Report

AUD 3D AWP Proj: 17533'

Page 8 of 9

REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

WELLPATH DATA (187 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
17116.00	90.490	129.080	7319.70	8513.70	-7013.17	5101.14	1837886.38	217603.94	39°05'45.726"N	80°04'16.244"W	8672.14	143.969	0.73
17210.00	90.550	127.860	7318.85	8607.40	-7071.64	5174.73	1837959.97	217545.46	39°05'45.153"N	80°04'15.306"W	8762.76	143.805	1.30
17304.00	90.370	126.950	7318.10	8700.95	-7128.74	5249.39	1838034.64	217488.37	39°05'44.593"N	80°04'14.354"W	8852.97	143.633	0.99
17398.00	90.370	124.990	7317.49	8794.24	-7183.95	5325.46	1838110.71	217433.16	39°05'44.053"N	80°04'13.385"W	8942.58	143.450	2.09
17492.00	90.370	126.500	7316.88	8887.48	-7238.86	5401.75	1838187.00	217378.25	39°05'43.515"N	80°04'12.413"W	9032.16	143.269	1.61
17508.00	90.340	126.850	7316.78	8903.38	-7248.41	5414.59	1838199.83	217368.70	39°05'43.421"N	80°04'12.250"W	9047.50	143.240	2.20
17533.00	90.340	126.850	7316.63	8928.24	-7263.40	5434.59	1838219.83	217353.70	39°05'43.274"N	80°04'11.995"W	9071.48	143.196	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
AUD 3D BHL Rev-3		7407.28	-7277.70	5420.35	1838205.59	217339.41	39°05'43.132"N	80°04'12.174"W	point
AUD 3D LP Rev-3		7556.10	-1625.04	-949.03	1831836.35	222991.95	39°06'38.594"N	80°05'33.431"W	point
AUD-3D LL		7598.00	-3786.09	1362.02	1834147.35	220830.94	39°06'17.385"N	80°05'03.935"W	point
AUD-3D LP		7598.00	-1426.02	-854.80	1831930.58	223190.96	39°06'40.568"N	80°05'32.252"W	point

WELLPATH COMPOSITION - Ref Wellbore: AUD 3D (AWB) Ref Wellpath: AUD 3D AWP Proj: 17533'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
25.00	5512.20	Generic gyro - northseeking (Standard)	VES Gyro Surveys (112.2'-7450.2')	AUD 3D (AWB)
5512.20	17508.00	NaviTrak (AT Curve Short Spaced)	BHI AT Curve (5612.2')(5692'-17508')	AUD 3D (AWB)
17508.00	17533.00	Blind Drilling (std)	Projection to bit	AUD 3D (AWB)

1-03287



Actual Wellpath Report

AUD 3D AWP Proj: 17533'

Page 9 of 9



REFERENCE WELLPATH IDENTIFICATION

Operator	CNX GAS COMPANY, LLC	Slot	Slot #3
Area	Barbour County, WV	Well	AUD 3D
Field	Barbour	Wellbore	AUD 3D (AWB)
Facility	AUD Pad		

COMMENTS

Wellpath general comments
 VES Gyro Surveys: (112.2'-7450.2')
 BHI MWD Surveys: (5612.2')(5692'-17508')
 TD Projected to MD: 17533'

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/18/2013
Job End Date:	10/29/2013
State:	West Virginia
County:	Barbour
API Number:	47-001-03287-00-00
Operator Name:	CONSOL Energy Inc.
Well Name and Number:	AUD3DHS
Longitude:	-80.08931000
Latitude:	39.11520000
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,590
Total Base Water Volume (gal):	10,308,144
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Customer	Base Fluid	Water	7732-18-5	100.00000	89.44640	
Sand (Proppant)	CWS	Propping Agent	Silicon Dioxide	14808-60-7	100.00000	10.39960	
DWP-111	CWS	Gel Slurry	No Hazardous Materials	NA	100.00000	0.08540	
DWP-NE1	CWS	Non-Emulsifier	Dimethylcocoamine, bis (chlorethyl)ether, diquatarnary ammonium salt	68607-28-03	40.00000	0.01050	
			Isopropyl alcohol	67-63-0	40.00000	0.01050	
			Methyl Alcohol	67-56-1	15.00000	0.00390	
			Dimethyldiallyammonium Chloride	7398-69-8	5.00000	0.00130	
DAP-903	CWS	Scale Inhibitor	No Hazardous Materials	NA	100.00000	0.01540	
DWP-901	CWS	Breaker	Ammonium Persulfate	7727-54-0	95.00000	0.01160	
BioClear 2000	CWS	Biocide	2,2-Dibromo-3-Nitrilopropionamide	10222-01-2	40.00000	0.01040	

1-03287

1-03287

DWP-614	CWS	Viscosifier	Polyethylene glycol nonylphenyl ether	9016-45-9	5.00000	0.00480
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Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

- * Total Water Volume sources may include fresh water, produced water, and/or recycled water
- ** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)