

Commonwealth of Virginia

Department of Mines, Minerals, and Energy

Division of Gas and Oil

P.O. Drawer 159, Lebanon, VA 24266

Telephone: (276) 415-9700

Tracking Number: 2422

Company: CNX Gas Company LLC

File Number: RU-0593

Operations Name: CBM BH112A W/PL

Operation Type: Coalbed/Pipeline

**Drilling Report Type:** Original

# **DRILLING REPORT (DGO-GO-14)**

## 1. Drilling Data

Date drilling commenced: 11/11/2009 Drilling Contractor: NOAH HORN

Date drilling completed: 11/14/2009 Rig Type: Rotary ← Cable

Driller's Total Depth (feet): 2555.00

Log Total Depth (feet): 2521.65 Coal Seam at Total Pocahontas

Depth:

## 2. Final Location Plat (as required by 4 VAC25-150-360.C.)

Permitted State Plane X: 10469387.0000 Final Plat State Plane X: 10469394.6600

Permitted State Plane Y: 3568652.0000 Final Plat State Plane Y: 3568653.9500

Plat Previously Submitted Or... F

List of Attached Items:

Form DGO-GO-14-E

Page 1 of 4

Rev. 04/2009

Description	FileName
PLAT	BH112A Plat.pdf

## 3. Geological Data

Fresh Water At:

Depth (in feet)	Rate	Unit of Measure
120	damp	

## Salt Water At:

Depth (in feet)	Rate	Unit of Measure
2255	damp	

## Coal Seams:

List of Attached Items:

Description	FileName	
EXHIBIT A	BH112A Exh A.pdf	

## Gas and Oil Shows:

List of Attached Items:

Description	FileName	
GAS SHOW	BH112A Gas Show.xlsx	

## 4. Electric Logs (As required by 4VAC25-150-280.A)

List all logs run: CALIPER GAMMA DENSITY TEMP DEVIATION

Did logs disclose vertical locations of a coal seam?

R

# 5. Survery Results (As required by 4VAC25-150-280.B.2)

List of Attached Items:

Form DGO-GO-14-E

Page 2 of 4

Rev. 04/2009

Description	FileName
DEVIATION	BH112A Dev.pdf

## 6. Casing and Tubing Program

List of Attached Items:

Description	FileName
CASING	BH112A Casing.xlsx

## 7. Remarks

Use this space to note any conditions or occurrences, such as lost circulation, fishing jobs, junk left in hole, sidetracks, squeeze jobs, etc., not shown above. Include data and depth of condition/occurence.

Void at 198 ft; 7" casing cemented on backside to surface.

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Ω	Dril	lers	-	~
u.	וווט	1612	LU	u

Compiled By: NOAH HORN

List of Attached Items:

Description	FileName
DRILL DATA	BH112A Drill Data.pdf

## 9. Comments

0. Signature			
Permitee:	CNX Gas Company LLC	Date:	2/11/2010
Signed By:	Jerry Boothe	Title:	Manager

INTERNAL USE ONLY			
Submit Date:	2/11/2010		
Status:	A	Date:	2/26/2010
Final PDF Date:	2/26/2010		

4,860'-LATITUDE: 37° 05' 00" LONGITUDE: 81' 58' 29.43271" S 14'08'13" E 169.05 N 69°07'49" E 197.13' CBM 80 ACRE UNIT lb G FINAL LOCATION CBM-BH112A NOTE: THIS WELL WAS DRILLED WITHIN 10 FT. OF PROPOSED LOCATION ACCORDING TO 4 VAC 25-150-290 AND 45.1-361.30

WELL LOCAT	ION PLAT	BH112AFNL PGP39/176-755/ 19
	Name or Number	CBM-BH112A
Tract No. GENT ROYALITY PARTNERS, LLC ET AL		Scale:1" = 400'
County RUSSELL District NEW GARDEN	_ Quadrangle <u>HONA</u>	KER Date 11-20-09
Elevation 2436.74' Well Elevation Determined By	Trig. Levels From CONSOL I	nc. Benchmarks 4000
Well Coordinates N 287,775.82 E 986,407.46	(Viginia State Plane — S	outh Zone ENAD 279
Well Coordinates N 3,568,653.95 E 10,469,394.66	(Viginia State Plane — S	outh Zone// NAD/83) 614
This plat is a new plat; an updated plat		
+ Denotes the location of a well on United States Top 24,000, latitude and longitude lines being represented	ographic Maps, scale 1 to	\$8 ALLEN MITCHELL 5
	e by border times da silowii	Tre No. oossea
Form DGO-GO-7		<del>*************************************</del>
Rev. 9/91 Licensed Professional Engineer	or Licensed Land Surveyor	(Affix Seal)
		SURVE AND SURVE AND

#### BH112A EXHIBIT A

HOLE NO = 09 CBM BH112A

STATE = VIRGINIA COUNTY = BUCHANAN

S ELEV = 2437

N-COOR =	287776	E-COOR =	986407		
STRATA ELEV (TOP) 2243.84 2240.74 2107.64 2107.34 2054.84 2052.84 1936.74 1931.04 1931.04 1930.84 1781.64 1779.54 1750.84 1749.14 1701.64 1700.84 1601.74	STRATA FROM 192.90 196.00 329.10 329.40 381.90 383.90 500.00 505.70 505.70 655.10 657.20 685.90 687.60 735.10 735.90 835.00	DEPTH TO 196.00 329.10 329.40 381.90 383.90 500.00 502.00 505.70 505.90 655.10 657.20 685.90 687.60 735.10 735.90 835.90	STRATA THICK 3.10 133.10 .30 52.50 2.00 116.10 2.00 3.70 .20 149.20 2.10 28.70 1.70 47.50 .80 99.10	SEAM CODE KN2 AL1 AL2 RA2 COAL JB1 JB3 T2 TI	COMMENTS MINED OUT
1600.84 1596.64 1596.44	835.90 840.10	840.10 840.30 971.80	4.20 .20 131.50	COAL	
1464.94 1464.34	971.80 972.40	971.80 972.40 976.20	.60 3.80	*US1	
1460.54 1460.44	976.20 976.30	976.20 976.30 979.80	.10 3.50	*LC1	
1456.94 1456.84	979.80 979.90	979.90 982.30	.10 2.40	*LC2	
1454.44 1452.84	982.30 983.90	983.90 985.40	1.60 1.50	*LC3 *LC4	
1451.34 1310.54 1309.74	985.40 1126.20 1127.00	1126.20 1127.00 1127.80	140.80 .80 .80	*GC1	
1308.94 1308.44	1127.80 1128.30	1128.30 1257.10 1257.90	.50 128.80	*GC1	
1179.64 1178.84	1257.10 1257.90	1267.90	.80 10.00	*SE1	
1168.84 1168.64	1267.90 1268.10	1268.10 1368.80	.20 100.70	*SE2	
1067.84	1368.80 1368.90	1368.90 1388.10	19.20	*COAL	
	1388.10 1389.10	1389.10 1389.70	1.00 .60	*LS3	
1047.04 1046.84 986.64	1389.70 1389.90 1450.10	1389.90 1450.10 1451.90	.20 60.20 1.80	*UH1	
984.84 983.24	1451.90 1453.50	1453.50 1455.80	1.60 2.30	*UH2 *UH3	
980.94 939.64	1455.80 1497.10	1497.10 1498.90	41.30 1.80	*MH1	
937.84 863.94	1498.90 1572.80	1572.80 1572.90	73.90 .10	*MH2	
			-	Page 1	

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BH112A
863.84
               1572.90
                                 1620.70
                                                       47.80
816.04
               1620.70
                                 1623.00
                                                         2.30
                                                                             *P11
                                                       25.90
               1623.00
813.74
                                 1648.90
               1648.90
1650.10
1698.40
1700.00
1701.10
1703.90
1733.00
1733.70
1735.00
1784.90
1785.80
1786.00
1786.60
1787.20
787.84
                                 1650.10
                                                       1.20
48.30
                                                                             *P10
                                 1698.40
1700.00
786.64
738.34
736.74
735.64
732.84
703.74
                                                         1.60
1.10
                                                                             *LH1
                                 1701.10
1703.90
                                                         2.80
                                                                             *LH2
                                 1733.00
1733.10
1733.70
                                                       29.10
                                                           .10
                                                                             *P91
                                                         .60
1.30
703.64
                                 1735.00
                                                                             *P92
703.04
                                 1784.90
1785.80
1786.00
701.74
                                                       49.90
651.84
650.94
650.74
650.14
649.54
                                                           .90
                                                                             *P81
                                                           .20
                                 1786.60
1787.20
1787.90
                                                            .60
                                                                             *P81
                                                           . 60
                                                            .70
                                                                             *P82
                                 1794.80
648.84
                                                         6.90
641.94
               1794.80
                                 1795.20
                                                           .40
                                                                             *P71
               1795.20
1833.20
                                 1833.20
1834.00
                                                        38.00
641.54
641.54
603.54
602.74
601.84
601.74
594.84
                                                           . 80
                                                                             *COAL
               1834.00
1834.90
1835.00
1841.90
1842.00
                                 1834.90
1835.00
1841.90
1842.00
1922.60
1923.80
                                                           . 90
                                                         .10
6.90
                                                                             *COAL
                                                       .10
80.60
                                                                             *COAL
514.14
512.94
490.54
490.44
                                                       1.20 22.40
                1922.60
                                                                             *P72
                1923.80
               1946.20
1946.30
1947.00
1947.20
1958.10
1958.20
2123.80
                                 1946.30
                                                           .10
                                                                             *COAL
                                 1946.30
1947.00
1947.20
1958.10
1958.20
2123.80
2125.80
                                                           .70
489.74
                                                       .20
10.90
                                                                             *COAL
489.54
478.64
478.54
312.94
310.94
                                                      .10
165.60
2.00
11.10
                                                                             *COAL
                                                                             *P51
                2125.80
                                  2136.90
                                                       1.90
35.10
299.84
                2136.90
                                  2138.80
                                                                             *P52
297.94
                2138.80
2173.90
                                  2173.90
                                                       .20
66.80
262.84
                                  2174.10
                                                                             *COAL
262.64
195.84
195.24
146.84
145.74
144.24
                2174.10
                                  2240.90
                2240.90
2241.50
2289.90
2291.00
2292.50
                                 2240.90
2241.50
2289.90
2291.00
2292.50
2331.40
                                                       .60
48.40
1.10
1.50
38.90
                                                                             *P43
                                                                             *P31
                                                                             *P32
105.34
                2331.40
                                  2331.80
                                                           .40
                                                                              *P34
                                                      164.20
104.94
                2331.80
                                  2496.00
-59.26
-59.56
                                                       .30
58.70
                2496.00
                                  2496.30
                                                                              *SJ3
                                  2555.00
                2496.30
                                                                               BOTTOM HOLE
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COAL SEAMS TO BE STIMULATED WERE ADJUSTED DUE TO TOPOGRAPHY. GAMMA-CALIPER LOG FROM 0 TO 259.00 GAMMA-DENSITY LOG FROM 259.00 TO TD. NOTE: FOOTAGE NOT ADJUSTED FOR DEVIATION

Well: BH112A

# Oil & Gas Show

Formation	Top	Bottom	Thickness	IPF	Pressure	Hours
				(MCFD/BOPD)		Tested
Lee/Norton	982.3	1735.0	752.7			
Pocahontas	1922.6	2292.5	369.9			
Total IPF				NOT TAKEN		

# PLAN VIEW COMPU-LOG DEVIATION

JENT: CONSOL ENERGY

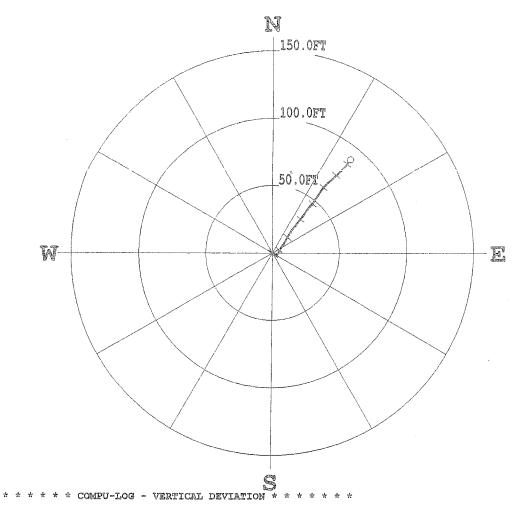
CATION:

LE ID: CNX-09-BH-112A JE OF LOG: 11/14/09 OBE: 9136CH 1244 MAG DECL: -6.9

SCALE: 50 FT/IN

TRUE DEPTH: 2518.69 FT

AZIMUTH: 40.1
DISTANCE: 90.2 FT
+ = 300 FT INCR
= BOTTOM OF HOLE



CLIENT : CONSOL ENERGY HOLE ID. : CNX-09-BH-112
FIELD OFFICE : BLUEFIELD DATE OF LOG : 11/14/09
DATA FROM : PROBE : 9136CH , 1244
MAG DECL. : -6.900 DEPTH UNITS : FEET
LOG: CNX-09-BH-112A 11-14-09 00-26 9136CH .10 0.00 2521.20 DEVI.log

LE DEPTH	TRUE DEPTH	NORTH DEV.	EAST DEV.	DISTANCE	AZIMUTH	SANG S	angb
0.50	0.50	0.00	0.00	0.0	0.0	0.0	0.0
10.00	10.00	0.00	0.00	0.0	32.4	0.1	73.3
20.00	20.00	0.01	0.00	0.0	25.4	0.1	31.1
30.00	30.00	0.02	0.01	0.0	22.5	0.0	7.6
40.00	40.00	0.03	0.01	0.0	15.9	0.1	14.9
50.00	50.00	0.03	0.01	0.0	15.0	0.0	18.7
60.00	60.00	0.04	0.01	0.0	15.0	0.1	48.0
70.00	70.00	0.05	0.02	0.1	26.1	0.1	58.3
80.00	80.00	0.04	0.05	0.1	46.0	0.2	89.5
90.00	90.00	0.03	0.08	0.1	67.4	0.4	114.8
100.00	100.00	0.02	0.12	0.1	82.2	0.1	110.2
110.00	110.00	-0.00	0.15	0.1	90.6	0.3	139.4
488 88	100 00	A A A	A 4 A	Λ 6	484 A	^ ~	4.66 9

DATA FROM : PROBE : 9136CH , 1244
MAG. DECL. : -6.900 DEPTH UNITS : FEET
LOG: CMK-09-BH-112A 11-14-09 00-26 9136CH .10 0.00 2521.20 DEVI.log

LOG: CNX-	09-BH-112A_1	1-14-09_00-2	6_9136CH1	0_0.00_252	20_DEVI	.log	
BLE DEPTH		NORTH DEV.					ange
0.50	0.50	0.00	0.00	0.0	0.0	0.0	0.0
10.00	10.00	0.00	0.00	0.0	32.4	0.1	73.3 31.1
20.00 30.00	20.00 30.00	0.01 0.02	0.00 0.01	0.0	25.4 22.5	0.1	7.6
40.00	40.00	0.03	0.01	0.0	15.9	0.1	14.9
50.00	50.00	0.03	0.01	0.0	15.0	0.0	18.7
60.00 70.00	60.00 70.00	0.04 0.05	0.01 0.02	0.0 0.1	15.0 26.1	0.1 0.1	48.0 58.3
30.00	80.00	0.04	9.05	0.1	46.0		69.5
90.00	90.00	0.03	0.08	0.1	67.4	0.4	114.8
100.00	100.00	0.02	0.12	0.1		0.1	110.2
110.00 120.00	110.00 120.00	-0.00 -0.04	0.15 0.18	0.1 0.2	90.6 104.0	0.3	139.4 160.3
130.00	130.00	-0.10		0.2	115.2	0.3	171.1
140.00	140.00	-0.12	0.21	0.2	120.0		104.3
150.00	150.00	-0.14	0.21	0.3	123.4	0.3	145.3
160.00 170.00	160.00 170.00	-0.18 -0.21	0.25 0.30	0.3 0.4	125.2 125.7	0.4	136.9 128.2
180.00	180.00	-0.26	0.36	0.4	126.4	0.4	124.7
190.00	190.00	-0.32	0.43	0.5	126.3	0.4	126.5
200.00 210.00	200.00 210.00	-0.36 -0.42	0.49 0.57	0.6 0.7	126.3 126.2 126.8	0.7 0.6	103.6 135.5
220.00	220.00	-0.50	0.63	0.8	128.2	0.4	142.4
230.00	230.00	-0.56	0.70	0.9	128.5		125.7
240.00 250.00	240.00 249.99	-0.62 -0.68	0.80	1.0	127.9	0.6 0.9	118.1
260.00	259.99	-0.74	0.89 0.99	1.1 1.2	127.3 126.9	0.6	123.3 126.2
270.00	269.99	-0.83	1.09	1.4	127.3		134.7
280.00	279.99	-0.93		1.5	127.2	0.9	121.2
290.00 300.00	289.99 299.99	-1.02 -1.10	1.34 1.45	1.7	127.2	0.9	134.6
310.00	309.99	-1.16	1.58	1.8 2.0	127.1 $126.4$	0.8 0.8	129.1 129.5
320.00	319.99	-1.24	1.69	2.1	126.4	0.9	113.9
330.00	329.99	-1.30	1.82	2.2	125.5 126.4	0.9	104.1
340.00 350.00	339.99 349.98	-1.34 -1.37	1.95 2.08	2.4 2.5	128.4	0.8 0.9	103.1 103.7
360.00	359.98	-1.37	2.23	2.6	121.6	0.9	86.9
370.00	369.98	-1.34	2.38	2.7	119.5	0.9	70.1
300.00 390.00	379.98 389.98	-1.34 -1.33	2.52 2.65	2.9 3.0	118.0	0.8 0.9	96.4
400.00	399.96	-1.30	2.80	3.1	116.7 114.9	0.8	90.1 82.9
410.00	409.98	-1.26	2.93	3.2	113.3	0.8	74.2
420.00	419.98	-1.22	3.05	3.3	111.9 110.1	0.8	61.3
430.00 440.00	429.98 439.97	-1.17 -1.08	3.20 3.35	3.4 3.5	110.1 107.8	1.0 1.1	61.3 55.5
450.00	449.97	-0.95	3.47	3.6	105.3	1.0	49.2
460.00	459.97	-0.87	3.60	3.7	103.5		57.3
470.00 480.00	469.97 479.97	-0.74 -0.59	3.73 3.85	3.8 3.9	101.2		38.9 38.9
490.00	489.97	-0.42	3.97	4.0	98.€ 96.0	1.2	28.8
500.00	499.96	-0.23	4.08	4.1	96.0 93.3 90.5	1.4	36.2
510.00	509.96	-0.04	4.20	4.2	90.5	1.5	22.0
520.00 530.00	519.96 529.95	0.14 0.38	4.36 4.44	4.4 4.5	88.1 85.1	1.5 1.6	14.4 38.8
540.00	539.95	0.60	4.56	4.6	82.5	1.5	19.8
550.00	549.95	0.83	4.69	4.8	80.0	1.5	30.8
560.00 570.00	559.94 569.94	1.06 1.29	4.81 4.93	4.9 5.1	77.6 75.4	1.6 1.7	54.5 3.0
580.00	579.94	1.55	5.07	5.3	73.0	1.6	37.7
590.00	589.93	1.79	5.19	5.5	71.0	1.6	352.1
600.00 610.00	599.93 609.92	1.99 2.23	5.38 5.50	5.7 5.9	69.7 68.0	1.6 1.8	55.1 59.0
620.00	619.92	2.51	5.60	6.1	65.9	1.8	24.7
630.00	629.91	2.80	5.78	6.4	64.2	1.9	27.7
640.00	639.91	3.11	5.94	6.7 7.0	62.3	2.1	26.0
650.00 660.00	649.90 659.89	3.37 3.68	6.18 6.29	7.0	<b>61.4</b> 59.6	2.0 2.4	69.4 29.9
670.00	669.89	4.01	6.46	7.6	58.2	2.2	25.5
680.00	679.68	4.18	6.71	7.9	58.1	1.9	7.4
690.00 700.00	689.87 699.87	4.41 4.76	6.86 6.98	8.2 8.4	57.3 55.7	2.1 2.4	36.6 26.3
710.00	709.86	5.00	7.25	8.8	55.4	2.0	35.2
720.00	719.85	5.31	7.44	9.1	54.5	2.3	45.1
730.00	729.84	5.56	7.71	9.5	54.2	2.2	5.7 67.8
740.00 750.00	739.84 749.83	5.90 6.16	7.86 8.09	9.8 10.2	53.1 52.7	2.4 2.1	18.4
760.00	759.82	6.52	8.27	10.5	51.7	2.3	14.3
770.00	769.81	6.81	8.53	10.9	51.4	2.2	17.4
780.00 790.00	779.80 789.79	7.07 7.46	8.80 8.90	11.3 11.6	51.2 50.0	2.4 2.6	30.6 32.6
800.00	799.79	7.75	9.19	12.0	49.9	2.2	42.5
810.00	809.78	8.11	9.32	12.4	49.0	2.3	43.2
820.00	819.77	8.43	9.53	12.7	48.5 47 a	2.3	23.1 27.9
630.00 840.00	829.76 839.75	8.78 9.10	9.72 9.93	13.1 13.5	47.9 47.5	2.2 2.4	27.9 52.4
850.00	849.74	9.51	10.04	13.8	46.5	2.7	35.4
860.00	859.73	9.86	10.29	14.2	46.2	2.5	10.9
870.00 880.00	869.72 879.71	10.28 10.61	10.43 10.71	14.6 15.1	45.4 45.3	2.6 2.7	19.6 27.5
890.00	889.70	11.04	10.92	15.5	44.7	3.1	31.2
900.00	899.69	11.42	11.22	16.0	44.5	2.8	29.2

\$40.00 \$50.00 \$60.00
839.75 849.72 859.72 879.72 869.62 999.64 999.64 999.64 999.55 999.55 999.55 999.55 999.55 999.55 999.55 1029.45 1039.33 1059.33 1069.33 1069.33 1109.10 1079.13 1089.33 11199.10 1129.20 1139.22 1159.10 1129.00
016814203100172567179264384260343182643496064545620157532885019388430011122334465717926438426034318264343655666677935285019388430411121333465566667788899900111111111111111111111111111111
90.243122259062131299056681439101101.222033466777211016781101111222.664677721110167811011111222.6646777211111111111111111111111111111111
552437566285157129999076354613019829178706957443219198810019909351642411099967765643332222111111 76655443332222111110000100000009999999999999999
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4496522947709961075267830398565234382160162176267606815384303656971460869547021580907779951097526783039856523143821601621762676068153843036569714608695470215809077799531987830365693408934059582314129920932427308878303656971460869547607799531987830365697146086954760779953198783036569714608695476077995319878303656971480869547607799531987830365697148086954760779953198783036569714808695476077995319878303656971480869547607799531987830365697148086954760779953198783036569714808695476077995319878303656971480869547607799531987830365697148086954760779953198783036569714808695476077995319878303656971480869547607799531987830365697148086954760777995319878978978978978978978978978978978978978

1500.00 1610.00 1620.90 1650.00 1650.00 1650.00 1660.00 1660.00 1670.00 1670.00 1670.00 1710.00 1710.00 1770.00 185
1958.02 1878.01 1888.00 1897.99 1907.98 1917.97 1927.96 1937.95 1947.93 1967.92 1977.91 1987.90 1997.88 2017.87 2027.86 2037.85 2047.84 2057.83 2067.82 2077.81 2087.79
971430793528501938845045573797057478855555555555555555555555555555555
37.96 36.26 36.57 38.87 39.18 39.40 39.76
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1440085247.021563699.83247.107.01561613.1.56369.99.83247.107.55237.3.64208522861653.947.5.13642.0852237.3.69.99.83247.107.55237.3.642.0852235.5446.07.669.99.832447.107.55237.3.3.4224.91.56369.64224.7.5.233.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3

Well: BH112A

**Casing & Tubing Program** 

	Casing	Casing	Hole	Cement	Ceme	nted	Date	Packers or
		Interval	Size	used in cu/ft	to Su	face	Cemented	Bridge Plugs
					Yes	No		
Conductor	13 3/8"	20	15"			Х	11/11/09	
Surface	7"	252.9	8 7/8"	100.3	Χ		11/11/09	Basket@168
Water Protection	4 1/2"	2357.41	6 1/2"	354.9	Χ		11/14/09	
Coal Protection	4 1/2"	2357.41	6 1/2"	354.9	Χ		11/14/09	
Other Casing & Tubing								
Other Casing & Tubing								
Liners								

COMPANY: CNX GAS CO LLC

HOLE:

BH-112-A

RIG:

90

LOCATION:

FLAT ROCK, VA

DATE STARTED:

11/11/2009

DATE COMPLETED:

11/14/2009

ELECTRIC LOGGED: YES

GROUTED: YES

DEPTH	THICKNESS			STRATA
FROM	то	FT		DESCRIPTION, VOIDS ETC
	)	20	20	OVERBURDEN
20	O	30	10	SAND / SHALE
30	0	60	30	SAND / SHALE
60	0	90	30	SAND / SHALE
90	O	120	30	SAND / SHALE
120	0	150	30	SAND / SHALE
150	0	180	30	SAND / SHALE
180	0	198	18	SAND / SHALE
198	8	201	3	VOID
20:	1	210	9	SAND / SHALE
210	0	240	30	SAND / SHALE
240	D	270	30	SAND / SHALE
270	0	275	5	SHALE
27	5	305	30	SAND / SHALE
30	5	335	30	SHALE / COAL / SHALE
33:	5	365	30	SAND / SHALE
36	5	395	30	SHALE / COAL / SHALE
39	5	425	30	SAND / SHALE
42.	5	455	30	SHALE / COAL / SHALE
45	5	485	30	SAND / SHALE
48	5	515	30	SHALE / COAL / SHALE
51	5	545	30	SHALE / SAND
54.	5	575	30	SAND
573	5	605	30	SAND
60.	5	635	30	SAND / SHALE
63.	5	665	30	SAND / SHALE / COAL
66.	5	695	30	SAND / SHALE / COAL
69.	5	725	30	SAND / SHALE
72.	5	755	30	SAND / SHALE / COAL
75.	5	785	30	SAND / SHALE
78.	5	815	30	SAND / SHALE
81	5	845	30	SAND / SHALE / COAL
84	5	875	30	SAND / SHALE
87.	5	905	30	SAND / SHALE

905	935	30 SAND / SHALE
935	965	30 SAND / SHALE / COAL
965	995	*
995	1025	•
1025	1055	•
1055	1085	*.
		•
1085	1115	•
1115	1145	,
1145	1175	•
1175	1205	,
1205	1235	,
1235	1265	•
1265	1295	30 SAND / SANDY SHALE / COAL
1295	1325	30 SAND / SANDY SHALE
1325	1355	30 SAND / SANDY SHALE / COAL
1355	1385	30 SAND / SANDY SHALE / COAL
1385	1415	30 SAND / SANDY SHALE
1415	1445	30 SAND / SANDY SHALE / COAL
1445	1475	30 SAND / SANDY SHALE
1475	1505	30 SAND / SANDY SHALE
1505	1535	30 SAND / SANDY SHALE
1535	1565	30 SAND / SANDY SHALE
1565	1595	•
1595	1625	30 SAND / SANDY SHALE / COAL
1625	1655	30 SAND / SHALE
1655	1685	30 SAND / SANDY SHALE / COAL
1685	1715	·
1715	1745	•
1745	1775	30 SAND / SHALE
1775	1805	30 SAND / SANDY SHALE / COAL
1805	1835	30 SAND / SHALE / COAL
		·
1835	1865	•
1865	1895	•
1895	1925	
1925	1955	· ·
1955	1985	<i>,</i>
1985	2015	•
2015	2045	
2045	2075	30 SAND / SHALE
2075	2105	·
2105	2135	30 SAND / SHALE / COAL
2135	2165	30 SAND / SHALE
2165	2195	30 SAND / SHALE / COAL
2195	2225	30 SAND / SHALE
2225	2255	30 SAND / SHALE
2255	2285	30 SAND / SHALE / COAL
2285	2315	30 SAND / SHALE / COAL
	··· <del>-</del>	, , ,

2315	2345	30 SAND / SHALE
2345	2375	30 SAND / SHALE
2375	2405	30 SAND / SHALE
2405	2435	30 SAND / SHALE / COAL
2435	2465	30 SAND / SHALE
2465	2495	30 SAND / SHALE / COAL
2495	2525	30 SAND / SHALE
2525	2540	15 SAND / RED SHALE
2540	2555	15 SAND / SHALE

2555' TOTAL DEPTH 20' OF 13 3/8" CASING 252.9' OF 7" CASING 2357.41' OF 4 1/2" CASING