

NOTE: AS DRILLED TOP HOLE AND BOTTOM HOLE COORDINATES ARE SAME AS PERMITTED ONES.

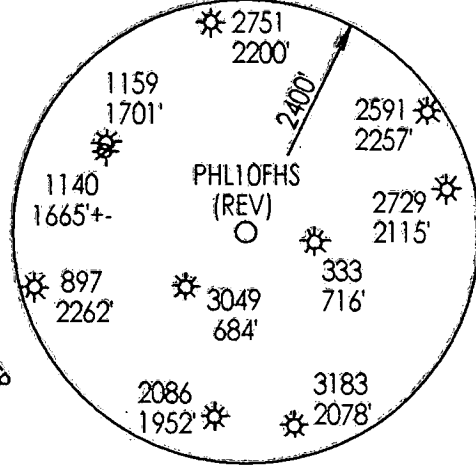
Id	Bearing	Distance
L1	N 89°21'25" W	1233.77'
L2	N 20°27'22" E	549.59'
L3	S 39°12'02" W	1395.37'

NAD 83 UTM ZONE 17 COOR. IN METERS:

PHL10FHS(REV)	= 4,340,935.93 m	583,166.68 m
TANG. PT.	= 4,340,602.01 m	582,903.45 m
LAND PT.	= 4,340,365.02 m	582,891.13 m
BOT. HOLE	= 4,338,921.74 m	583,746.92 m

NAD 27 WV NORTH SPC

North	East	Description
260371.34259'	1847883.82354'	PHL10FHS(REV)
259290.01685'	1847001.89833'	TANG. PT.
258513.04396'	1846948.53545'	LANDING PT.
253730.44900'	1849677.99200'	BOTTOMHOLE



--- PERMITTED  
 — AS DRILLED

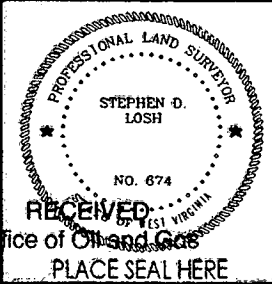
WELL REFERENCES:  
 S14-07-26E, 287.61' TO NAIL IN 12" CHERRY  
 N76-18-55E, 275.36' TO NAIL IN 9" W. ASH

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: \_\_\_\_\_  
 DRAWING NUMBER: CNXPHL10FASDRIL.PCS  
 SCALE: 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY: SUBMETER  
 PROVEN SOURCE OF ELEVATION: DGPS SURVEY  
 RTK SYSTEM

I THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) \_\_\_\_\_  
 STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 #10 McJUNKIN ROAD  
 NITRO, WV 25143-2506

LAND SURVEYING SERVICES  
 21 CEDAR LANE, BRIDGEPORT, WV 26330  
 PHONE: 304-842-2018 OR 842-5762

DATE: SEPTEMBER 23, 2016

OPERATORS WELL NO.: PHL10FHS (REV)  
 API WELL NO. WV Department of Environmental Protection  
 47-001-03291  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION  WASTE DISPOSAL \_\_\_ CBM \_\_\_  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW   
 LOCATION: ELEVATION 1618.50' (493.32 m) WATERSHED TAYLOR DRAIN  
 DISTRICT PLEASANT COUNTY BARBOUR  
 QUADRANGLE PHILIPPI LEASE NUMBER SEE ABOVE  
 SURFACE OWNER MARY LOU WATSON ACREAGE 103.00 (15-30)  
 OIL & GAS ROYALTY OWNER A. PROUDFOOT, ET. AL. UNIT LEASE ACREAGE 1024.16  
 PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_  
 PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL  
 TARGET FORMATION MARCELLUS PLUG & ABANDON \_\_\_ CLEAN OUT & REPLUG \_\_\_  
 ESTIMATED DEPTH TVD 7850' / TMD 16562'  
 WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JEREMY JONES  
 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

LONGITUDE 80-00-00  
 COUNTY NAME  
 PERMIT

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

API 47-001-03291H6A County Barbour District Pleasant  
Quad Philippi Pad Name PHL10HS Field/Pool Name Philippi  
Farm Name WATSON, MARY LOU Well Number PHL10FHS  
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 4,340,935.93 m Easting 583,166.68 m  
Landing Point of Curve Northing 4,340,365.02 m Easting 582,891.13 m  
Bottom Hole Northing 4,338,921.74 m Easting 583,746.92 m

Elevation (ft) 1618.50' 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

Drilled 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)  
Mineral Oil Based Mud, Bactericide, Polymers and Weighting Agents.

Date Permit Issued 03/21/2013 Date drilling commenced 10/08/2013 Date drilling ceased 03/08/2014  
Date completion activities began 06/25/2014 Date completion activities ceased 07/16/2014  
Verbal plugging (Y/N) N 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 plu

Freshwater depth(s) ft 310', 580' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1825' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 573' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) Y

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API 47-001-03291H6A Farm name WATSON, MARY LOU Well number PHL10FHS

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement Circulate (Y/N) * Provide details to the right *
Conductor	26"	20"	100'	N	J-55 96# / 100'	N/A	Y
Surface	17 1/2"	13 3/8"	673'	N	J-55 54.5# / 673'	42'/121'	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2037'	N	J-55 36# / 2037'	43'/122'	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	14248'	N	P-110 20# / 14248'	N/A	N
Tubing	5 1/2"	2 3/8"	8565'	N	P-110 4.7# / 8565'	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	148	16.2	1.20	177	Surface	8
Surface	Class A	480	15.2	1.26	605	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	555	15.2	1.25	694	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	1016 / 1681	14.21 / 14.8	1.26 / 1.25	1281 / 2101	1837' / 6534'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 7712' Loggers TD (ft) 7881'  
 Deepest formation penetrated: Lower Marcellus Plug back to (ft) N/A  
 Plug back procedure: N/A

Kick Off Depth (ft) 5139'

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 - Bow spring centralizers on first joint then every fourth joint to 100 feet from surface.. 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 USE  Yes  No TYPES OF TRACER(S) USED \_\_\_\_\_

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API 47-001-03291H6A Farm name WATSON, MARY LOU Well number PHL10EHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1	6/25/2014	14220	14150	48	Marcellus
2	6/25/2014	14126	14002	40	Marcellus
3	6/26/2014	13974	13850	40	Marcellus
4	6/26/2014	13822	13698	40	Marcellus
5	6/27/2014	13670	13546	40	Marcellus
6	6/28/2014	13518	13394	40	Marcellus
7	6/29/2014	13366	13242	40	Marcellus
8	6/29/2014	13214	13090	40	Marcellus
9	6/29/2014	13062	12938	40	Marcellus
10	6/30/2014	12910	12786	40	Marcellus
11	6/30/2014	12758	12634	40	Marcellus
12	7/1/2014	12606	12482	40	Marcellus
13	7/1/2014	12454	12330	40	Marcellus
14	7/2/2014	12302	12178	40	Marcellus
15	7/3/2014	12150	12026	40	Marcellus
16	7/3/2014	11998	11874	40	Marcellus
17	7/4/2014	11846	11722	40	Marcellus
18	7/5/2014	11694	11570	40	Marcellus
19	7/6/2014	11542	11418	40	Marcellus
20	7/7/2014	11390	11266	40	Marcellus
21	7/7/2014	11238	11114	40	Marcellus
22	7/8/2014	11086	10962	40	Marcellus
23	7/9/2014	10934	10810	40	Marcellus
24	7/10/2014	10782	10658	40	Marcellus
25	7/10/2014	10630	10506	40	Marcellus
26	7/11/2014	10478	10354	40	Marcellus
27	7/11/2014	10326	10201	40	Marcellus
28	7/12/2014	10173	10048	40	Marcellus
29	7/12/2014	10020	9895	40	Marcellus
30	7/13/2014	9867	9742	40	Marcellus
31	7/14/2014	9714	9589	40	Marcellus
32	7/15/2014	9561	9436	40	Marcellus
33	7/16/2014	9408	9283	40	Marcellus
34					Stage 34 was abandoned
35	7/16/2014	9102	8977	40	Marcellus
36	7/16/2014	8949	8824	40	Marcellus
37	7/16/2014	8796	8671	40	Marcellus

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STIMULATION INFORMATION PER STAGE

Stage No.	Stimulations Date	Avg Pump Rate (BPM)	Avg Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen / other (gals)
1	6/25/2014	68.1	8397	8867	4594	225400	6295	3363
2	6/25/2014	73	8287	8344	5366	333640	7806	3522
3	6/26/2014	64.4	8427	7119	5726	325160	9655	3731
4	6/26/2014	57.1	8445	7729	6119	325600	14519	7808
5	6/27/2014	68	8503	7157	5842	325070	16442	5346
6	6/28/2014	72	8425	7111	5236	325200	14053	7148
7	6/29/2014	78.1	8487	6813	5618	325510	7302	3814
8	6/29/2014	66	7951	6488	5001	325290	10545	4194
9	6/29/2014	88.1	8443	6450	5230	326410	6755	3786
10	6/30/2014	86.1	8141	6239	5149	326120	6499	3561
11	6/30/2014	82.8	8231	8705	5826	326870	6928	3532
12	7/1/2014	75	8457	6323	6323	325900	8335	3983
13	7/1/2014	76	8063	7142	6018	299670	9301	3861
14	7/2/2014	81	8078	6780	5974	311000	7312	3618
15	7/3/2014	77.7	8532	9047	5469	331180	7192	3573
16	7/3/2014	76.6	8411	7073	5581	327940	8107	3731
17	7/4/2014	83.8	8447	6851	5380	325980	6819	3501
18	7/5/2014	88.4	8508	6681	5613	325920	6701	3772
19	7/6/2014	84.8	8420	7003	5661	329310	8194	3808
20	7/7/2014	86.6	8460	6776	6140	316520	6707	3466
21	7/7/2014	76.6	8497	6605	6431	325270	8492	3795
22	7/8/2014	83.3	8246	6416	5949	326440	6524	3493
23	7/9/2014	81.8	8228	6738	5734	327790	6489	3523
24	7/10/2014	76	8309	6889	5512	327820	8329	3741
25	7/10/2014	82.4	8174	6804	5880	326630	6670	3416
26	7/11/2014	83	7991	6347	6037	318000	6656	3483
27	7/11/2014	84.8	9056	6192	6000	285480	6269	3392
28	7/12/2014	88	8079	6529	5962	333300	7654	3433
29	7/12/2014	87	8355	6416	5107	324990	8665	3614
30	7/13/2014	88	7825	5962	5274	326380	7635	3518
31	7/14/2014	94	8010	6080	5704	320720	10778	3541
32	7/15/2014	88.8	7855	6222	5741	325260	7378	3474
33	7/16/2014	84	7969	6510	6018	328340	8172	3612
34								
35	7/16/2014	98.1	7870	5981	5296	327300	6799	3702
36	7/16/2014	92	7614	5829	5404	324440	6567	3404
37	7/16/2014	85	7589	6308	5185	327720	6845	3534

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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	112			
SHALE	112	250			Gray
SHALE	250	330			Dark Gray
SAND	330	573			Light Gray
COAL	573	580			Black
SHALE	580	630			Black
SAND	630	700			Gray
SHALE	700	733			Black
SHALE	733	890			Black
SAND	890	950			Brown
SAND	950	1200			Light Brown
SHALE	1200	1350			Black
SAND	1350	1492			Gray
LIME	1492	1630			White
SAND	1630	2200			Gray
SHALE	2200				Black
FOURTH SAND	2348	2381			
SPEECHLEY	3201	3212			
BALLTOWN	3386	3422			
BRADFORD	3688	3930			
RILEY	4118	4299			
BENSON	4512	4578			
FIRST ELK	4744	4802			
SECOND ELK	4896	4976			
THIRD ELK	5155	5193			
FOURTH ELK	5426	5464			
SYCAMORE GRIT	6752	7156			
FRIB	7156	7611			
BURKETT	7611	7633			
TULLY LIMESTONE	7633	7690			
HAMILTON SHALE	7690	7850			
UPPER MARCELLUS	7850	7868			
MIDDLE MARCELLUS	7868	7879			
LOWER MARCELLUS	7879	7881			

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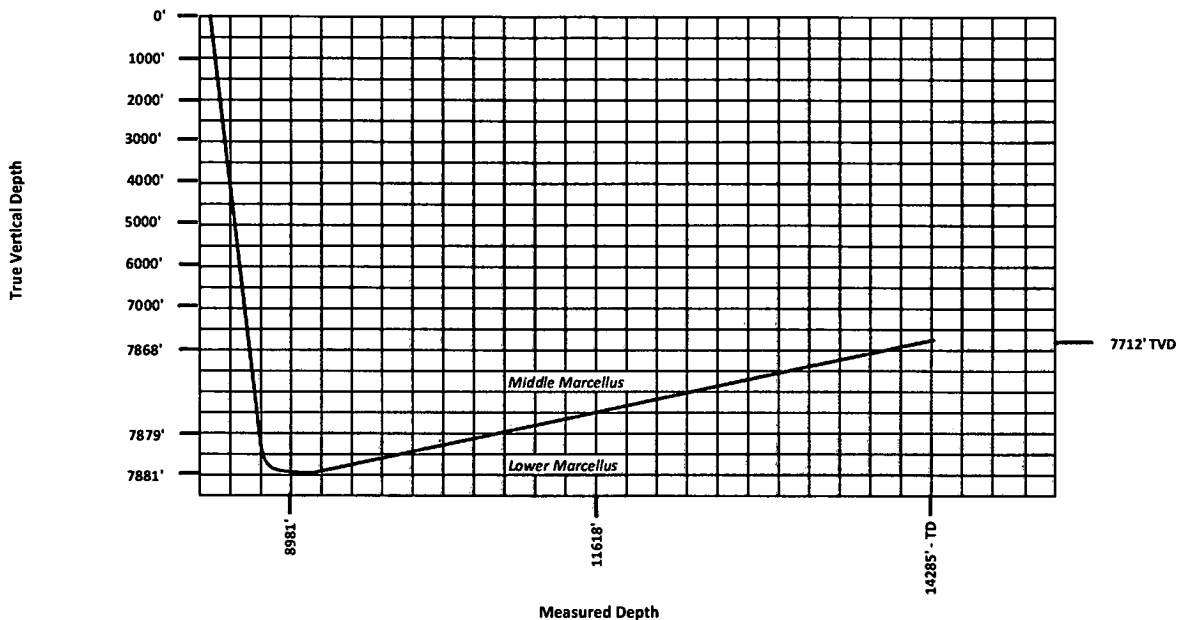
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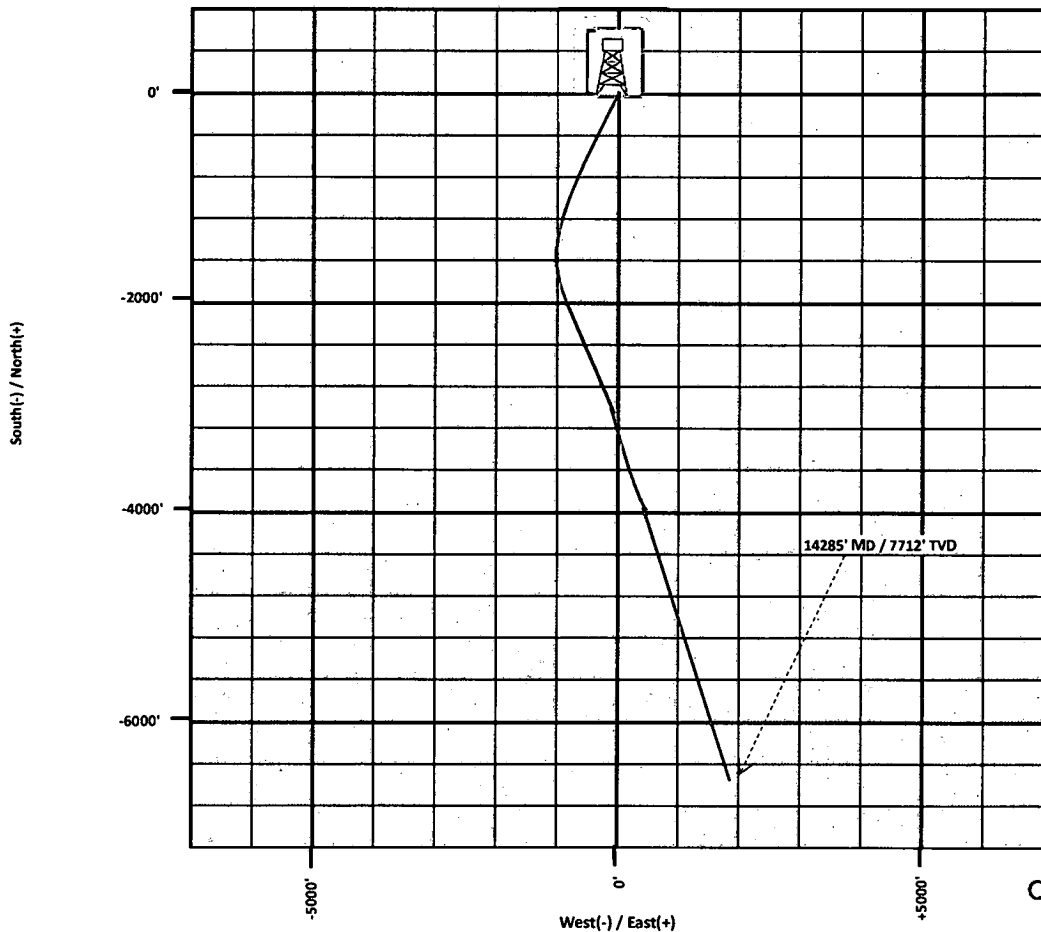


### CNX PHL10FHS - Views

#### Profile View



#### As Drilled View



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## CNX PHL10FHS Gyro+MWD Off to update Survey Report

MD feet	INC deg	AZI deg	TVD feet	CL feet	SECT feet	RCN feet	RCE feet	CLDIST feet	CLDIR deg	DLS deg/100ft	TEMP F
110.50	0.51	75.10	110.50	0.00	0.00	0.12	0.47	0.49	75.36	-999.25	
210.50	0.33	78.39	210.50	100.00	0.02	0.30	1.19	1.22	75.98	0.18	
310.50	0.30	89.65	310.50	100.00	0.10	0.36	1.73	1.77	78.38	0.07	
410.50	0.32	91.51	410.50	100.00	0.25	0.35	2.27	2.30	81.24	0.02	
510.50	0.37	109.48	510.49	100.00	0.51	0.24	2.86	2.87	85.29	0.12	
563.50	0.28	112.00	563.49	53.00	0.69	0.13	3.14	3.14	87.63	0.17	
610.50	0.33	111.28	610.49	47.00	0.83	0.04	3.37	3.37	89.36	0.11	
710.50	0.30	122.62	710.49	100.00	1.20	-0.21	3.86	3.86	93.09	0.07	
810.50	0.22	131.64	810.49	100.00	1.55	-0.48	4.22	4.25	96.44	0.09	
910.50	0.25	137.59	910.49	100.00	1.91	-0.77	4.51	4.58	99.63	0.04	
1010.50	0.16	149.70	1010.49	100.00	2.23	-1.05	4.73	4.85	102.48	0.10	
1110.50	0.26	147.18	1110.49	100.00	2.59	-1.36	4.92	5.11	105.42	0.10	
1210.50	0.27	142.76	1210.49	100.00	3.02	-1.74	5.19	5.47	108.50	0.02	
1310.50	0.32	133.99	1310.48	100.00	3.48	-2.12	5.53	5.92	110.95	0.07	
1410.50	0.37	122.69	1410.48	100.00	3.95	-2.49	6.01	6.50	112.49	0.08	
1510.50	0.39	115.60	1510.48	100.00	4.41	-2.81	6.58	7.16	113.10	0.05	
1610.50	0.38	118.64	1610.48	100.00	4.86	-3.11	7.18	7.83	113.44	0.02	
1710.50	0.39	118.12	1710.48	100.00	5.33	-3.43	7.77	8.50	113.83	0.01	
1810.50	0.57	112.82	1810.47	100.00	5.86	-3.79	8.53	9.33	113.93	0.19	
1910.50	0.46	114.85	1910.47	100.00	6.43	-4.15	9.35	10.23	113.91	0.11	
2010.50	0.60	113.48	2010.46	100.00	7.01	-4.53	10.20	11.16	113.93	0.14	
2110.50	0.71	108.38	2110.46	100.00	7.67	-4.93	11.27	12.30	113.63	0.12	
2210.50	0.84	106.30	2210.45	100.00	8.40	-5.33	12.56	13.64	113.00	0.13	
2310.50	0.74	105.08	2310.44	100.00	9.10	-5.70	13.89	15.01	112.33	0.10	
2410.50	0.71	114.82	2410.43	100.00	9.82	-6.13	15.07	16.27	112.14	0.13	
2510.50	0.62	127.03	2510.42	100.00	10.64	-6.72	16.07	17.41	112.69	0.17	
2610.50	0.40	133.94	2610.42	100.00	11.37	-7.29	16.75	18.27	113.51	0.23	
2710.50	0.47	140.02	2710.42	100.00	12.04	-7.84	17.26	18.96	114.43	0.08	
2810.50	0.38	140.41	2810.41	100.00	12.71	-8.41	17.74	19.63	115.37	0.09	
2910.50	0.44	144.73	2910.41	100.00	13.37	-8.98	18.17	20.27	116.30	0.07	
3010.50	0.37	144.15	3010.41	100.00	14.04	-9.56	18.58	20.90	117.22	0.07	
3110.50	0.47	159.98	3110.41	100.00	14.75	-10.20	18.91	21.49	118.35	0.15	
3210.50	0.56	169.95	3210.40	100.00	15.64	-11.07	19.14	22.11	120.05	0.13	
3310.50	0.59	178.32	3310.40	100.00	16.63	-12.07	19.24	22.71	122.10	0.09	
3410.50	0.50	185.88	3410.39	100.00	17.54	-13.02	19.21	23.20	124.12	0.12	
3510.50	0.40	202.77	3510.39	100.00	18.22	-13.77	19.03	23.49	125.89	0.17	
3610.50	0.45	225.82	3610.39	100.00	18.69	-14.37	18.61	23.51	127.66	0.18	
3710.50	0.39	240.85	3710.38	100.00	18.96	-14.81	18.03	23.33	129.39	0.13	
3810.50	0.57	263.24	3810.38	100.00	18.98	-15.03	17.24	22.87	131.08	0.26	
3910.50	0.74	270.32	3910.38	100.00	18.73	-15.09	16.10	22.07	133.13	0.19	
4010.50	1.38	284.55	4010.36	100.00	17.97	-14.78	14.29	20.56	135.96	0.69	
4110.50	1.47	285.69	4110.33	100.00	16.72	-14.13	11.89	18.47	139.92	0.09	
4210.50	1.89	279.00	4210.28	100.00	15.40	-13.52	9.03	16.26	146.28	0.46	
4310.50	1.77	265.61	4310.23	100.00	14.44	-13.39	5.86	14.61	156.36	0.44	
4410.50	1.08	250.20	4410.20	100.00	14.24	-13.82	3.43	14.24	166.05	0.78	
4510.50	0.89	243.30	4510.19	100.00	14.48	-14.49	1.85	14.61	172.72	0.22	
4610.50	0.54	237.01	4610.18	100.00	14.78	-15.10	0.76	15.12	177.11	0.36	
4710.50	0.29	183.77	4710.18	100.00	15.17	-15.61	0.35	15.61	178.71	0.43	
4810.50	0.35	172.40	4810.18	100.00	15.71	-16.16	0.37	16.16	178.67	0.09	
4910.50	0.49	160.95	4910.17	100.00	16.44	-16.87	0.55	16.88	178.12	0.16	
5010.50	0.50	152.25	5010.17	100.00	17.29	-17.66	0.90	17.68	177.09	0.08	
5110.50	0.75	140.86	5110.16	100.00	18.31	-18.55	1.51	18.61	175.34	0.28	
5139.50	0.72	137.56	5139.16	29.00	18.65	-18.83	1.76	18.92	174.67	0.18	
5186.50	1.50	172.00	5186.15	47.00	19.52	-19.66	2.04	19.77	174.07	2.11	
5231.50	3.70	193.40	5231.10	45.00	21.38	-21.66	1.79	21.73	175.28	5.26	
5276.50	6.10	200.50	5275.94	45.00	24.61	-25.31	0.61	25.32	178.61	5.49	
5321.50	8.20	206.20	5320.58	45.00	28.97	-30.43	-1.64	30.47	183.09	4.92	
5366.50	10.30	210.60	5365.00	45.00	34.20	-36.77	-5.11	37.12	187.91	4.92	
5409.50	12.70	216.40	5407.13	43.00	39.84	-43.89	-9.87	44.98	192.67	6.19	
5454.50	13.20	218.10	5450.99	45.00	46.02	-51.91	-15.98	54.31	197.11	1.40	
5499.50	15.10	215.60	5494.62	45.00	52.83	-60.72	-22.56	64.78	200.38	4.43	
5544.50	17.80	215.40	5537.77	45.00	60.94	-71.10	-29.96	77.15	202.85	6.00	
5589.50	20.50	215.20	5580.28	45.00	70.37	-83.14	-38.48	91.62	204.84	6.00	
5634.50	24.20	217.80	5621.89	45.00	81.00	-96.87	-48.68	108.42	206.68	8.51	
5679.50	27.00	218.50	5662.47	45.00	92.66	-112.16	-60.70	127.53	208.42	6.26	
5724.50	30.60	219.60	5701.90	45.00	105.38	-128.98	-74.36	148.88	209.96	8.09	
5769.50	34.00	220.60	5739.93	45.00	119.13	-147.37	-89.85	172.60	211.37	7.65	
5814.50	36.80	221.50	5776.61	45.00	133.69	-167.02	-106.98	198.34	212.64	6.33	
5859.50	39.10	221.60	5812.09	45.00	148.95	-187.73	-125.33	225.72	213.73	5.11	
5904.50	40.80	222.10	5846.59	45.00	164.76	-209.25	-144.61	254.36	214.65	3.84	

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5949.50	40.20	222.30	5880.81	45.00	180.60	-230.90	-164.24	283.36	215.42	1.36	
5994.50	40.90	220.90	5915.00	45.00	196.71	-252.78	-183.66	312.45	216.00	2.55	
6039.50	41.60	220.40	5948.83	45.00	213.46	-275.29	-202.99	342.04	216.40	1.72	
6083.50	40.70	220.00	5981.96	44.00	230.00	-297.40	-221.68	370.93	216.70	2.13	
6128.50	40.30	218.50	6016.18	45.00	247.08	-320.03	-240.17	400.13	216.89	2.34	
6173.50	39.70	218.70	6050.65	45.00	264.25	-342.64	-258.21	429.04	217.00	1.36	
6218.50	39.60	219.90	6085.30	45.00	281.01	-364.86	-276.40	457.73	217.15	1.72	
6264.50	38.80	218.60	6120.95	46.00	298.00	-387.37	-294.80	486.78	217.27	2.49	
6309.50	38.50	218.40	6156.09	45.00	314.73	-409.36	-312.29	514.88	217.34	0.72	
6353.50	38.60	220.10	6190.51	44.00	330.76	-430.60	-329.64	542.29	217.44	2.42	
6398.50	37.70	219.50	6225.89	45.00	346.79	-451.95	-347.43	570.06	217.55	2.16	
6443.50	37.90	218.60	6261.45	45.00	362.99	-473.37	-364.81	597.63	217.62	1.30	
6522.00	41.15	216.52	6322.00	78.50	393.39	-512.98	-395.23	647.58	217.61	4.47	108.25
6617.00	38.16	217.26	6395.13	95.00	430.83	-561.47	-431.61	708.19	217.55	3.19	111.87
6710.00	35.70	213.03	6469.48	93.00	466.58	-607.10	-463.80	763.99	217.38	3.80	115.48
6805.00	33.94	215.18	6547.47	95.00	502.12	-652.02	-494.20	818.15	217.16	2.26	115.48
6899.00	34.38	219.95	6625.26	94.00	534.19	-693.82	-526.36	870.89	217.19	2.89	115.48
6994.00	36.14	223.41	6702.84	95.00	564.29	-734.74	-562.84	925.55	217.45	2.80	119.09
7089.00	38.87	224.11	6778.20	95.00	594.29	-776.50	-602.85	983.05	217.82	2.91	119.09
7183.00	40.36	222.26	6850.61	94.00	625.91	-820.21	-643.85	1042.73	218.13	2.02	122.71
7278.00	38.16	220.57	6924.16	95.00	659.17	-865.28	-683.63	1102.75	218.31	2.57	122.71
7373.00	36.58	223.91	6999.67	95.00	690.40	-907.97	-722.36	1160.27	218.50	2.71	122.71
7467.00	32.71	225.49	7076.99	94.00	717.40	-945.97	-759.91	1213.40	218.78	4.23	122.71
7562.00	37.11	222.83	7154.88	95.00	745.33	-985.00	-797.72	1267.51	219.00	4.90	122.71
7656.00	39.31	220.52	7228.74	94.00	777.31	-1028.44	-836.35	1325.59	219.12	2.79	126.32
7751.00	37.64	218.98	7303.11	95.00	811.43	-1073.87	-874.15	1384.68	219.15	2.03	122.71
7846.00	37.11	221.54	7378.61	95.00	844.30	-1117.88	-911.41	1442.33	219.19	1.73	122.71
7893.00	36.84	219.02	7416.16	47.00	860.41	-1139.44	-929.68	1470.59	219.21	3.28	126.32
7940.00	36.76	213.31	7453.81	47.00	878.05	-1162.15	-946.28	1498.68	219.15	7.28	126.32
7987.00	39.39	204.17	7490.83	47.00	899.00	-1187.53	-960.12	1527.11	218.96	13.22	126.32
8034.00	42.30	199.69	7526.39	47.00	923.58	-1216.04	-971.56	1556.50	218.62	8.78	126.32
8081.00	45.73	195.54	7560.19	47.00	951.10	-1247.16	-981.41	1587.00	218.20	9.53	126.32
8129.00	48.63	192.29	7592.82	48.00	981.92	-1281.33	-989.85	1619.13	217.69	7.82	129.94
8176.00	50.65	188.35	7623.26	47.00	1014.29	-1316.55	-996.24	1651.00	217.12	7.70	126.32
8223.00	53.90	185.25	7652.02	47.00	1048.81	-1353.45	-1000.62	1683.17	216.48	8.66	126.32
8270.00	57.60	180.02	7678.48	47.00	1085.83	-1392.23	-1002.37	1715.53	215.75	12.10	129.94
8318.00	62.08	175.96	7702.60	48.00	1126.25	-1433.68	-1000.88	1748.49	214.92	11.85	129.94
8365.00	66.30	173.05	7723.06	47.00	1167.97	-1475.78	-996.81	1780.89	214.04	10.57	129.94
8412.00	67.71	171.57	7741.42	47.00	1210.89	-1518.66	-991.02	1813.40	213.13	4.17	129.94
8465.00	68.85	168.58	7761.04	53.00	1259.93	-1567.15	-982.53	1849.68	212.09	5.67	129.94
8507.00	68.85	167.84	7776.19	42.00	1299.03	-1605.49	-974.52	1878.11	211.26	1.64	129.94
8554.00	70.08	166.56	7792.68	47.00	1343.01	-1648.41	-964.77	1909.98	210.34	3.65	129.94
8602.00	72.02	163.82	7808.27	48.00	1388.41	-1692.29	-953.16	1942.26	209.39	6.74	129.94
8649.00	72.90	162.04	7822.43	47.00	1433.19	-1735.13	-940.01	1973.39	208.45	4.07	129.94
8697.00	74.48	160.29	7835.91	48.00	1479.15	-1778.73	-925.13	2004.93	207.48	4.80	129.94
8744.00	76.06	156.37	7847.87	47.00	1524.28	-1820.96	-908.35	2034.94	206.51	8.74	129.94
8791.00	76.85	151.68	7858.88	47.00	1569.12	-1862.02	-888.34	2063.07	205.51	9.85	133.55
8838.00	78.52	149.93	7868.91	47.00	1613.63	-1902.10	-865.94	2089.94	204.48	5.09	129.94
8886.00	82.66	149.09	7876.75	48.00	1659.25	-1942.90	-841.92	2117.47	203.43	8.80	133.55
8933.00	87.67	149.62	7880.71	47.00	1704.33	-1983.18	-818.05	2145.27	202.42	10.72	137.17
8981.00	90.66	150.08	7881.41	48.00	1750.64	-2024.67	-793.95	2174.78	201.41	6.30	137.17
9063.00	90.31	150.05	7880.72	82.00	1829.86	-2095.73	-753.03	2226.91	199.76	0.43	144.39
9158.00	89.52	147.80	7880.86	95.00	1921.13	-2177.09	-704.00	2288.09	197.92	2.51	148.01
9253.00	89.60	147.45	7881.59	95.00	2011.79	-2257.32	-653.13	2349.91	196.14	0.38	151.62
9347.00	90.57	148.20	7881.45	94.00	2101.58	-2336.88	-603.08	2413.45	194.47	1.30	155.24
9442.00	89.69	147.75	7881.23	95.00	2192.41	-2417.43	-552.70	2479.80	192.88	1.04	151.62
9537.00	92.07	148.29	7879.78	95.00	2283.24	-2497.99	-502.40	2548.01	191.37	2.57	158.85
9631.00	92.59	148.75	7875.95	94.00	2373.29	-2578.09	-453.35	2617.65	189.97	0.74	158.85
9726.00	95.76	149.20	7869.04	95.00	2464.34	-2659.27	-404.52	2689.87	188.65	3.37	162.46
9820.00	90.04	149.17	7864.28	94.00	2554.62	-2739.87	-356.45	2762.96	187.41	6.08	166.08
9915.00	90.22	152.28	7864.07	95.00	2646.67	-2822.72	-310.00	2839.69	186.27	3.28	166.08
10010.00	91.36	151.99	7862.76	95.00	2739.26	-2906.70	-265.60	2918.81	185.22	1.24	155.24
10104.00	92.59	151.69	7859.52	94.00	2830.73	-2989.52	-221.27	2997.70	184.23	1.35	166.08
10199.00	93.74	151.95	7854.27	95.00	2923.08	-3073.13	-176.48	3078.19	183.29	1.24	166.08
10294.00	92.77	153.49	7848.88	95.00	3015.74	-3157.43	-133.01	3160.23	182.41	1.91	169.69
10388.00	93.03	153.69	7844.12	94.00	3107.76	-3241.51	-91.25	3242.79	181.61	0.35	169.69
10483.00	93.47	154.42	7838.74	95.00	3200.88	-3326.79	-49.75	3327.17	180.86	0.90	169.69
10577.00	96.90	153.14	7830.24	94.00	3292.68	-3410.76	-8.40	3410.77	180.14	3.89	173.31
10672.00	95.32	153.32	7820.13	95.00	3385.15	-3495.10	34.14	3495.26	179.44	1.67	173.31
10766.00	93.30	152.01	7813.07	94.00	3476.70	-3578.36	77.18	3579.19	178.76	2.56	173.31
10861.00	92.15	149.88	7808.55	95.00	3568.74	-3661.30	123.26	3663.38	178.07	2.55	176.92
10956.00	87.76	151.53	7808.63	95.00	3660.76	-3744.13	169.74	3747.97	177.40	4.94	176.92
11050.00	92.77	152.25	7808.19	94.00	3752.27	-3827.01	214.01	3832.99	176.80	5.38	176.92
11145.00	92.24	152.22	7804.04	95.00	3844.83	-3911.00	258.22	3919.51	176.22	0.56	176.92
11239.00	92.86	152.28	7799.86	94.00	3936.41	-3994.10	301.95	4005.50	175.68	0.66	180.54

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11334.00	91.80	153.61	7796.00	95.00	4029.23	-4078.63	345.12	4093.21	175.16	1.79	180.54
11429.00	92.24	154.42	7792.65	95.00	4122.43	-4163.98	386.72	4181.89	174.69	0.97	180.54
11523.00	92.77	155.40	7788.54	94.00	4214.88	-4249.02	426.54	4270.38	174.27	1.18	180.54
11618.00	92.86	155.84	7783.87	95.00	4308.49	-4335.45	465.71	4360.39	173.87	0.47	184.15
11713.00	92.95	156.94	7779.06	95.00	4402.29	-4422.38	503.70	4450.97	173.50	1.16	184.15
11807.00	93.91	153.29	7773.43	94.00	4494.74	-4507.49	543.18	4540.10	173.13	4.01	184.15
11902.00	94.70	149.29	7766.30	95.00	4586.71	-4590.56	588.68	4628.15	172.69	4.28	187.76
11997.00	92.51	147.31	7760.32	95.00	4677.51	-4671.21	638.49	4714.65	172.22	3.11	187.76
12091.00	91.45	144.95	7757.08	94.00	4766.38	-4749.21	690.84	4799.19	171.72	2.75	187.76
12186.00	91.28	144.60	7754.81	95.00	4855.49	-4826.79	745.62	4884.04	171.22	0.41	184.15
12281.00	92.07	143.21	7752.04	95.00	4944.07	-4903.52	801.57	4968.60	170.72	1.68	187.76
12375.00	91.98	146.65	7748.71	94.00	5032.28	-4980.39	855.53	5053.34	170.25	3.66	187.76
12470.00	92.24	150.36	7745.21	95.00	5123.28	-5061.33	905.12	5141.62	169.86	3.91	187.76
12565.00	91.71	151.08	7741.94	95.00	5215.28	-5144.44	951.56	5231.41	169.52	0.94	187.76
12659.00	91.01	150.46	7739.71	94.00	5306.37	-5226.15	997.44	5320.48	169.19	1.00	191.38
12754.00	91.01	152.18	7738.03	95.00	5398.64	-5309.48	1043.03	5410.96	168.89	1.81	187.76
12849.00	89.87	152.05	7737.31	95.00	5491.24	-5393.44	1087.46	5501.98	168.60	1.21	187.76
12944.00	89.34	151.42	7737.96	95.00	5583.69	-5477.11	1132.44	5592.96	168.32	0.87	191.38
13038.00	89.08	151.98	7739.26	94.00	5675.16	-5559.87	1177.00	5683.09	168.05	0.66	191.38
13133.00	88.55	152.04	7741.22	95.00	5767.70	-5643.74	1221.58	5774.43	167.79	0.56	191.38
13228.00	88.90	152.42	7743.33	95.00	5860.32	-5727.78	1265.83	5865.98	167.54	0.54	191.38
13322.00	90.22	153.43	7744.06	94.00	5952.23	-5811.47	1308.61	5956.98	167.31	1.77	191.38
13417.00	90.66	153.23	7743.33	95.00	6045.25	-5896.36	1351.25	6049.21	167.09	0.51	191.38
13511.00	90.57	152.18	7742.32	94.00	6137.08	-5979.89	1394.35	6140.30	166.87	1.12	191.38
13606.00	91.36	149.30	7740.72	95.00	6229.12	-6062.75	1440.78	6231.59	166.63	3.14	191.38
13701.00	91.54	148.86	7738.31	95.00	6320.44	-6144.22	1489.57	6322.20	166.37	0.50	191.38
13796.00	92.24	148.57	7735.18	95.00	6411.57	-6225.36	1538.88	6412.74	166.12	0.80	191.38
13890.00	92.59	148.28	7731.22	94.00	6501.58	-6305.37	1588.06	6502.28	165.86	0.48	191.38
13984.00	91.98	147.35	7727.47	94.00	6591.30	-6384.86	1638.09	6591.65	165.61	1.18	191.38
14079.00	92.42	148.18	7723.82	95.00	6681.95	-6465.16	1688.72	6682.07	165.36	0.99	191.38
14174.00	93.12	149.51	7719.23	95.00	6773.08	-6546.36	1737.81	6773.10	165.13	1.58	191.38
14206.00	93.30	149.93	7717.44	32.00	6803.90	-6573.95	1753.92	6803.90	165.06	1.43	191.38
14285.00	93.30	149.93	7712.89	79.00	6880.05	-6642.21	1793.44	6880.07	164.89	-999.25	(PROJECTION_TO_BIT)

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/25/2014
Job End Date:	7/17/2014
State:	West Virginia
County:	Barbour
API Number:	47-001-03291-00-00
Operator Name:	CONSOL Energy Inc.
Well Name and Number:	PHL-10F
Longitude:	-80.03675600
Latitude:	39.21350600
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,881
Total Base Water Volume (gal):	12,474,150
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 & CWS	Base Fluid & Mix Water	Water	7732-18-5	100.00000	89.63288	
Sand (Proppant), DAP-903, DWP-111, DWP-614, DWP-901, BioClear 2000, DWP-NE1	CWS	Propping Agent, Scale Inhibitor, Gel Slurry, Viscosifier, Breaker, Biocide, Non-Emulsifier	Crystalline silica (Quartz)	14808-60-7	100.00000	9.86041	
			Hydrochloric acid	7647-01-0	35.00000	0.29161	
			Distillates (petroleum), hydrotreated middle	64742-46-7	60.00000	0.04767	
			2-Propenoic acid, polymer with 2-propenamide, sodium salt	25987-30-8	40.00000	0.03639	
			Guar gum	9000-30-0	60.00000	0.02038	
			Calcite	471-34-1	1.00000	0.01658	
			2,2-Dibromo-3-Nitropropionamide	10222-01-2	20.00000	0.01342	
			Polyethylene glycol mixture	25322-68-3	70.00000	0.01342	
			Dimethylcocoamine, bis (chloroethyl) ether, diquatary ammonium salt	68607-28-3	40.00000	0.00907	
			Isopropanol	67-63-0	40.00000	0.00907	

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		2-Propenoic acid, polymer with sodium phosphonate	71050-62-9	60.00000	0.00715
		Methanol	67-56-1	15.00000	0.00590
		Illite	12173-60-3	1.00000	0.00541
		Sorbitan monooleate	1338-43-8	5.00000	0.00455
		Poly(oxyethylene)nonylphenol ether	9016-45-9	5.00000	0.00455
		Goethite	1310-14-1	0.10000	0.00437
		Biotite	1302-27-8	0.10000	0.00279
		Apatite	64476-38-6	0.10000	0.00279
		Ilmenite	98072-94-7	0.10000	0.00200
		Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	5.00000	0.00170
		Alkenes, C>10 a-	64743-02-8	0.10000	0.00125
		Fatty acids, tall-oil	61790-12-3	0.10000	0.00125
		Alcohols, C14-15, ethoxylated	68951-67-7	0.10000	0.00125
		Modified thiourea polymer	68527-49-1	0.10000	0.00125
		Diallyldimethylammonium chloride	7398-69-8	5.00000	0.00113
		Ammonium Persulfate	7727-54-0	100.00000	0.00070
		Oxirane, 2-methyl-, polymer with oxirane, monodecyl ether	37251-67-5	1.50000	0.00051
		Propargyl Alcohol	107-19-7	0.10000	0.00042
		Formaldehyde	50-00-0	0.10000	0.00008
		Sodium chloride	7647-14-5	0.10000	0.00004

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)

RECEIVED  
Office of Oil and Gas  
JAN 29 2015  
WV Department of  
Environmental Protection

February 11<sup>th</sup>, 2014

WR-34  
Page 1 of 3  
Rev. 10-10

State of West Virginia  
Department of Environmental Protection - Office of Oil and Gas  
Discharge Monitoring Report  
Oil and Gas General Permit

Company Name: CNX Gas Company LLC  
API No: 47-001-03291H County: Barbour  
District: Pleasant Well No: PHL10FHS  
Farm Name: Watson, Mary Lou & Ronald Earl Cate  
Discharge Date/s From: (MMDDYY) 10/09/2013 To: (MMDDYY) 10/21/2013  
Discharge Times. From: \_\_\_\_\_ To: \_\_\_\_\_  
Total Volume to be Disposed from this facility (gallons): 41,480  
Disposal Option(s) Utilized (write volumes in gallons):

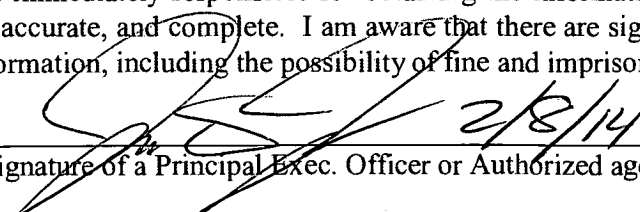
- (1) Land Application: \_\_\_\_\_ (Include a topographical map of the Area.)
- (2) UIC: \_\_\_\_\_ Permit No. \_\_\_\_\_
- (3) Offsite Disposal: 37,700 Site Location: PHL4 - [47-001-03247H]
- (4) Reuse: \_\_\_\_\_ Alternate Permit Number: \_\_\_\_\_
- (5) Centralized Facility: 3,780 Permit No. Max Environmental Technologies - [PAD004835146]
- (6) Other method: \_\_\_\_\_ (Include an explanation)

Follow Instructions below to determine your treatment category:

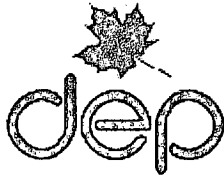
- Optional Pretreatment test: \_\_\_\_\_ Cl- mg/l \_\_\_\_\_ DO mg/l
1. Do you have permission to use expedited treatment from the Director or his representative?  
(Y/N) \_\_\_\_\_ If yes, who? \_\_\_\_\_ and place a four (4) on line 7.  
If not go to line 2
  2. Was Frac Fluid or flowback put into the pit? (Y/N) \_\_\_\_\_ If yes, go to line 5. If not, go to line 3.
  3. Do you have a chloride value pretreatment (see above)? (Y/N) \_\_\_\_\_ If yes, go to line 4  
If not, go to line 5.
  4. Is the Chloride level less than 5000 mg/l? (Y/N) \_\_\_\_\_ If yes, then enter a one (1) on line 7.
  5. Do you have a pretreatment value for DO? (See above) (Y/N) \_\_\_\_\_ If yes, go to line 6  
If not, enter a three (3) in line 7.
  6. Is the DO level greater than 2.5 mg/l? (Y/N) \_\_\_\_\_ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
  7. \_\_\_\_\_ is the category of your pit. Use the Appropriate section.
  8. Comments on Pit condition: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name of Principal Exec. Officer: Jeremy Jones  
Title of Officer: General Manager Capital - NWV Gas Ops  
Date Completed: \_\_\_\_\_

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

  
\_\_\_\_\_  
Signature of a Principal Exec. Officer or Authorized agent.





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west virginia department of environmental protection

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Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

**PERMIT MODIFICATION APPROVAL**

February 09, 2015

CNX GAS COMPANY LLC  
POST OFFICE BOX 1248  
JANE LEW, WV 26378

Re: Permit Modification Approval for API Number 103291 , Well #: PHL10FHS  
Extended Lateral

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

Gene Smith

Assistant Chief of Permitting  
Office of Oil and Gas





Kelly Eddy  
Permitting Supervisor  
P.O. Box 1248  
Jane Lew, WV 26378  
(304) 884-2131



April 18, 2014

West Virginia Department of Environmental Protection  
Office of Oil & Gas  
Attn: Laura Cooper  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345

**RE: PHL10AHS-CHS & PHL10FHS (Permit Modifications)**

Dear Mrs. Cooper,

Enclosed, please find permit modifications for the following wells:

PHL10AHS - API# 47-001-03251  
PHL10BHS - API# 47-001-03252  
PHL10CHS - API# 47-001-03253  
PHL10FHS - API# 47-001-03291

Please note, we have extended the laterals, but have stayed within the same lease on each well listed. I have enclosed an updated casing plan for the modifications for your review.

Should you need any further information, please contact me at (304) 884-2131 or by email at [kellyeddy@consolenergy.com](mailto:kellyeddy@consolenergy.com). Thank you!

Sincerely,

A handwritten signature in cursive script that reads "Kelly Eddy".

Kelly Eddy  
Permitting Supervisor

RECEIVED  
Office of Oil and Gas

APR 21 2014

WV Department of  
Environmental Protection

WW-6B  
(9/13)

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: CNX Gas Company LLC 494458046 Barbour Pleasant Philippi  
Operator ID County District Quadrangle

2) Operator's Well Number: PHL10FHS Well Pad Name: PHL10HS

3) Farm Name/Surface Owner: Mary Lou Watson Public Road Access: Co. Rt. 6

4) Elevation, current ground: 1619' Elevation, proposed post-construction: 1603'

5) Well Type (a) Gas  Oil  Underground Storage   
Other

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Associated Pressure(s):  
Target - Marcellus, Depth - 7850', Thickness - 90', Pressure - 4000#

8) Proposed Total Vertical Depth: 7850'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 16562'

11) Proposed Horizontal Leg Length: 5507'

12) Approximate Fresh Water Strata Depths: 305', 575'

13) Method to Determine Fresh Water Depths: Offset Well

14) Approximate Saltwater Depths: 1800'

15) Approximate Coal Seam Depths: 355', 425', 575'

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes  No

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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Office of Oil and Gas

APR 21 2014

WV Department of  
Environmental Protection

WW-6B  
(9/13)

18)

**CASING AND TUBING PROGRAM**

<u>TYPE</u>	<u>Size</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling</u>	<u>INTERVALS: Left in Well</u>	<u>CEMENT: Fill-up (Cu. Ft.)</u>
Conductor	20"	N	J-55	94#	100'	100'	Grout to surface w/ Class A type cement
Fresh Water	13 3/8"	N	J-55	54.5#	625'	625'	CTS w/ Class A Type Cement
Coal							CTS w/ Class A Type Cement
Intermediate	9 5/8"	N	J-55	36#	2000'	2000'	CTS w/ Class A Type Cement
Production	5 1/2"	N	P-110	20#	16562'	16562'	2200 cu. ft. w/ 50/50 POZ Lead & Class A
Tubing	2 3/8"	N	J-55	4.7#	7790'	7790'	
Liners							

*Robert L. Sargent*  
9-15-12

<u>TYPE</u>	<u>Size</u>	<u>Wellbore Diameter</u>	<u>Wall Thickness</u>	<u>Burst Pressure</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	20"	26"	0.438	2110	Class A Type	1.18
Fresh Water	13 3/8"	17 1/2"	0.380	2730	Class A Type	1.39
Coal						
Intermediate	9 5/8"	12 3/8"	0.352	3520	Class A Type	1.18
Production	5 1/2"	8 3/4" & 8 1/2"	0.361	12640	Class A Type	1.26
Tubing	2 3/8"	5 1/2" Csg	0.190	7700	.....	.....
Liners						

**PACKERS**

Kind:	None			
Sizes:	None			
Depths Set:	None			

WW-6B  
(9/13)

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 16562'. Well to be drilled to a TVD of 7850', formation at TVD - Marcellus. Well will be plugged back to an approximate depth of 6800' (approximate due to exact kick off point being unknown). Plugging back will be done using the displacement method and Class A Type cement. A solid cement plug will be set from TD to KOP. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement. There will not be any production, perforation, or stimulation of any formations below the target formation.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. Max Pressure - 9500 psi. Max Rate - 100 bbl/min.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 17.0 Acres

22) Area to be disturbed for well pad only, less access road (acres): 14.0 Acres

23) Describe centralizer placement 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.)

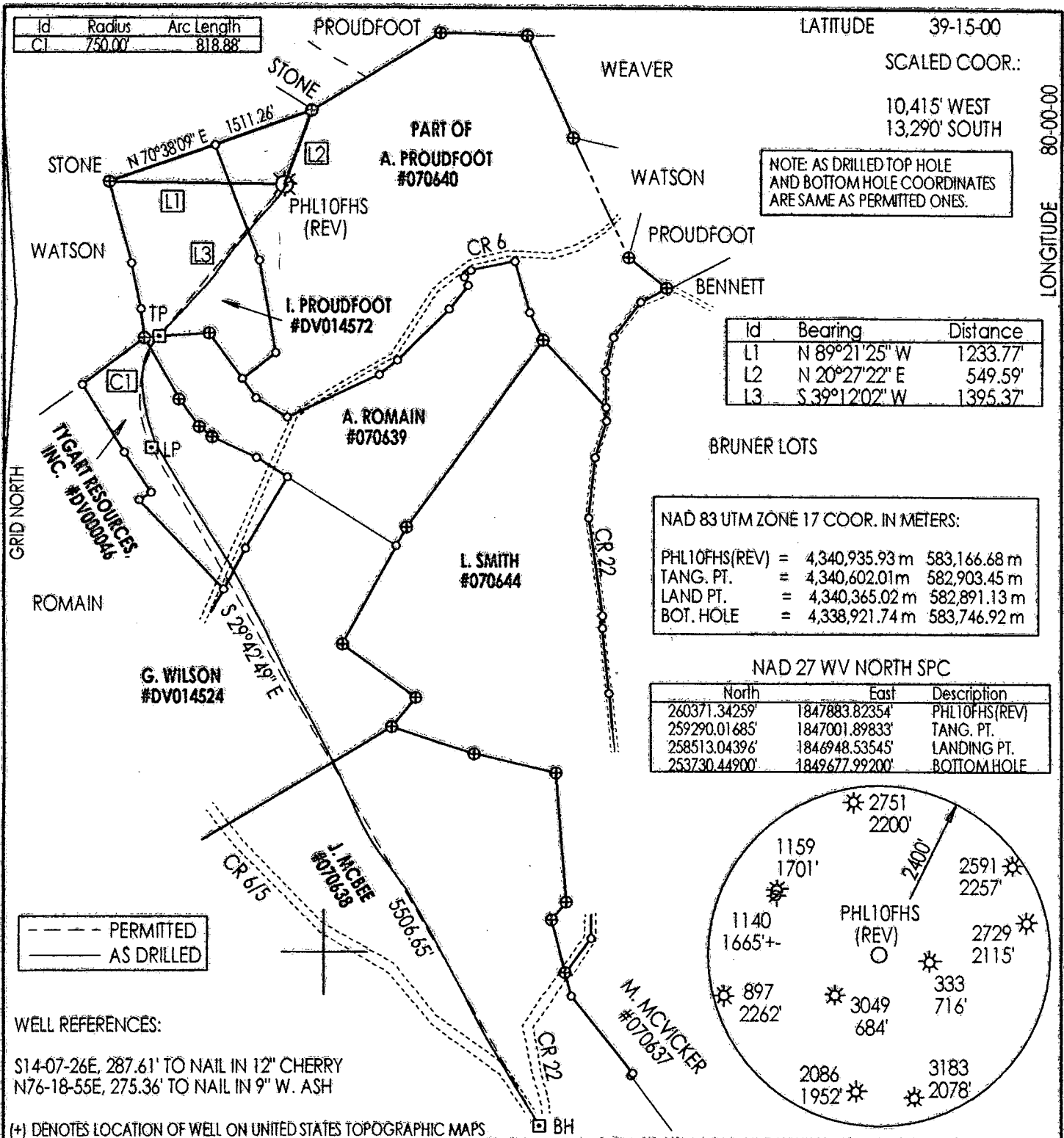
24) Describe all cement additives associated with each cement type:

Conductor - 2% CaCl<sub>2</sub>. Fresh Water/Coal - 2% CaCl<sub>2</sub>. Intermediate - 2% CaCl<sub>2</sub>. Production - 2.6% Cement extender, 0.7% Fluid loss additive, 0.5% High Temperature Retarder, 0.2% Friction Reducer

25) Proposed borehole conditioning procedures:

Conductor - The hole is drilled w/ air and casing ran in air. Apart from insuring the hole is clean via air circulation at TD, there are no other conditioning procedures. Fresh Water/Coal - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. Intermediate - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. (Note: Drilling soap may be utilized if the hole gets wet/damp during the drilling of all air holes with the exception of the conductor). Production - The hole will be drilled with synthetic oil base mud and once at TD the hole is circulated at a drilling pump rate until the hole is clean. Once casing is ran the hole is circulated for a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.



NOTE: AS DRILLED TOP HOLE AND BOTTOM HOLE COORDINATES ARE SAME AS PERMITTED ONES.

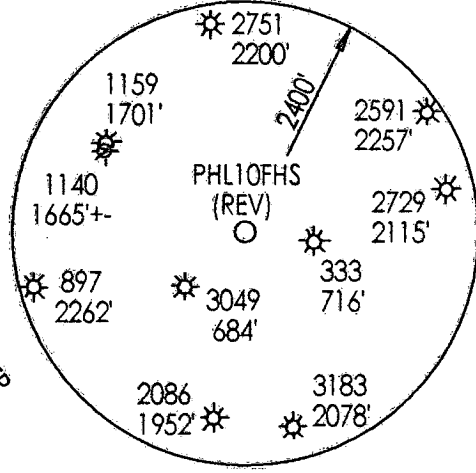
Id	Bearing	Distance
L1	N 89°21'25" W	1233.77'
L2	N 20°27'22" E	549.59'
L3	S 39°12'02" W	1395.37'

NAD 83 UTM ZONE 17 COOR. IN METERS:

PH10FHS(REV)	= 4,340,935.93 m	583,166.68 m
TANG. PT.	= 4,340,602.01 m	582,903.45 m
LAND PT.	= 4,340,365.02 m	582,891.13 m
BOT. HOLE	= 4,338,921.74 m	583,746.92 m

NAD 27 WV NORTH SPC

North	East	Description
260371.34259'	1847883.82354'	PH10FHS(REV)
259290.01685'	1847001.89833'	TANG. PT.
258513.04396'	1846948.53545'	LANDING PT.
253730.44900'	1849677.99200'	BOTTOM HOLE



--- PERMITTED  
 — AS DRILLED

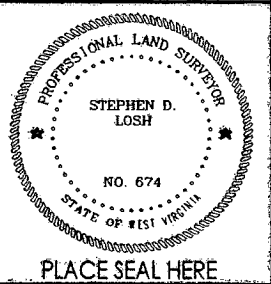
WELL REFERENCES:  
 S14-07-26E, 287.61' TO NAIL IN 12" CHERRY  
 N76-18-55E, 275.36' TO NAIL IN 9" W. ASH

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: \_\_\_\_\_  
 DRAWING NUMBER: CNXPH10FASDRIL.PCS  
 SCALE: 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY: \_\_\_\_\_ SUBMETER  
 PROVEN SOURCE OF ELEVATION: \_\_\_\_\_ DGPS SURVEY  
 \_\_\_\_\_ RTK SYSTEM

I THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED) \_\_\_\_\_  
 STEPHEN D. LOSH, P.S. #674



STATE OF WEST VIRGINIA  
 DIVISION OF ENVIRONMENTAL PROTECTION  
 OFFICE OF OIL AND GAS  
 #10 McJUNKIN ROAD  
 NITRO, WV 25143-2506

LAND SURVEYING SERVICES  
 21 CEDAR LANE, BRIDGEPORT, WV 26330  
 PHONE: 304-842-2018 OR 842-5762

DATE: SEPTEMBER 23, 2014

OPERATORS WELL NO.: PH10FHS (REV)  
 (AS DRILLED)

API WELL NO. 47-001-03291 MOD  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS \_\_\_ LIQUID INJECTION  WASTE DISPOSAL \_\_\_ CBM \_\_\_  
 (IF "GAS") PRODUCTION  STORAGE \_\_\_ DEEP \_\_\_ SHALLOW   
 LOCATION: ELEVATION 1618.50' (493.32 m) WATERSHED TAYLOR DRAIN  
 DISTRICT PLEASANT COUNTY BARBOUR  
 QUADRANGLE PHILIPPI LEASE NUMBER SEE ABOVE

SURFACE OWNER MARY LOU WATSON ACREAGE 103.00 (15-30)  
 OIL & GAS ROYALTY OWNER A. PROUDFOOT, ET. AL. UNIT LEASE ACREAGE 1024.16

PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_  
 PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL

TARGET FORMATION MARCELLUS PLUG & ABANDON \_\_\_ CLEAN OUT & REPLUG \_\_\_  
 ESTIMATED DEPTH TVD 7850' / TMD 16562'

WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JEREMY JONES  
 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

LONGITUDE 80-00-00  
 COUNTY NAME  
 PERMIT

## LeMasters, Ashley E

---

**From:** Eddy, Kelly <KellyEddy@consolenergy.com>  
**Sent:** Friday, August 22, 2014 10:11 AM  
**To:** LeMasters, Ashley E  
**Subject:** RE: PHL 10 Modifications

Ashley,

Yes, these have been drilled. We will get you as-drilled plats for your review.

If you need anything else, please let me know.

Thanks!

*Kelly Eddy*



Permitting Supervisor  
P.O. Box 1248  
One Energy Drive  
Jane Lew, WV 26378  
(304) 884-2131 (Phone)  
(304) 517-8743 (Mobile)

---

**From:** LeMasters, Ashley E [<mailto:Ashley.E.LeMasters@wv.gov>]  
**Sent:** Tuesday, August 12, 2014 1:53 PM  
**To:** Eddy, Kelly  
**Subject:** PHL 10 Modifications

Kelly,

I am reviewing modifications sent in April for PHL 10. Have these wells (PHL10AHS, BHS, CHS and FHS) been drilled? If so, as-drilled plats should be provided upon well completion to reflect the actual lateral, and these will not be processed as modifications.

*Ashley E. LeMasters*

Environmental Resource Specialist  
Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
Phone: 304-926-0499 Ext. 1495  
[Ashley.E.LeMasters@wv.gov](mailto:Ashley.E.LeMasters@wv.gov)



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recipient, you are prohibited from any use, distribution, or copying of this communication. If you have received this communication in error, please immediately notify the sender and then delete this communication in its entirety from your system."

## LeMasters, Ashley E

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**From:** Eddy, Kelly <KellyEddy@consolenergy.com>  
**Sent:** Tuesday, September 02, 2014 5:14 PM  
**To:** Cooper, Laura K; LeMasters, Ashley E  
**Subject:** PHL10A-CHS and PHL10FHS As Drilled Plats

Laura or Ashley,

We have instructed the surveyor to complete as drilled plats as requested for PHL10AHS, PHL10BHS, PHL10CHS, and PHL10FHS. What are the requirements for as drilled plats? The surveyor has not completed them before and we have never had to request them as well. It may be easier to talk to the surveyor directly with the requirements. If so, I can have him give you a call.

Thanks for your help on this!

*Kelly Eddy*



Permitting Supervisor  
P.O. Box 1248  
One Energy Drive  
Jane Lew, WV 26378  
(304) 884-2131 (Phone)  
(304) 517-8743 (Mobile)



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## LeMasters, Ashley E

---

**From:** McCourt, Joseph A  
**Sent:** Friday, September 05, 2014 2:02 PM  
**To:** LeMasters, Ashley E  
**Cc:** Smith, Gene C; Belcher, David J  
**Subject:** Re: PHL10 Mods

The 01-03252 is the only one we find in question and we don't have the TMD as drilled.

01-03251 platt shows 14000 drilled to 12142

01-03252. " 13500 " ?

01-03253. " 13000. " 11955

01-03254. " 12500 " 12229

01-03255. " 16400. " 15367

01-03291. " 16200. " 14285

So 01-03252 is what we are questioning , we do not have the actual drilled TMD.

Sent from my iPhone

On Sep 4, 2014, at 8:41 AM, "LeMasters, Ashley E" <[Ashley.E.LeMasters@wv.gov](mailto:Ashley.E.LeMasters@wv.gov)> wrote:

Joe,

We received the modifications for PHL10 on April 18<sup>th</sup>. These were unable to be processed as mods because after we received these, we noticed that the horizontals had been drilled long before the modifications were applied for. In fact, three of the four folders were actually not even in the office due to the fact that they had been sent for imaging months before the "modifications" were received. Please let me know if you need any additional information. Thanks.

*Ashley E. LeMasters*

Environmental Resource Specialist  
Department of Environmental Protection  
Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
Phone: 304-926-0499 Ext. 1495  
[Ashley.E.LeMasters@wv.gov](mailto:Ashley.E.LeMasters@wv.gov)



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**west virginia** department of environmental protection

---

Office of Oil and Gas  
601 57th Street SE  
Charleston, WV 25304  
(304) 926-0450  
(304) 926-0452 fax

Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

March 21, 2013

**WELL WORK PERMIT**

**Horizontal 6A Well**

This permit, API Well Number: 47-103291, issued to CNX GAS COMPANY LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto.

Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, well operators report of well work, is to be submitted to this office within 90 days completion of "permitted well work" of drilling, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin  
Chief

Operator's Well No: PHL10FHS  
Farm Name: WATSON, MARY LOU

**API Well Number: 47-103291**

**Permit Type: Horizontal 6A Well**

Date Issued: 03/21/2013

**Promoting a healthy environment.**

# PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

## CONDITIONS

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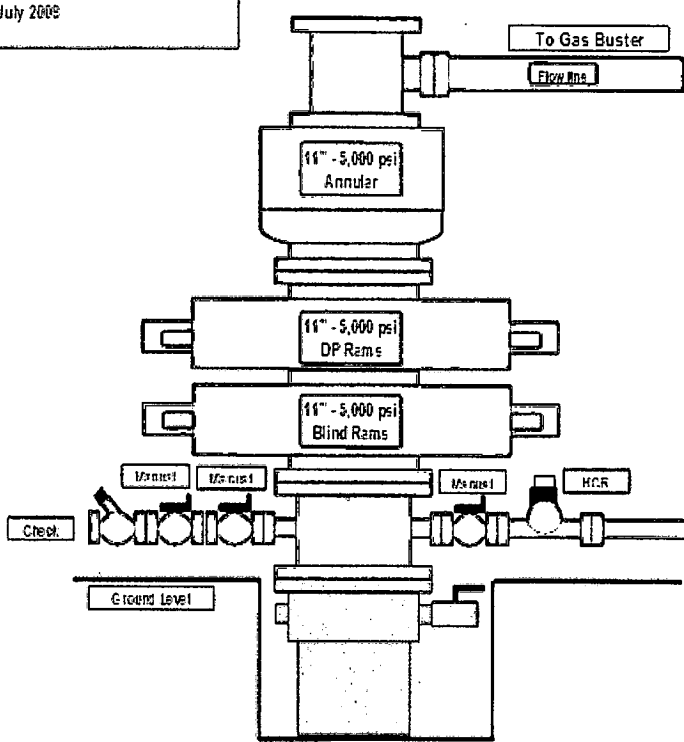
1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
2. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the fill material shall be within plus or minus 2% (unless soil test results show a greater range of moisture content is appropriate and 95% compaction can still be achieved) of the optimum moisture content as determined by the standard proctor density test, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort. Each lift must meet 95 % compaction of the optimum density based on results from the standard proctor density test of the actual soils used in specific engineered fill sites. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
3. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
4. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
5. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

1-03291

Waynesburg District  
Minimum BOP Requirements  
July 2009



HORIZONTAL RIG SETUP



BOP drills should be held as deemed necessary but no less than once per week with each crew. Note the drill end the associated time on the daily drilling report and the IADC sheet.

All Choke Manifold Components Require a Minimum Pressure Rating of 5,000 psi

*JAMC*  
12-4-12

Note - Lower BOP outlet can be used in place of mud cross if necessary  
Choke manifold configuration may vary but must have 2 manual chokes and 5,000 psi rating  
The use of Coflex is acceptable

Remote Controls

Remote controls shall be readily accessible to the driller. Remote controls for all systems shall be capable of closing the preventer. Remote controls systems shall be capable of both opening and closing the preventer.

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**Cement Additives**

- Conductor – 2% CaCl<sub>2</sub>
- Freshwater/Coal – 2% CaCl<sub>2</sub>
- Intermediate - 2% CaCl<sub>2</sub>
- Production -
  - 2.6% Cement extender
  - 0.7% Fluid Loss Additive
  - 0.5% High Temperature Retarder
  - 0.2% Friction Reducer

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# Map from a Flex Viewer application

Powered by ArcGIS

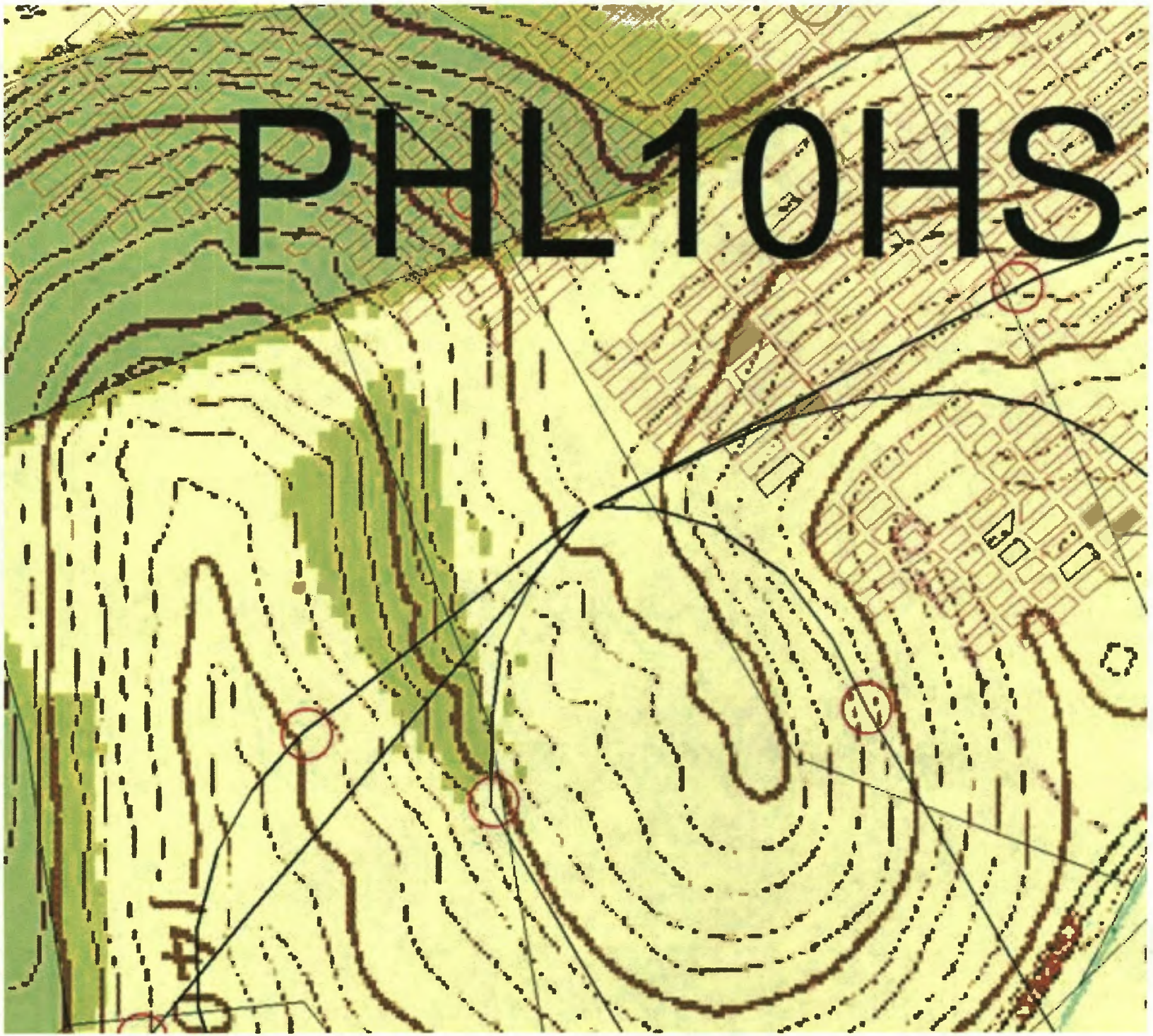


Copyright 2010 ESRI. All rights reserved. Printed on Mon Feb 25 2013 10:09:22 AM.

Drilling in permitted mine.

LKC

1-03291



WW-9  
Rev. 1/12

API No. 47 - 001 - 03291  
Operator's Well No. PHL10FHS

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name CNX Gas Company, LLC OP Code 494495754

Watershed Taylor Drain Quadrangle Phillppi

Elevation 1619' County Barbour District Pleasant

Description of anticipated Pit Waste: Fluids associated with the drilling of new gas wells

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a synthetic liner be used in the pit? Yes  If so, what mil. 30 mil.

Proposed Disposal Method For Treated Pit Wastes:  
 Land Application  
 Underground Injection ( UIC Permit Number \_\_\_\_\_ )  
 Reuse (at API Number \_\_\_\_\_ )  
 Off Site Disposal (Supply form WW-9 for disposal location)  
 Other (Explain 60 AL Recycle on other well on same pad or adjacent pads)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and water based mud

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used? Bactericide, Polymers and Weighting Agents

Will closed loop system be used? No

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? Cement, lime, N/A

-Landfill or offsite name/permit number? MeadowFill, S&S Landfill, and Northwestern Landfill

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Kent Wright*

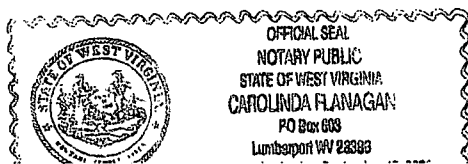
Company Official (Typed Name) Kent Wright

Company Official Title Designated Agent - Vice President, WV Operations

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public

My commission expires \_\_\_\_\_



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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name CNX Gas Company, LLC OP Code 494495754

Watershed Taylor Drain Quadrangle Philippi

Elevation 1619' County Barbour District Pleasant

Description of anticipated Pit Waste: Fluids associated with the drilling of new gas wells

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a synthetic liner be used in the pit? Yes  If so, what mil. 30 mil 60 mil LKC

Proposed Disposal Method For Treated Pit Wastes:  
 Land Application  
 Underground Injection ( UIC Permit Number \_\_\_\_\_ )  
 Reuse (at API Number \_\_\_\_\_ )  
 Off Site Disposal (Supply form WW-9 for disposal location)  
 Other (Explain Recycle on other well on same pad or adjacent pads)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and water based mud

-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used? Bactericide, Polymers and Weighting Agents

Will closed loop system be used? No

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? Cement, lime, N/A

-Landfill or offsite name/permit number? MeadowFill, S&S Landfill, and Northwestern Landfill

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I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Kent Wright*

Company Official (Typed Name) Kent Wright

Company Official Title Designated Agent - Vice President, WV Operations

Subscribed and sworn before me this 26TH day of OCTOBER, 2012

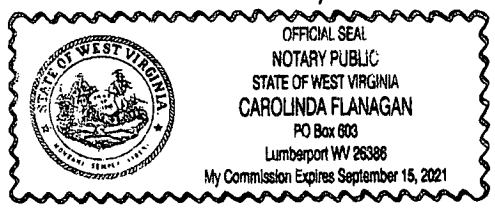
*Carolinda Flanagan*

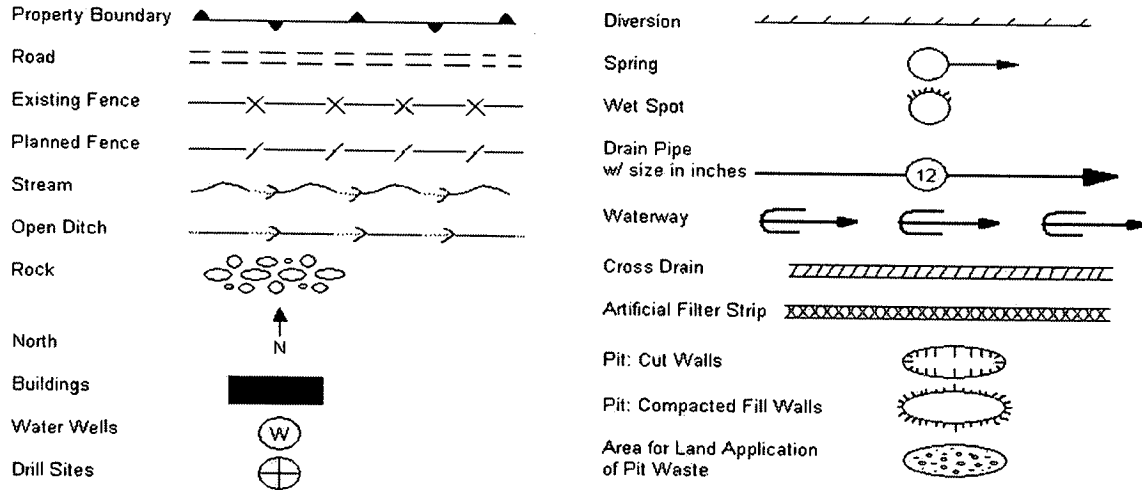
My commission expires 9/15/2021

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Proposed Revegetation Treatment: Acres Disturbed 18.0 Prevegetation pH 6.5

Lime according to pH test Tons/acre or to correct to pH 7.0

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

Seed Type	Area I		Seed Type	Area II	
		lbs/acre			lbs/acre
Orchardgrass	25		Orchardgrass	25	
Birdsfoot Trefoil	15		Birdsfoot Trefoil	15	
Landino Clover	10		Landino Clover	10	

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: JAM Count

Comments: \_\_\_\_\_

Title: Inspector

Date: 10-1-12

Field Reviewed?  Yes  No

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# Safety Plan for Well # PHL10FHS

## CNX Gas Company, LLC

*AMC  
10-1-12*



# Approval Sheet

The Office of Oil and Gas and the Oil and Gas Conservation Commission have set forth minimum requirements for necessary equipment and procedures that must be addressed in a Safety Plan ("Plan") and shall be submitted and approved prior to drilling a deep well. A deep well shall be any well which meets the definition as provided for in Chapter 22C, Article 9 of the West Virginia Code.

A site specific Safety Plan must be submitted with each deep well application or no later than one week prior to spudding. Approved Plans shall be maintained and available at the drilling rig at all times.

The Office of Oil and Gas must approve all changes and modifications to previously approved plans.

This plan has met the requirements of the Policy Statement Deep Well Drilling Procedures and Site Safety Plan Requirements as set forth by:

West Virginia Division of Environmental Protection, Office of Oil and Gas

And

West Virginia Oil and Gas Conservation Commission.

Approved this day \_\_\_\_\_ of month \_\_\_\_\_, 20\_\_ by

\_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Date: \_\_\_\_\_

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## Plan Modification\*

Revision No.	Description of Revision	Consol Preparer	Consol Reviewer/Approver	Agency Approval	Date

\*The Office of Oil and Gas must approve all changes and modifications to previously approved plans.

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# Safety Plan for Well #PHL10FHS

## CNX Gas Company

---

### 1.0 Site Requirements

Appendix A provides information which shows the location of the access road, pit, flare line, nearby dwellings and prevailing wind direction. Note: The pit will be constructed to be less than 5000 bbls.

### 2.0 Site Safety Plan

#### 2.1. Pre-spud Safety Meeting

Prior to beginning drilling operations, a pre-spud safety meeting shall be held which:

- Includes personnel employed and involved in the drilling operations, and
- Includes the District Oil and Gas Inspector (or other designated Office of Oil and Gas representative).

Please list the above personnel as a record of attendance for Pre-Spud Meeting

Name	Organization	Job Title
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____
7. _____	_____	_____
8. _____	_____	_____
9. _____	_____	_____
10. _____	_____	_____
11. _____	_____	_____

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- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_
- 15. \_\_\_\_\_
- 16. \_\_\_\_\_
- 18. \_\_\_\_\_
- 19. \_\_\_\_\_
- 20. \_\_\_\_\_

## 2.2 Personnel and Visitor Log

The driller will maintain a current headcount of all persons present at the site at any given time. Therefore, all personnel and visitors must notify the driller upon entering the site and notify upon departure. This tabulation will be maintained in the doghouse.

## 2.3 Evacuation Plan

The Drilling Supervisor will establish one muster points at which all persons on site will assemble for personnel safety and verification of headcount.

Included in Appendix A. are site specific maps and drawings that may assist in the emergency response and evacuation process.

The Drilling Supervisor and/or the Toolpusher will secure the Personnel and Visitor log before evacuating the site in order to perform a headcount at the muster point.

## 2.4 Safety Meetings

Safety meetings will be conducted as follows:

- Pre-Spud,
- Pre-Tour,
- Post Accident/Near Miss, and
- As-Needed.

A record of each meeting will be made and maintained on site for the duration of the drilling period. Typically, the drilling company will conduct these safety meetings with Consol personnel participating as needed. These records may be maintained separate from this plan.

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## 2.5 Emergency Response Personnel

Requesting public emergency response assistance for this location would be accomplished via telephone to Barbour County Dispatch which can be reached by dialing 911. From there, they will dispatch the appropriate and available emergency response agencies depending on the nature and extent of the emergency. This location is within the Philippi Volunteer Fire Department's Area.

Barbour County Dispatch	911 emergency
West Virginia State Police	304-457-1101
Philippi Volunteer Fire Dept.	911/ 304-457-1234
Broaddus Hospital	304-457-1760
Barbour County Health Dept.	304-457-1670
DEP Oil & Gas Inspector Bryan Harris	304-553-6087

Below are the emergency contacts for Consol personnel and contractors:

	Extension (304)	Cellular	Home (304)
Lambert, Scott * Safety	884-2067	641-3339	269-3888
Roddy, Dave * ENVIRONMENTAL		406-4792	
Casto, Bristin	884-2121	641-1978	641-1978
Walsh, John	884-2139	641-3640	472-0514
Estanich, Joe	884-2013	641-3649	842-5270
Krcek, Robert	884-2126	641-1544	363-8954
Fanning, Geoff	884-2046	724-833-0881	724-833-0881
Smith, Tim	884-2213	308-5171	308-5171
Bowman, Aaron	884-2231	406-8561	406-8561
Honce, Mike	884-2170	406-8909	406-8909
Miller, Anthony	884-2178	641-1481	476-7990
Martincic, Wes	884-2170	406-8103	406-8103
Lam, Nagi	884-2170	904-0596	904-0596
Spitler, Steve	884-2017	406-8478	406-8478
Drake, Dave *	884-2136	997-7766	997-7766
Eskey, Kirby *	884-2195	997-2934	997-2934
Heathcoe, Bill *	884-2054	641-0079	
Jones, Rich *	884-2177	641-3644	269-1552
McMillion, Travis *	884-2087	641-0648	765-7951
Pritt, Tod (Jamie L.) *	884-2148	641-0874	853-2638
Fredrick, Mike *	884-2051	641-0092	472-9124
Grogg, Mark *	884-2190	641-0893	462-8175
Smith, Craig *	884-2133	641-1377	924-6182
Stewart, Jason *	884-2006	685-6520	284-9306
Swisher, Keith	884-2047	641-9591	
Turner, Chris *	884-2142	641-3647	745-3329
Rakestraw, Nathan	884-2111	641-3642	842-2656

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\* Production Coordinators

MATERIAL SUPPLIERS FOR WEST VIRGINIA		After Hours		
Cook's Hardware	304-732-8466			
Foster Feed	304-269-1333			
McJunkin Appalachian (Buckhannon)	304-472-3565	Steve Schimmel 304-613-7901		
McJunkin Appalachian (Hurricane)	800-649-8212	304-552-1237		
Midway Tri-State	304-269-0680	Pager, 304-987-3809 for Daniel Turner	Pager, 304-987-3808 for Denver Riley	Pager, 304-987-3804 for Sam Moore
Miller Supply, Glenville, WV	304-462-5726	Burl 304-462-5865	Jason 304-462-5852	Jeff 304-462-7029
Miller Supply, Marietta, Ohio	740-373-6806			
Miller Supply, Cheylan, WV	304-595-5105	304-595-5105		
Miller Supply, Weston (Bob Sandy)	304-269-3850	304-266-2932	304-462-7827	
National Oilwell (Brian Rogers)	304-884-7344	304-542-4633	Shop phone will roll over to individuals	
Perkins Oil & Gas (Clay / Darrell)	304-659-3570	Darrell 684-9584	Clay 740-473-2078	
Priddy's Hardware	304-253-3679			
Producers Supply (Pa.)	724-627-6800			
Red Man Supply-Phil Stutler	304-269-8471	Phil 884-7476	Jim Posey 269-4212	
Southern States	304-624-5054			
Swisher's Feed & Supply	304-269-3317			

CONTRACTORS FOR WEST VIRGINIA		After Hours		
Alfred Construction (Steve)	304-842-7163	304-677-0160		
Antler Welding	304-732-9520	304-732-8616		
B & B Well Service	304-462-5694	304-678-9991		
Brad Wilson	304-269-6160	304-269-3792		
Chisler Brothers (Roy Dale)	304-879-5511			
D & R Roustabout (Don Carder)	304-269-0838	304-269-2565		
Doss Enterprise (Dwaine)	304-269-5895 or 269-6802	304-677-0011	Terry Junkins 304-266-8619	304-462-4144
Echo Valley (Bill)	304-363-6289	304-871-6160	Brad Wilson 269-6160	304-
Eagle Oilfield Services (Scotty)	304-462-7057	304-871-2147		
Frame Oilfield Services (Rick)	304-462-7843	304-476-7843		
G-Force Contracting (Jamie)	304-203-2555	304-269-1668		
Gasfield Services	276-880-2323	276-971-6080		
Gould Construction	304-269-6057			
Huffman Construction (Ed)	304-745-3952	304-677-3952		
J.W. Pit	304-988-3300			
Key Energy (Darrell)	304-472-1363	655-8888		
Larry Lambert	304-687-9254	304-682-5351		
Pethal, Don	304-269-2047	304-641-2223		
Poncove	304-934-7500	304-228-7375		
Robey Excavation (Mike & Brian)	304-783-4948	304-677-0897	304-677-9141	
Ryans Environmental	304-842-5578	800-649-5578		
S.S. Services (Stu)	304-462-7178	304-462-5500	© 644-0462	
Shackleford Construction (Jim)	304-462-8823			
Southall Contracting	304-269-6527	304-641-2882		
Sowards	304-743-2320			
STE (Summit Transport Environmental)	304-269-3382	304-269-5644	© 641-0059	
Stalnaker & Son	304-439-1821			
Swiger Logging	304-782-4241	304-871-5055		
Trenton Energy (Gerald Hall)	304-869-3805	304-869-3800		
Wilson & Wilson Well Service	304-986-2485	304-986-3611		
MATERIAL SAFETY DATA SHEETS	HOT LINE	800-451-8346		
MISS UTILITY	800-245-4848			

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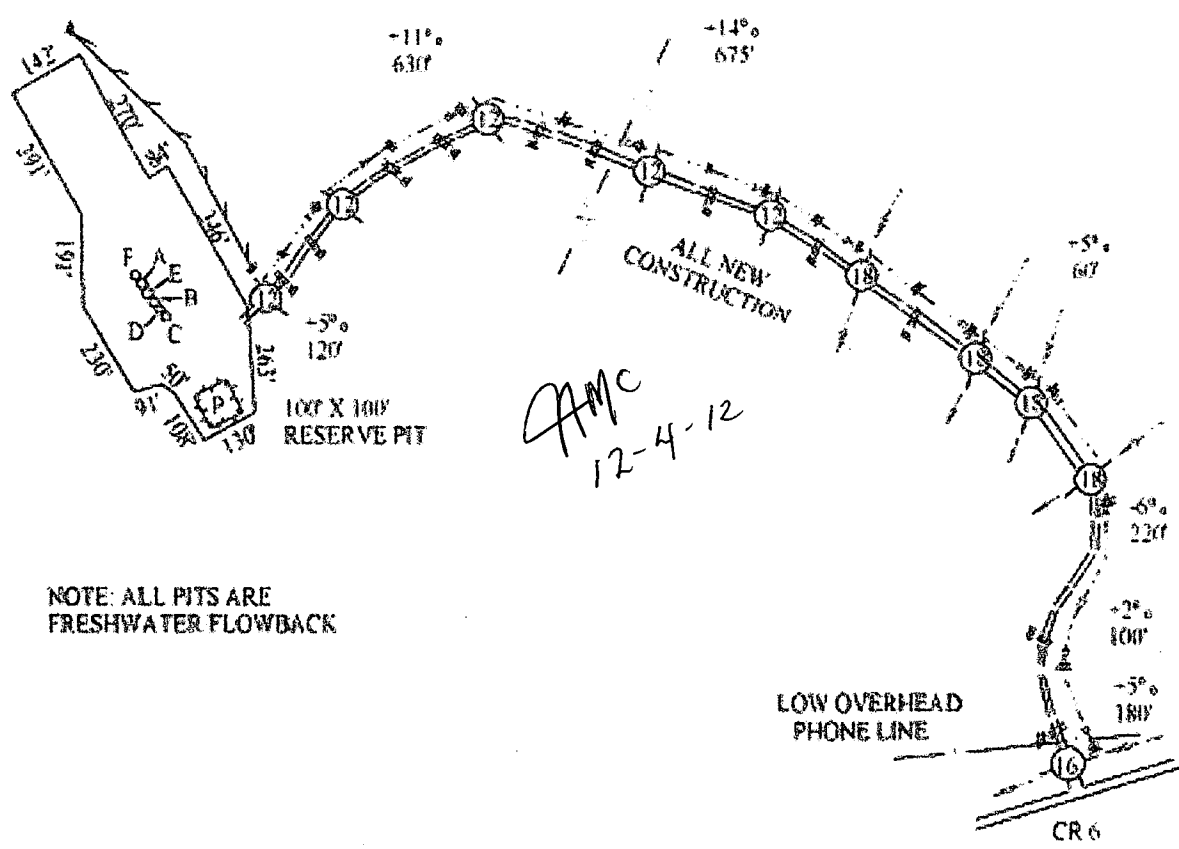
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# PHILIPPI 10 SITE

SURFACE OWNER:  
MARY LOU WATSON  
710 MILL DAM RD  
TOWSON, WV 21286



NOTE: ALL PITS ARE FRESHWATER FLOWBACK

LOCATION IS ON A WOODED POINT. USABLE TIMBER WILL BE CUT AND STACKED. TOPSOIL WILL BE STOCKPILED FOR USE IN REVEGETATION

ACCESS ROAD LEAVES CR 6 AND RUNS THROUGH AN OLD FIELD. THEN QUARTERS UP AROUND THE HILL TO THE SITE. ROCK WILL BE USED WHERE NECESSARY.

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-442-2018 OR 5762

DRAWINGS TO ACCOMPANY FORM WW-9	
CNX GAS COMPANY LLC	
P. O. BOX 1248	
JANE LEW, WV 26378	
WATERSHED:	TAYLOR DRAIN
DISTRICT:	PLEASANT
QUADRANGLE:	PHILIPPI
DATE:	08 16 12

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COUNTY BARBOUR  
WV Department of Environmental Protection  
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## LAND SURVEYING SERVICES

Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
P. O. Box 1248  
Jane Lew, WV 26378

### WATER WELL REPORT

Project: PHL10  
District: Pleasant  
County: Barbour  
State: WV

The following people may have water supplies within 2,000 feet of the above location:

Mary Lou Watson	710 Mill Dam Rd.	Towson, MD 21286
Joyce Romain	Rt. 3, Box 188	Philippi, WV 26416
Linda Proudfoot	107 Hall St.	Philippi, WV 26416
Larry Wolfe	Rt. 3, Box 46	Philippi, WV 26416
Jack Weaver	Rt. 3, Box 197E	Philippi, WV 26416
Lester Chelli	Rt. 3, Box 202B	Philippi, WV 26416
Midwest Energy, Inc.	12 Millbrook Rd.	Bridgeport, WV 26330
Philippi Development, Inc.	2708 Cranberry Sq.	Morgantown, WV 26505
Barton McCauley	1 Corelogic Dr. DFW 4-3	West Lake, TX 76262

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## LAND SURVEYING SERVICES

Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
P. O. Box 1248  
Jane Lew, WV 26378

### WATER WELL REPORT

Project: PHL10  
District: Pleasant  
County: Barbour  
State: WV

The following people may have water supplies between 2,000 feet and 2,500 feet of the above location:

Mrs. Chester Proudfoot  
Robert McBee  
Kevin Keene  
Michael Kettlewell

15 Marilyn Rd.  
181 Beacon Dr. Ext.  
Rt. 3, Box 189A  
7861 Morningstar Dr., NE

Newark, DE 19713  
Weirton, WV 26062  
Philippi, WV 26416  
Louisville, OH 44641

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Water Management Plan:
Secondary Water Sources



WMP-00954

API/ID Number 047-001-03291

Operator:

Consol Energy - WV

PHL10FHS

Important:

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
•For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Multi-site impoundment

Source ID: 11372 Source Name Warder North Impoundment

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-189

APPROVED FEB 22 2013

**Important:**

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID: 11373 Source Name Warder South Impoundment

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-190

Source ID: 11374 Source Name Alton 1 Freshwater Impoundment

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-194

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**Important:**

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

Source ID: 11375 Source Name Alton 2 Freshwater Impoundment

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

The intake identified above has been defined in a previous water management plan. The thresholds established in that plan govern this water management plan unless otherwise noted.

Reference: WMP-195

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**Important:**

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

**Recycled Frac Water**

Source ID: 11376 Source Name ALT 1 Flowback Pit

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

Source ID: 11377 Source Name PHL 1 Flowback Pit

Source start date: 5/1/2013

Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

**APPROVED FEB 22 2013**



PHL10FHS

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**Important:**

For each proposed secondary water source identified in your water management plan (i.e., groundwater well, lake/reservoir, recycled frac water, multi-site impoundment, out-of-state source), DEP makes no estimation of the availability of water. These sources may prove to be unsuitable water supplies. Please review the following notes:

- For groundwater supply wells, DEP recommends that the operator contact the local health department prior to drilling any new well; and reminds the operator that all drinking water wells within 1,500 feet of a water supply well shall be flow- and quality-tested by the operator at the request of the drinking well owner prior to operation of the water supply well.
- For each proposed multi-site impoundment water source identified in your water management plan (if applicable), DEP will review the withdrawal limits established in the referenced Water Management Plan for current suitability and provide to the operator these limits for each identified intake. Note that withdrawal limits may be modified as necessary based on changing demands upon that water supply.

---

Source ID: 11378 Source Name Various

Source start date: 5/1/2013

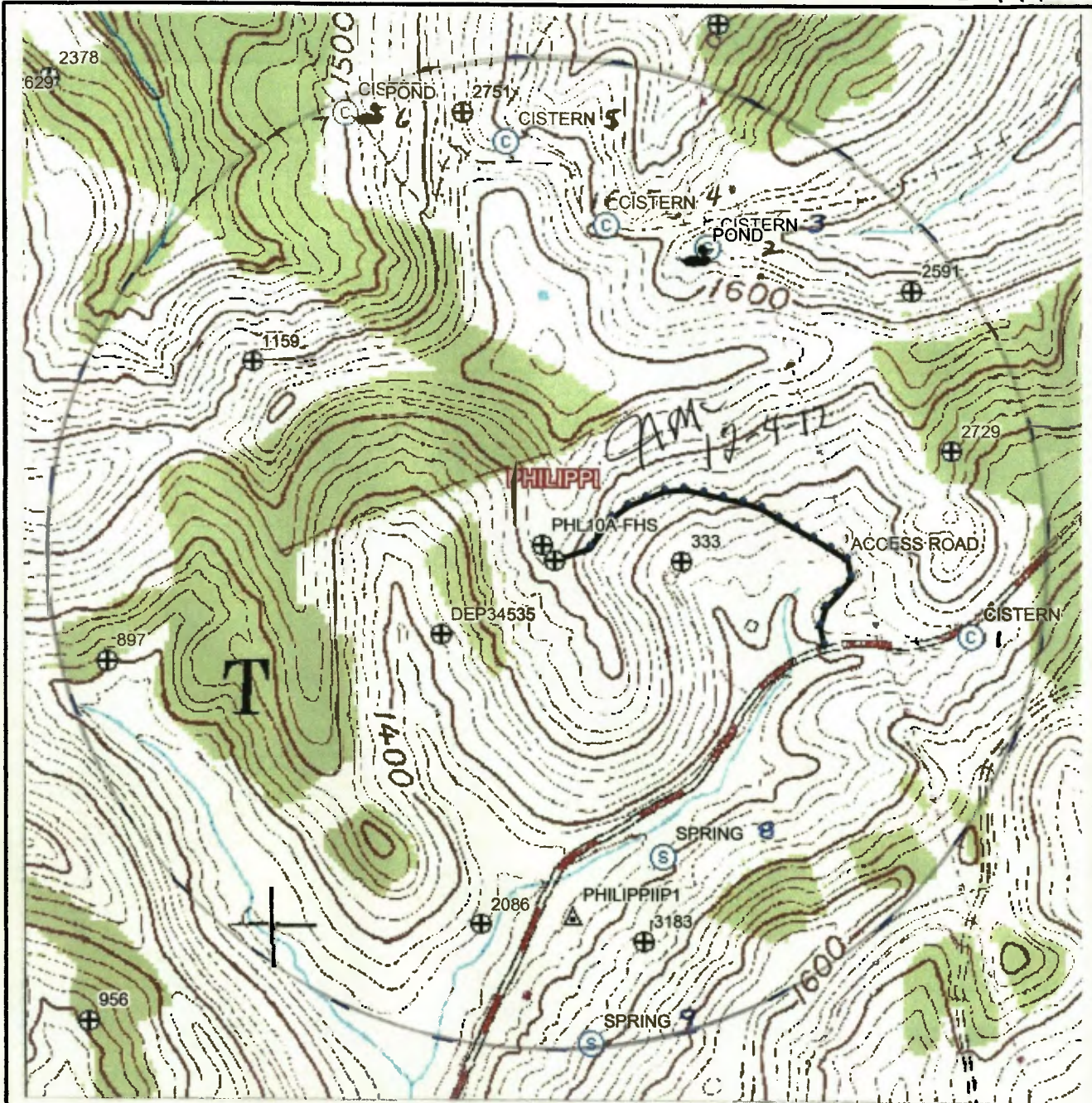
Source end date: 5/1/2014

Max. Daily Purchase (gal)

Total Volume from Source (gal): 9,100,000

DEP Comments:

**APPROVED FEB 22 2013**



COORDINATES ARE NAD 27  
WV NORTH SPC.

- PHL10WATPURV
- 1, 259887.776, 1850032.824, 1450.998, "cistern"
  - 2, 261805.637, 1848685.561, 1562.749, "pond"
  - 3, 261856.683, 1848739.219, 1553.304, "cistern"
  - 4, 261974.270, 1848232.520, 1599.294, "cistern"
  - 5, 262397.298, 1847736.178, 1622.381, "cistern"
  - 6, 262529.502, 1847059.112, 1517.749, "pond"
  - 7, 262548.916, 1846938.082, 1499.398, "cistern"
  - 8, 258789.406, 1848477.893, 1379.807, "spring"
  - 9, 257848.310, 1848106.258, 1479.434, "spring"

GRID NORTH

CNX GAS COMPANY LLC P. O. BOX 1248 JANE LEW, WV 26378	
PLAT SHOWING WATER PURVEYORS WITHIN 2500 FEET OF THE PHL10 PAD CENTER.	
PLEASANT DISTRICT BARBOUR CO. WEST VIRGINIA SCALE: 1" = 733.30'	
LAND SURVEYING SERVICES 21 CEDAR LANE BRIDGEPORT, WV 26330 PHONE: 304-842-2018 OR 5762	

WV Department of  
Environmental Protection



West Virginia Department of Environmental Protection  
601 57th Street SE  
Charleston, WV 25304-2345

**WATER MANAGEMENT PLAN/  
WATER ADDENDUM**  
For Horizontal Oil and Gas Well Permits  
Office of Oil and Gas  
Phone: (304) 926-0450

DEP Office Use only	
Date Received by Oil & Gas:	12-17-12
Administratively Complete - Oil & Gas:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Date Received by Water Use:	
Complete - Water Use:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Section I - Operator Information**

API: 47- 001 - 03291  Modification  
County Permit

Operator Name: CNX Gas Company, LLC	
Operator ID: 494458046	*Registered in the Frac Water Reporting Website? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Mailing Address: CONSOL ENERGY PO Box 1248 Jane Lew, WV 26378	Contact Name/ Title (Water Resources Manager): Amanda Langford Supervisor of Permitting – WV Region
Contact Phone: 304-884-2009	Contact Email: amandalangford@consolenergy.com

\*If no, the operator will be required to register with the WVDEP Water Use Section; contact [dep.water.use@wv.gov](mailto:dep.water.use@wv.gov)

**Section II - Well Overview**

Operator's Well Number: PHL10FHS <input checked="" type="checkbox"/>			
Anticipated Frac Date: 05/01/13	Location (decimal degrees, NAD 83)		
	Latitude: <del>N 4,340,935.93</del> 39.213722	Longitude: <del>E 583,166.68</del> - 80036658	County: Barbour

**Section III - Source Water Overview (check all that apply)**

Streams/Rivers <input checked="" type="checkbox"/>	Lakes/Reservoirs <input type="checkbox"/>	Ground Water <input type="checkbox"/>	Purchased Water (PSD) <input type="checkbox"/>
Purchased Water (private) <input type="checkbox"/>	Recycled Frac Water <input checked="" type="checkbox"/>	Multi-Site Impoundment <input checked="" type="checkbox"/>	
Other (describe) :			
Total anticipated water volume to be used (gal): 5.8 million gallons <input checked="" type="checkbox"/>			

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**Section III (a) - Surface Water Source** (to be completed for each surface water withdrawal location print additional pages as necessary)

Source Name: Tygart Valley River <i>See WMP00189, 190</i>		
Location (decimal degrees, NAD 83)		
Latitude: N 39.190421	Longitude: W 80.017423	County: Barbour
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378		Phone: 304-884-2000
Obtained Landowner Permission?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

**Proposed Withdrawal Details**

Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 29.4 million gal	Max. Pump Rate (gpm): 1470
No. of Pump Trucks: NA - pipeline	Max. Pump Rate per Truck (gpm): NA	No. Trucks Simultaneously Pumping: NA	

Determination that sufficient flow is available downstream from proposed intake point

Allow passby to be calculated by the DEP (Preferred)?      Yes       No

(If no, advance written authorization by DEP is required. Attach authorization and details.)

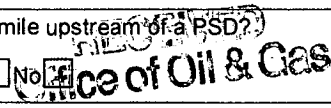
**Aquatic Life Protection**

Describe Entertainment and Impingement Prevention Plan: Please See Attachment A

Describe Invasive Species Transfer Prevention Plan: Please See Attachment B

**Stream details**

DEP Office Use Only			
Contact Recreation <input type="checkbox"/>	Aquatic Life-Trout Water <input type="checkbox"/>	Aquatic Life-Warm Water <input type="checkbox"/>	Drinking Water Supply <input type="checkbox"/>
Industrial <input type="checkbox"/>	Agriculture <input type="checkbox"/>	Irrigation <input type="checkbox"/>	Reference Gauge: <input type="checkbox"/>
Gauged Stream : <input type="checkbox"/>	Stream Final Code:	Regulated by:	
Trout? <input type="checkbox"/>	Sensitive Aquatic Species? <input type="checkbox"/>	Tier 3 Stream? <input type="checkbox"/>	Within 1 mile upstream of a PSD? Yes <input type="checkbox"/> No <input type="checkbox"/>
Mussels? <input type="checkbox"/>	Upstream Drainage Area?		

  
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**Section III(b) - Ground Water Source** (to be completed for each groundwater withdrawal location print additional pages as necessary)

Well Permit #: NA	Well name:
Location (decimal degrees, NAD 83)	
Latitude:	Longitude:
County:	
Aquifer: (if known)	
Landowner name and address:	Phone:
Obtained Landowner Permission? Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> * New well (Drill Date): _____ <input type="checkbox"/> Existing Well

If drilling a new well, please submit well logs to DEP's Water Use Section, Wells must be drilled and plugged in accordance with DHHR regulations

Total Depth:	Type of Casing:	Casing Diameter:	Screen Interval:	Screen Size:
Static Water Elevation:	Top of Casing Elevation:	Surface Elevation:	Type of Well Cap:	
Withdrawal Details				
Start Date:	End Date:	Total Withdrawal from Source (gal):	Max. Pump Rate (gpm):	

**Analysis of potential groundwater impacts**

Static Water Level Prior to Test: _____	Feet below grade
Drawdown (Water Level/Elevation During Pump Test): _____	Feet
Duration of Pump Test: _____	Hours
Gallons Per Minute During Pump Test: _____	Gpm
Time to Return to Static Water Level After Pump Test: _____	Hours

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**Section III (c) - Purchased Water Source** (to be completed for each water supplier, print additional pages as necessary)

Supplier Name and Contact Information: NA			
Location (decimal degrees, NAD 83)			
Latitude:	Longitude:	County:	
Public Water Provider <input type="checkbox"/>	Waste Water Treatment Plant <input type="checkbox"/>	Industrial (intake locations must be provided) <input type="checkbox"/>	
Commercial Supplier (intake locations must be provided) <input type="checkbox"/>		Private (intake locations must be provided) <input type="checkbox"/>	
Start Date:	End Date:	Total Purchase from Source (gal):	Max. Daily Purchase (gal):
Supplier intake details:			

**Section III (d) – Lake/Reservoir Water Source** (to be completed for each lake/reservoir)

Lake/Reservoir Name: NA			
Location (decimal degrees, NAD 83)			
Latitude:	Longitude:	County:	
Landowner name and address:			
Permission to withdraw obtained from owner:		Minimum release (cfs):	
Yes <input type="checkbox"/>	No <input type="checkbox"/>		
<b>Withdrawal Details</b>			
Start Date:	End Date:	Total Withdrawal from Source (gal):	Max. Pump Rate (gal):

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**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

Impoundment Name and Owner: Warder North Impoundment			
Referenced WMP#: 00189 ✓			
Location (decimal degrees, NAD83)			
Latitude: N 39.1925051	Longitude: W 80.0251983	County: Barbour	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 3,696,000	

<b>Impoundment filling details - source</b>		
Source Name: Tygart Valley River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 39.190421	Longitude: W 80.017423	County: Barbour

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**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

Impoundment Name and Owner: Warder South Impoundment			
Referenced WMP#: 00190 ✓			
Location (decimal degrees, NAD83)			
Latitude: N 39.1910970	Longitude: W 80.0251983	County: Barbour	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 3,570,000	

<b>Impoundment filling details - source</b>		
Source Name: Tygart Valley River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 39.190421	Longitude: W 80.017423	County: Barbour

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**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

<b>Impoundment Name and Owner: Alton 1 Freshwater Impoundment/ Consol Energy</b>			
Referenced WMP#: 00194 ✓			
Location (decimal degrees, NAD83)			
Latitude: N 38.794961	Longitude: W -80.184542	County: Upshur	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 8,400,000	

<b>Impoundment filling details - source</b>		
Source Name: Buckhannon River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 38.803115	Longitude: W 80.206603	County: Upshur

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**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

<b>Impoundment Name and Owner: Alton 2 Freshwater Impoundment/ Consol Energy</b>			
<b>Referenced WMP#: 00195</b> ✓			
Location (decimal degrees, NAD83)			
Latitude: N 38.806146	Longitude: W -80.195108	County: Upshur	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 8,400,000	

<b>Impoundment filling details - source</b>		
Source Name: Buckhannon River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 38.803115	Longitude: W 80.206603	County: Upshur

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**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

Impoundment Name and Owner: Alton 1 Flowback Pit <span style="float:right; margin-right: 50px;">✓ <i>Recycled</i></span>			
Referenced WMP#: N/A (API: 47-097-03749)			
Location (decimal degrees, NAD83)			
Latitude: N 38.793967	Longitude: W 80.183196	County: Barbour	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 3,977,064	

<b>Impoundment filling details - source</b>		
Source Name: Buckhannon River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 38.803115	Longitude: W 80.206603	County: Upshur

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Page | 7

**Section III (e) - Multi-Site impoundment (to be completed for each source, print additional pages as necessary)**

Impoundment Name and Owner: PHL1 Flowback Pit <span style="float:right; font-family: cursive; font-size: 1.2em;">Recycled</span>			
Referenced WMP#: N/A (API: 47-001-03147)			
Location (decimal degrees, NAD83)			
Latitude: N 39.192372	Longitude: W 80.018833	County: Barbour	Registered LQU? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Landowner name and address: CONSOL ENERGY One Energy Drive Jane Lew, WV 26378			
Permission to Withdraw Obtained from Owner: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Intake Type: Permanent Structure <input checked="" type="checkbox"/> Or Temporary Structure <input type="checkbox"/>	
Withdrawal Details from Impoundment to well-site			
Start Date: 05/01/13	End Date: 05/01/14	Total Withdrawal from Source (gal): 1,793,358	

<b>Impoundment filling details - source</b>		
Source Name: Tygart Valley River		
Location of intake (decimal degrees, NAD 83)		
Latitude: N 39.190421	Longitude: W 80.017423	County: Barbour

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**Section III (f) - Reused Frac Water** (to be completed for each source, print additional pages as necessary)

<p><b>API # of Previous Well (where water was obtained from):</b></p> <p>PHL 1 Pad: 47-001-03147 &amp; 47-001-03149</p> <p>Possibly: (PHL 4 Pad)</p> <p style="margin-left: 40px;">47-001-03247 47-001-03248 47-001-03249</p>	<p><b>Total withdrawal from source (gal):</b></p> <p>50,000</p> <p>Possibly (75,000)</p>
<p><b>Date of Water Transfer</b></p>	
<p><b>Start Date:</b> 05/01/13</p>	<p><b>End Date:</b> 05/01/14</p>

**Section IV - Planned Disposal Method**

	Name	Location (NAD 83)	Permit #	Fracturing	Stimulation	Production
UIC	US Steel 11385	Lat: 39.1881	47-001-00561 & 34-013-2-0614- 00-00	25%	25%	25%
		Long: 80.0242				
NPDES (Treatment Plant)	Lat:					
	Long:					
Re-Use	Lat:39.212794 Long:80.018483	Barbour County, WV	Yet to be approved	75%	75%	75%
Other	Lat:					
	Long:					

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## Section V - Planned Additives to be used in Fracturing or Stimulations

Type: Friction Reducer (DWP-612)  
 Chemical Component as listed on MSDS: Long Chain Polyacrylamide  
 CAS: N/A

Type: Biocide (DWP-944)  
 1<sup>st</sup> Chemical Component as listed on MSDS: 2,2-Dibromo-3-nitrilopropionamide  
 CAS: 10222-01-2  
 2<sup>nd</sup> Chemical Component as listed on MSDS: Polyethylene Glycol Mixture  
 CAS: 25322-68-3

Type: Scale Inhibitor (DAP-901)  
 1<sup>st</sup> Chemical Component as listed on MSDS: Methanol  
 CAS: 67-56-1  
 2<sup>nd</sup> Chemical Component as listed on MSDS: Phosphoric Acid Ammonium Salt  
 CAS: Trade Secret  
 3<sup>rd</sup> Chemical Component as listed on MSDS: Ammonium Chloride  
 CAS: 12125-02-9  
 4<sup>th</sup> Chemical Component as listed on MSDS: Organic Phosphonate  
 CAS: Trade Secret  
 5<sup>th</sup> Chemical Component as listed on MSDS: Amine Salt  
 CAS: Trade Secret  
 6<sup>th</sup> Chemical Component as listed on MSDS: Oxyalkylated Polyamine  
 CAS: Trade Secret

Type: Surfactant (DWP-938)  
 Chemical Component as listed on MSDS: Soap  
 CAS: N/A

Type: Hydrochloric Acid  
 Chemical Component as listed on MSDS: Hydrochloric Acid  
 CAS: 7647-01-0

Type: PA Breaker (DWP-690)  
 Chemical Component as listed on MSDS: Hydrogen Peroxide  
 CAS: Trade Secret

Type: Gel Slurry (DWP-111)  
 Chemical Component as listed on MSDS: Viscosifier  
 CAS: N/A

Type: Oxidizer Breaker (DWP-901)  
 Chemical Component as listed on MSDS: Ammonium Persulfate  
 CAS: 7727-54-0

Type: Buffer (DWP-204)  
 Chemical Component as listed on MSDS: Formic Acid  
 CAS: 64-18-6

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# AS-BUILT PLAN PHL10HS WELL

## BARBOUR COUNTY, WEST VIRGINIA

### FOR CNX GAS COMPANY LLC



REFERENCE: USGS - PHILIPPI QUADRANGLE, WV 7.5 MINUTE SERIES



PROJECT NO. 1129008

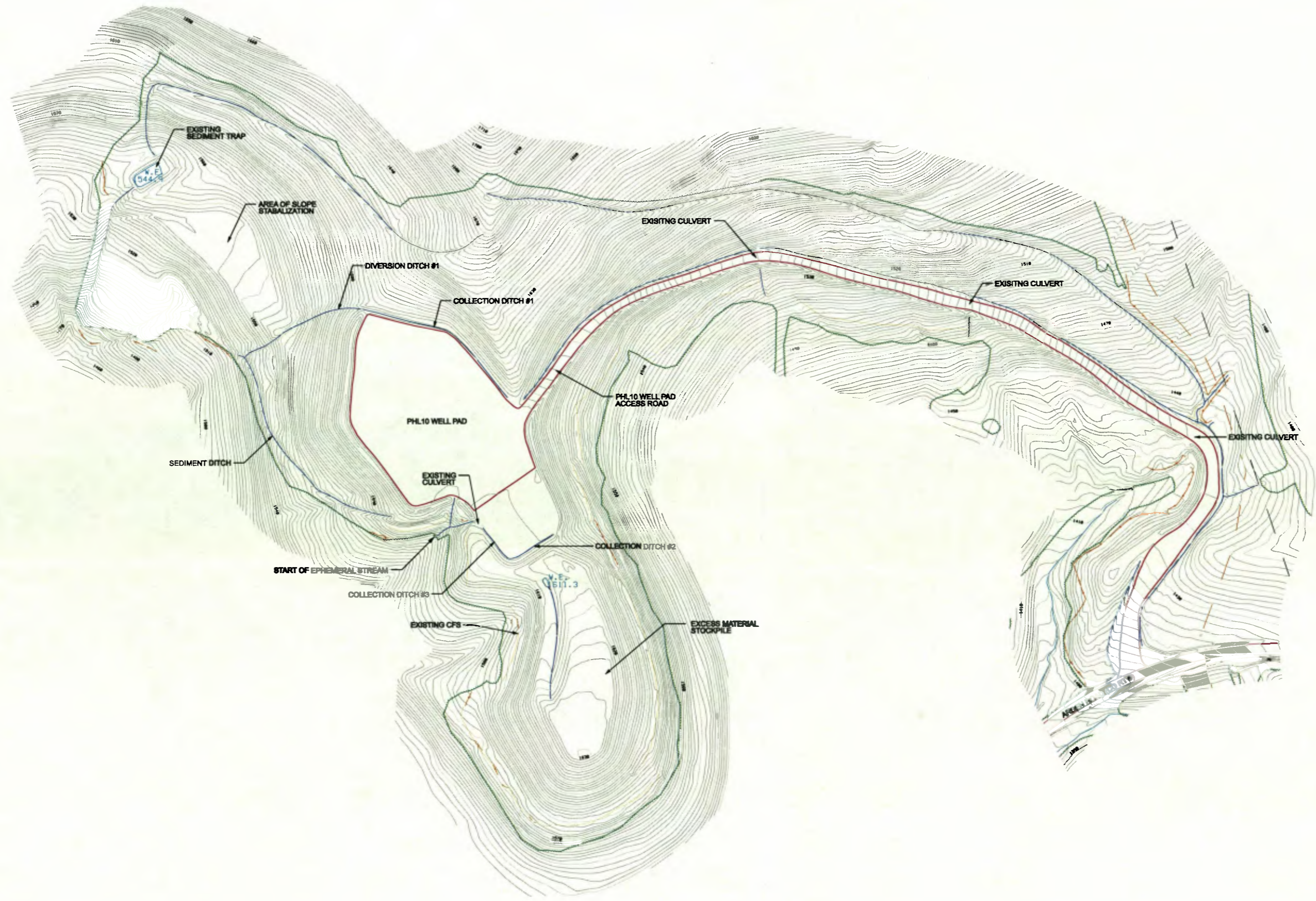
MARCH 2013

# DIEFFENBAUCH & HRITZ



INDEX	
DRAWING NO.	TITLE
1	TITLE SHEET
2	AS-BUILT PLAN

Author	
Checked	
Drawn	
Scale	
Sheet	1
Project	PHL10HS WELL SITE
Company	CNX GAS COMPANY LLC.
Engineer	Dieffenbauch & Hritz Martinsburg, WV



SCALE : 0 100 ft.

Revision				
Date				
Drawn	JAB			
Checked	SDM			
Approved	JND			
Scale	1"=200'			
Date	MARCH 2013			
Project No.	1120008			
Client	CNX GAS COMPANY LLC.			
Project	PHL10HS WELL SITE			
Sheet	1			
Author	Dieffenbach & Hritz			
	Morgantown, WV			



**Section VI - Operator Comments**

Tygart Valley River stream gage 03054500 at Philippi, WV will be used to monitor river flow levels. Additionally, pass by flows will be set up in this area using a stake and ribbon system. The sites will be monitored daily during withdrawal to ensure appropriate water levels are maintained. Finally, the WV DEP water withdrawal tool will be monitored daily for added support.

According to EPA reporting year 2010 Causes of Impairment Reports, Tygart Valley River is an impaired water body. Designated uses include: Agriculture and Wildlife, Public Water Supply, Warm Water Fishery, Water Contact Recreation, Water Supply Industrial, Water Transport, Cooling and Power all of which are impaired.

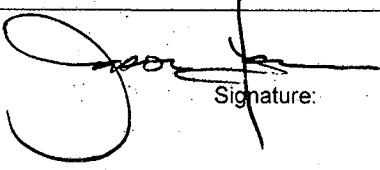
The volumes indicated from the Warder North and Warder South impoundments are the total capacities of the impoundments. The water needed for PHL10FHS will be pulled from both impoundments to achieve the required 5.8 million gallons of water to be used per lateral and approximately 28.8 million gallons for the entire 6 well pad.

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**Section VII - Plan Reviewed By**

DEP Office Use only		
API# 47-001-03291		
Jason Harmon Name:	 Signature:	1/30/13 Date:
Comments		

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Environmental Protection

001-03291

# EROSION & SEDIMENT CONTROL PLAN PHL10HS WELL

## BARBOUR COUNTY, WEST VIRGINIA FOR CNX GAS COMPANY LLC



REFERENCE: USGS - PHILIPPI QUADRANGLE, WV 7.5 MINUTE SERIES



PROJECT NO. 1129008

FEBRUARY 23, 2012

**DIEFFENBAUCH & HRITZ**

*APPC  
12-4-12*



INDEX	
DRAWING NO.	TITLE
1	TITLE SHEET
2-3	GENERAL NOTES
4	EXISTING SITE PLAN
5	OVERALL SITE PLAN
6-7	PROPOSED SITE PLAN
8	SLIP STABILIZATION
9	SOILS PLAN
10	SITE RESTORATION PLAN
11	TYPICAL SECTIONS
12	SLIP STABILIZATION SECTIONS
13	E&S DETAIL SHEET
14	E&S DETAIL SHEET
15	QUANTITY SUMMARY

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Revision	
Date	
By	
Check	
Drawn	
Checked	
Approved	
AS NOTED	
Scale	
Date	02/23/2012
Project No.	1129008
Client	CNX GAS COMPANY LLC.
Project	PHL10HS WELL SITE
Sheet	1

DiEffenbauch & Hritz  
Morgantown, WV

## EROSION AND SEDIMENT CONTROL GENERAL NOTES

UNDERGROUND UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS. THE EXACT LOCATIONS, DEPTH, AND SIZE OF ALL EXISTING UTILITIES IN THE PROJECT AREA SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR WITH A REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING WORK ON THIS PROJECT. THE CONTRACTOR SHALL CONTACT MISS UTILITY OF WEST VIRGINIA, INC. AT 1-800-245-488 FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING WORK.

THE CONTRACTOR SHALL APPLY A MINIMUM OF SIX INCH (6") DEPTH OF TOP SOIL TO ALL EXCAVATED AND FILLED SURFACES THAT WILL RECEIVE PERMANENT SEEDING AND MULCHING. TOP SOIL SHALL CONSIST OF FRIABLE SURFACE SOIL REASONABLY FREE OF GRASS, ROOTS, WEEDS, STICKS, ROCKS, AND OTHER UNSUITABLE MATERIAL. THE SOURCE OF THE TOP SOIL SHALL BE THE EXISTING STOCKPILED TOP SOIL.

SPREADING SHALL NOT BE CONDUCTED WHEN THE GROUND OR TOP SOIL IS FROZEN, EXCESSIVELY WET, OR OTHERWISE IN A CONDITION DETRIMENTAL TO UNIFORM SPREADING OPERATIONS. SURFACES DESIGNATED TO RECEIVE A TOP SOIL APPLICATION SHALL BE LIGHTLY SCARIFIED JUST BEFORE THE SPREADING OPERATION. WHERE COMPACTED EARTHFILLS ARE TO TOP SOILED, THE TOP SOIL SHALL BE PLACED CONCURRENTLY WITH THE EARTHFILL AND SHALL BE BONDED TO THE COMPACTED FILL WITH THE COMPACTING EQUIPMENT. FOLLOWING THE SPREADING OPERATION, THE TOP SOIL SURFACE SHALL BE LEFT REASONABLY SMOOTH AND WITHOUT RUTS AND SURFACE IRREGULARITIES THAT COULD CONTRIBUTE TO CONCENTRATED WATER FLOW DOWN SLOPE.

THE DRAWINGS IN THIS PLAN SET ARE A REPRESENTATION OF THE PROPOSED WELL SITE AND ACCESS ROAD. PROPOSED STRUCTURES SUCH AS THE ROADWAY, CULVERTS, SEDIMENT BARRIERS ECT. ARE SHOWN IN THEIR APPROXIMATE PREPLANNING CONFIGURATION. GIVEN UNFORESEEN CIRCUMSTANCES, THE AS-BUILT LOCATION OF THESE STRUCTURES MAY VARY SLIGHTLY FROM THE LOCATIONS SHOWN IN THIS PLAN SET.

ALL ROADS SHOWN ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH THE WVDEP OIL & GAS BMP MANUAL. ALL CULVERTS SHOWN ARE PROPOSED AND WILL BE A MINIMUM OF 12" IN DIAMETER UNLESS OTHERWISE NOTED.

BRUSH AND/OR TIMBER REMOVED BY CLEARING AND GRUBBING ACTIVITIES WILL BE CUT UP AND WINDROWED BELOW THE OUT SLOPE OF CONSTRUCTION AREAS. DITCH LINES AND CULVERTS WILL BE INSTALLED WHENEVER PRACTICAL. HOWEVER, PORTIONS OF THE EXISTING/PROPOSED ROADS WHICH ARE LOCATED IN SOLID ROCK SHALL NOT REQUIRE DITCHES OR CROSS DRAINS, UNLESS OTHERWISE WARRANTED BY FIELD CIRCUMSTANCES.

SUPPLEMENTAL DRAINAGE AND/OR SEDIMENT CONTROL MEASURES IN ADDITION TO THOSE SHOWN ON THE PLANS WILL BE INSTALLED WHEN AND WHERE DEEMED NECESSARY. THE ADDITIONAL MEASURES MAY CONSIST OF STRAW BALES, SILT FENCES, OR OTHER MEASURES AS OUTLINED IN THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.

SEDIMENT BASINS (TRAPS) ARE TO BE CONSTRUCTED AT ALL CULVERTS AND CROSS DRAIN INLETS AS REQUIRED BY THE WVDEP OIL AND GAS BMP MANUAL. FIELD CONDITIONS SUCH AS ROCK OUTCROPS AND BEDROCK MAY PROHIBIT INLET TRAPS FROM BEING INSTALLED. WHEN THESE CONDITIONS EXIST, ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED AS NEEDED.

A SEDIMENT BARRIER OF EITHER BRUSH, STRAW BALES, OR FILTER FENCE WILL BE MAINTAINED BELOW THE OUTFALL OF ALL PROPOSED CULVERTS AND AT ALL OTHER STORMWATER DISCHARGE POINTS FROM EITHER THE ROADWAY OR THE LOCATION.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFICATION OF THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION OF THIS PLAN.

ENTRANCES AT COUNTY/STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH D.O.T. REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE WV DOT. A STABILIZED ENTRANCE CONSISTING OF 8" CRUSHED STONE WILL BE INSTALLED FOR A MINIMUM OF 200' FROM THE INGRESS AND EGRESS POINTS OF ALL PUBLIC ROADWAYS IN ACCORDANCE WITH WV DOT REGULATIONS.

CROSS DRAINS AND/OR WATERBARS WILL BE INSTALLED AS AN INTEGRAL PART OF THE RECLAMATION PROCESS AND SHALL BE SPACED IN ACCORDANCE WITH THE AS BUILT ROADWAY SLOPES AND TABLE II-4 OF THE EROSION AND SEDIMENT CONTROL FIELD MANUAL.

ALL STRUCTURES SHOULD BE INSPECTED REGULARLY AND REPAIRS OF ANY DAMAGE SHOULD BE COMPLETED AS PROMPTLY AS POSSIBLE.

### SITE PREPARATION

**SEEDBED PREPARATION**  
THE SEEDBED MUST BE LOOSE AT THE TIME OF SEEDING. THE SEEDBED MUST BE LOOSENED BY DISKING ON THE CONTOUR, OR BY BULLDOZER TRACKING UP AND DOWN THE SLOPE. BACKBLADING IS ACCEPTABLE ON GENTLE SLOPES SUCH AS THE BENCH OR ROAD BED.

**TEMPORARY SEEDING**  
TEMPORARY VEGETATIVE COVER MUST BE ESTABLISHED WHERE RUNOFF WILL GO DIRECTLY INTO A STREAM. IMMEDIATELY UPON CONSTRUCTION OF THE SITE, VEGETATION MUST BE ESTABLISHED ON ROAD BANK AND LOCATION SLOPES WHEN RECLAMATION CANNOT BE COMPLETED WITHIN THE PRESCRIBED 6 MONTHS. APPLY SEED BY BROADCASTING, DRILLING, OR HYDRAULIC APPLICATIONS ACCORDING TO THE RATE INDICATED IN THE TABLE BELOW. PERFORM ALL PLANNING OPERATIONS AT RIGHT ANGLES TO THE SLOPES.

TEMPORARY SEEDING FOR CRITICAL AREAS

SEED	RATES IN LBS. PER ACRE	RECOMMENDED DATE
ANNUAL RYEGRASS	40	MAR 1 TO JUNE 1 AUG 15 TO SEPT 15
SPRING OATS	96	MAR 1 TO JUNE 15
RYE GRAIN	140	AUG 15 TO SEPT 15
ANNUAL RYEGRASS	28	MAR 1 TO JUNE 15
SPRING OATS	64	MAR 1 TO JUNE 15

IN SITUATIONS WHERE ANOTHER COVER IS DESIRED, CONTACT THE LOCAL SOIL CONSERVATION DISTRICT FOR SEEDING RECOMMENDATIONS. APPROVAL OF THE OIL AND GAS INSPECTOR IS NEEDED.

**PERMANENT SEEDING**  
PLANTING OF PERMANENT VEGETATIVE COVER SHALL BE PERFORMED ON ALL DISTURBED AREAS. LIME AND FERTILIZER RATES SHALL BE APPLIED TO ALL PERMANENT SEEDINGS AT THE TIME OF SEEDBED PREPARATION.

PERMANENT SEEDINGS FOR ALL DISTURBED AREAS

SEED	RATES IN LBS. PER ACRE	RECOMMENDED DATE
TALL FESCUE	40	BEST USED IN WOODED AREA OR PASTURE
LADINO CLOVER	5	
TALL FESCUE	30	WOODED OR PASTURE OVER 1500 ELEVATION
BIRDSFOOT TREFOIL	10	
TALL FESCUE	30	WOODED AREA, STEEP BANKS
CROWN VETCH	10	LOW MAINTENANCE
ORCHARDGRASS	12	MEADOW ELEVATION OVER 1500
BIRDSFOOT TREFOIL	10	
ORCHARDGRASS	12	
LADINO	3	MEADOW
KENTUCKY BLUEGRASS	20	
REDFEET	5	PASTURE
WHITE CLOVER	2	
KENTUCKY BLUEGRASS	20	
REDFEET	5	PASTURE ELEVATION OVER 1500
BIRDSFOOT TREFOIL	10	

IN SITUATIONS WHERE ANOTHER COVER IS DESIRED, CONTACT THE LOCAL SOIL CONSERVATION DISTRICT FOR SEEDING RECOMMENDATIONS. APPROVAL OF THE OIL AND GAS INSPECTOR IS NEEDED.

LIME AND FERTILIZER APPLICATION TABLE

pH OF SOIL	LIME IN TONS PER ACRE	FERTILIZER, LBS/ACRE
ABOVE 6.0	2	10-20-20 OR EQUIVALENT
5.0 TO 6.0	3	500
BELOW 5.0	4	500

THE pH CAN BE DETERMINED WITH A PORTABLE pH TESTING KIT OR BY SENDING THE SOIL SAMPLES TO A SOIL TESTING LABORATORY. WHEN 4 TONS OF LIME PER ACRE ARE APPLIED IT MUST BE INCORPORATED INTO THE SOIL BY DISKING, BACKBLADING OR TRACKING UP AND DOWN THE SLOPE.

**MULCHING**  
DEPENDING ON THE FIELD SITUATION, MULCH IS TO BE ANCHORED MECHANICALLY OR WITH MULCH NETTING.

**MECHANICAL ANCHORING**  
APPLY MULCH AND PULL A MULCH ANCHORING TOOL OVER THE MULCH. WHEN A DISK IS USED, SET THE DISK STRAIGHT AND PULL ACROSS THE SLOPE. MULCH MATERIAL SHOULD BE TUCKED INTO THE SOIL ABOUT THREE INCHES.

**MULCH NETTING**  
FOLLOW MANUFACTURER'S RECOMMENDATIONS WHEN POSITIONING AND STAPLING THE MULCH NETTING TO THE SOIL SURFACE.

MULCH MATERIALS RATES AND USES

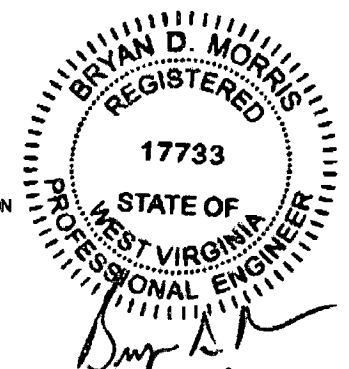
MATERIAL	MINIMUM RATES PER ACRE	COVERAGE	REMARKS
HAY OR STRAW	2 TO 3 TONS	75% TO 80%	SUBJECT TO WIND BLOWING OR WASHING UNLESS TIED DOWN FOR HYDROSEEDING
	100 TO 150 BALES		
WOOD FIBER	1000 TO 1500 LBS	ALL DISTURBED AREAS	
PULP FIBER			
WOOD-CELLULOSE			
RECYCLED PAPER			

### B. CONSTRUCTION SEQUENCE

- AREAS THAT ARE NOT TO BE DISTURBED DURING CONSTRUCTION ARE TO BE CLEARLY MARKED BEFORE BEGINNING WORK ON THE SITE.
- EROSION AND SEDIMENT CONTROL DEVICES, AS REQUIRED BY THE EROSION AND SEDIMENT CONTROL PLAN AND DICTATED BY FIELD CONDITIONS, ARE TO BE INSTALLED PRIOR TO CONDUCTING ANY CONSTRUCTION ACTIVITY ON THE SITE.
- CONSTRUCTION ACTIVITY WILL BEGIN WITH THE CLEARING AND GRUBBING OF THE ACCESS ROAD FROM THE SITE POINT OF ACCESS TO THE DRILL PAD LOCATION.
- THE REMAINING PROJECT AREA WILL THEN BE CLEARED AND GRUBBED FOLLOWING INSTALLATION OF THE EROSION & SEDIMENT CONTROL DEVICES AT THE DRILL PAD LOCATION.
- THE DRILL PAD LOCATION WILL THEN BE CONSTRUCTED, FINAL GRADING COMPLETED, GRAVEL WILL BE PLACED ON THE PAD AREA AND ACCESS ROAD AND SOIL AREAS WILL BE FERTILIZED AND PERMANENTLY SEEDING AND MULCHED.
- FOLLOWING COMPLETION OF OPERATIONS, THE GRAVEL PAD SURFACE WILL BE REMOVED SOIL WILL BE SCARIFIED, TOPSOILED REPLACED AND SEEDING.
- TEMPORARY EROSION CONTROLS SHALL REMAIN IN PLACE UNTIL A UNIFORM 70 PERCENT VEGETATIVE COVER IS ESTABLISHED.

### C. TEMPORARY CONTROL MEASURES AND FACILITIES

- GENERAL - SEE PLANS AND DETAILS FOR PROPOSED LOCATIONS AND CONSTRUCTION DETAILS FOR BMP'S.
- ROCK CONSTRUCTION ENTRANCE - A ROCK CONSTRUCTION ENTRANCES SHALL BE INSTALLED FOR USE IN ACCESSING THE SITE AT THE INDICATED LOCATION. THE PURPOSE OF THIS ENTRANCES IS TO REDUCE THE AMOUNT OF SEDIMENT DEPOSITED ON THE ROADWAYS.
- COMPOST FILTER SOCK - SHALL BE PLACED ALONG THE SLOPES OF THE DISTURBED AREAS AS SHOWN ON THE EROSION AND SEDIMENTATION CONTROL PLAN AND IN ACCORDANCE WITH THE EROSION AND SEDIMENTATION CONTROL PLAN DETAILS.
- ROCK FILTER OUTLETS - ROCK FILTER OUTLETS ARE TO BE USED AS A REPAIR MEASURE WHERE A COMPOST FILTER SOCK SECTION HAS BEEN UNDERMINED OR OVERTOPPED. SEE PLAN DETAILS FOR CONSTRUCTION REQUIREMENTS.
- STRAW BALE BARRIERS - SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. SEE PLAN DETAILS FOR CONSTRUCTION REQUIREMENTS.



2/23/12  
Office of Oil & Gas

DEC 17 2012

WV Department of  
Environmental Protection

Revision									
Job	Drawn	Checked	Approved	N.T.S.	Scale	Date	Project No.	Sheet No.	Total Sheets
Client								CNX GAS COMPANY LLC.	
Contract								PH-10HS WELL SITE	
Project								GENERAL NOTES	
Drawing No.								2	

Dieffenbauch & Hirtz  
Nagsbawm, WV

## EROSION AND SEDIMENTATION CONTROL GENERAL NOTES

### D. MAINTENANCE OF TEMPORARY CONTROL MEASURES AND FACILITIES

#### 1. GENERAL

- A. THE MAINTENANCE FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF ALL E&S MEASURES AND DEVICES FOR THE DURATION OF THE PROJECT AND UNTIL WHICH TIME THE AREA IS STABILIZED WITH A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER.
- B. THE CONTRACTOR SHALL INSPECT ALL DEVICES WEEKLY (MINIMUM) AND AFTER EVERY RAINFALL EVENT AND PERFORM MAINTENANCE AS REQUIRED. ANY DEVICE FOUND TO BE CLOGGED, DAMAGED, HALF-FULL OF SILT OR NOT FULLY OPERATIONAL SHALL BE CLEANED OF ALL DEBRIS. THE SOLID WASTE DISPOSAL IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL DEPOSITED SEDIMENT FROM THE TRAP SHALL BE REMOVED AND SPREAD ACCORDINGLY OR USED AS FILL MATERIAL ON THE PROJECT SITE.

#### 2. ROCK CONSTRUCTION ENTRANCE

- A. INSPECT ROCK CONSTRUCTION ENTRANCE INSTALLATION WEEKLY AND AFTER EVERY PRECIPITATION EVENT.
- B. THE STRUCTURE THICKNESS SHALL BE MAINTAINED TO THE SPECIFIED DIMENSION BY ADDING ROCK.
- C. AT THE END OF EACH CONSTRUCTION DAY, SEDIMENT DEPOSITED ON PUBLIC ROADWAYS SHALL BE IMMEDIATELY REMOVED AND RETURNED TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAY WITH WATER SHALL NOT BE PERMITTED.

#### 3. COMPOST FILTER SOCK

- A. INSPECT COMPOST FILTER SOCK AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL EVENT. MAKE ALL REQUIRED REPAIRS IMMEDIATELY.
- B. ACCUMULATED SEDIMENTS SHALL BE REMOVED AS REQUIRED TO KEEP THE SOCK FUNCTIONAL. IN ALL CASES REMOVE DEPOSITS WHERE ACCUMULATIONS REACH 1/2 THE ABOVE-GROUND HEIGHT OF THE SOCK.
- C. THE REMOVED SEDIMENT SHALL BE USED FOR ON SITE GRADING AND IMMEDIATELY STABILIZED WITH SEED AND AN ANCHORED MULCH.
- D. ADHERE TO MANUFACTURER'S RECOMMENDATIONS FOR REPLACING COMPOST FILTER SOCK DUE TO WEATHERING.
- E. ALL UNDERCUTTING OR EROSION OF THE TOE OF THE ANCHOR SHALL BE REPAIRED IMMEDIATELY BY ENTRENCHING THE MESH TO PROPER DEPTH. BACKFILL AND COMPACT AS PER DETAIL.
- F. ANY SOCK SECTION THAT HAS COLLAPSED OR EXPERIENCED A FAILURE DUE TO CONCENTRATED SURFACE FLOW SHALL BE IMMEDIATELY REPLACED WITH A NEW SECTION OF COMPOST FILTER SOCK OF THE SAME DIAMETER FOR THE LENGTH OF COLLAPSED AREA.
- G. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, REMOVE ALL SOCK MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE AND STABILIZE.

#### 4. ROCK FILTER OUTLET

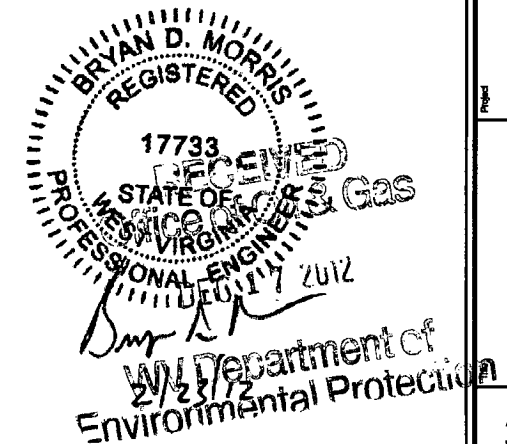
- A. INSPECT ROCK FILTER OUTLETS AND COMPOST FILTER SOCK FOR DAMAGE ONCE A WEEK AND AFTER EACH RAINFALL EVENT.
- B. ROCK FILTER OUTLETS SHALL BE CLEANED OR REPLACED WHEN CLOGGED WITH SEDIMENTS. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET. STONE MATERIALS SHALL BE WASHED COMPLETELY FREE OF ALL FOREIGN MATERIAL OR NEW ROCK SHALL BE USED TO REBUILD THE FILTER. IF STONES ARE WASHED, ENSURE THAT SEDIMENT-LADEN RUNOFF FROM THE WASHED MATERIAL DOES NOT LEAVE THE SITE.
- C. SEDIMENT ACCUMULATIONS REMOVED FROM BEHIND THE FILTERS SHALL BE USED ON SITE FOR GRADING OR DISPOSED OF AT AN APPROVED FACILITY. IMMEDIATELY STABILIZE MATERIAL WITH SEED AND ANCHORED MULCH.
- D. ADD STONE TO THE FILTERS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION. REPAIR ALL DAMAGE TO ROCK FILTER OUTLETS AND COMPOST FILTER SOCK IMMEDIATELY.
- E. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, REMOVE ALL FILTER MATERIALS, AGGREGATE AND UNSTABLE SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE AND ESTABLISH PERMANENT VEGETATIVE COVER.

#### 5. STRAW BALE BARRIER

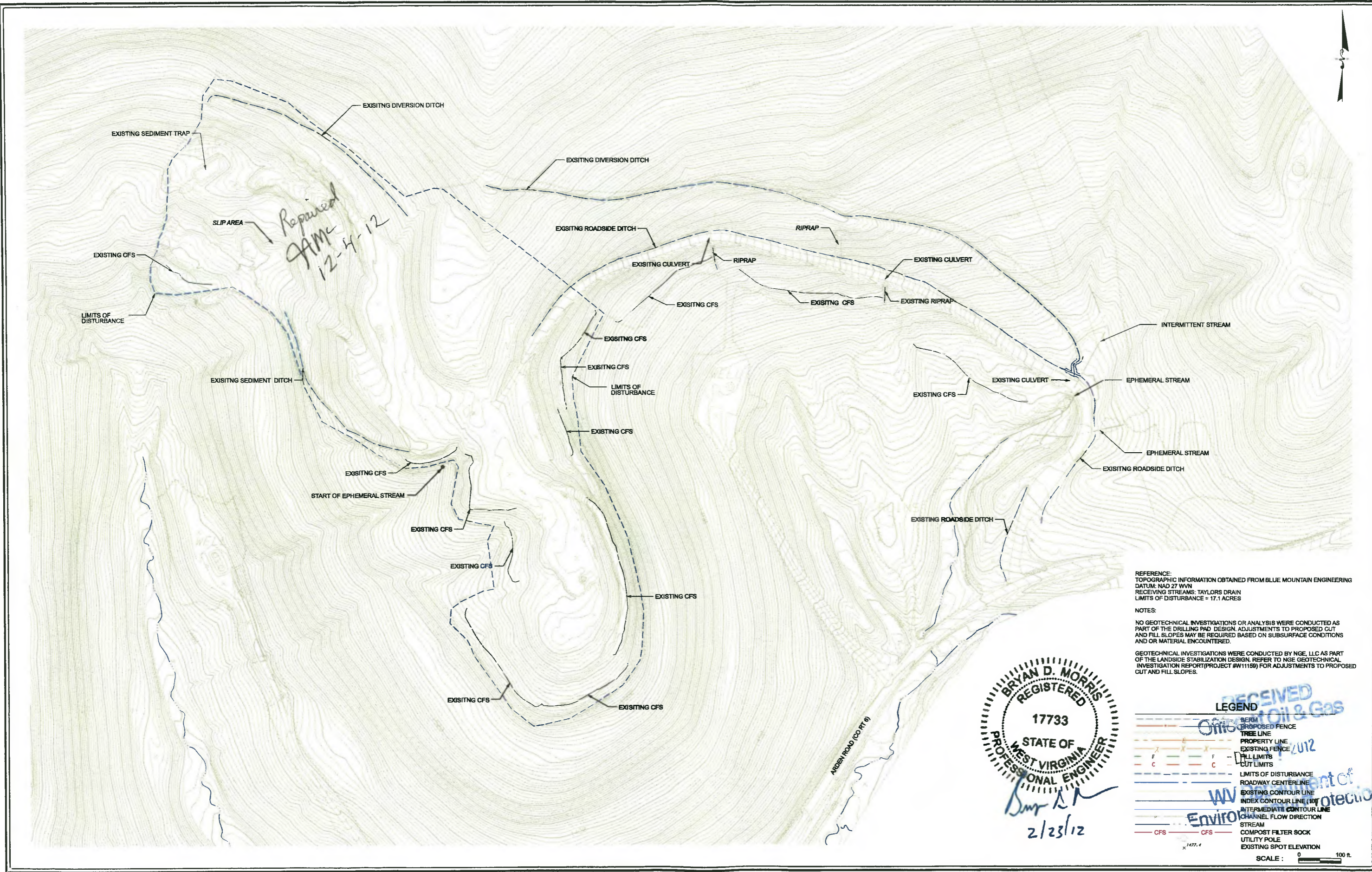
- A. PLACE STRAW BALES IN A ROW WITH ENDS OF THE BARRIER ON AN UPSLOPE.
- B. EMBED EACH STAW BALE IN THE SOIL AT A MINIMUM OF 4 INCHES.
- C. SECURELY ANCHOR BALES IN PLACE BY STAKES OR REINFORCING BARS DRIVEN THROUGH THE BALES.
- D. INSPECT BALES FREQUENTLY AND MAKE REPAIR OR REPLACEMENT PROMPTLY AS NEEDED.
- E. REMOVE BALES WHEN THEY HAVE SERVED THEIR USEFULNESS.

### F. MAINTENANCE/CONTRACTOR'S RESPONSIBILITIES

1. CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT POLLUTION CONTROL PLAN IN ACCORDANCE WITH THE DRAWINGS AND PROJECT NARRATIVE.
  2. ALL FACILITIES SHALL BE INSPECTED AND REPAIRED, IF NECESSARY, AFTER EACH RAINFALL EVENT OR AT A PERIOD NOT TO EXCEED ONE WEEK. ALL PREVENTATIVE MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND ANCHORING OF THE MULCH SHALL BE PERFORMED IMMEDIATELY. SEDIMENT COLLECTED FROM THE EROSION CONTROL STRUCTURES SHALL BE PLACED UPSTREAM OF THOSE CONTROLS AND IMMEDIATELY STABILIZED WITH SEED AND AN ANCHORED MULCH OR HAULED OFFSITE TO A DISPOSAL AREA WITH AN APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLAN.
  3. AT NO TIME WILL SEDIMENT-LADEN RUNOFF BE ALLOWED TO LEAVE THE SITE AND ENTER WATERS OF THE STATE WITHOUT FIRST PASSING THROUGH A SEDIMENT FILTERING DEVICE. IF EROSION CONTROL FACILITIES FAIL TO PERFORM AS EXPECTED, ALTERNATIVE FACILITIES OR MODIFICATIONS OF THOSE FACILITIES INSTALLED WILL BE REQUIRED.
  4. ALL PERMANENTLY SEEDED AREAS THAT BECOME ERODED SHALL HAVE THE TOPSOIL REPLACED. THE EROSION CONTROL MATTING REPLACED (IF APPLICABLE), THE GRASS RESEED AND MULCH REAPPLIED AND ANCHORED. IF EROSION PERSISTS, THE AREA SHALL BE EITHER LINED WITH SOD OR STABILIZED WITH ROCK RIPRAP.
  5. A COPY OF THE APPROVED EROSION AND SEDIMENT POLLUTION CONTROL PLAN SHALL BE KEPT AVAILABLE FOR INSPECTION ON THE CONSTRUCTION SITE AT ALL TIMES THROUGHOUT THE TERM OF THE PROJECT.
  6. THE INTENT OF THIS PLAN/NARRATIVE IS TO INDICATE GENERAL MEANS OF COMPLIANCE WITH THE REQUIREMENTS OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (AS AUTHORIZED UNDER THE CLEAN STREAMS LAW). IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT THESE METHODS, PLUS ADDITIONAL METHODS, AS MAY BE NECESSARY BECAUSE OF CONDITIONS CREATED BY LOCALIZED SITE CONDITIONS AND/OR CONSTRUCTION PROCEDURES IN ORDER TO ASSURE COMPLIANCE WITH APPLICABLE LAW. IT WILL FURTHER BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL EROSION AND SEDIMENT CONTROL FACILITIES SO THAT THEY PERFORM AS REQUIRED BY APPLICABLE LAW.
  7. FINES AND RELATED COSTS RESULTING FROM THE CONTRACTOR'S FAILURE TO PROVIDE ADEQUATE PROTECTION AGAINST SOIL EROSION AND FOR ANY VIOLATIONS OF THE CLEAN STREAMS LAW AND THE RULES AND REGULATIONS PROMULGATED THEREUNDER SHALL BE BORNE BY THE CONTRACTOR.
- G. RECYCLING AND DISPOSAL METHODS
1. REMOVE WASTE MATERIALS INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF THE SITE TO A DEP APPROVED DUMP SITE. SEPERATE RECYCLABLE MATERIALS PRODUCED DURING SITE CLEARING FROM OTHER NON-RECYCLABLE MATERIALS. STORE OR STOCKPILE WITHOUG INTERMIXING WITH OTHER MATERIALS AND TRANSPORT THEM TO RECYCLING FACILITIES. MATERIAL TO BE REMOVED SHALL BE REMOVED DAILY AND SHALL NOT BE ALLOWED TO ACCUMULATE AT THE SITE.



Revision									
Date									
No.									
JSD Drawn									
JSD Checked									
JSD Approved									
N.T.S. Scale									
02/23/2012 Date									
1122006 Project No.									
Client	Diefenbauch & Hritz <small>Magawhanna, WV</small>								
Project	CNX GAS COMPANY LLC.								
Sheet	PHL10HS WELL SITE								
Page	GENERAL NOTES								
Drawing No.	3								



REFERENCE:  
 TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
 DATUM: NAD 27 WVN  
 RECEIVING STREAMS: TAYLORS DRAIN  
 LIMITS OF DISTURBANCE = 17.1 ACRES

NOTES:  
 NO GEOTECHNICAL INVESTIGATIONS OR ANALYSIS WERE CONDUCTED AS PART OF THE DRILLING PAD DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON SUBSURFACE CONDITIONS AND OR MATERIAL ENCOUNTERED.

GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED BY NGE, LLC AS PART OF THE LANDSIDE STABILIZATION DESIGN. REFER TO NGE GEOTECHNICAL INVESTIGATION REPORT (PROJECT #W11159) FOR ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES.

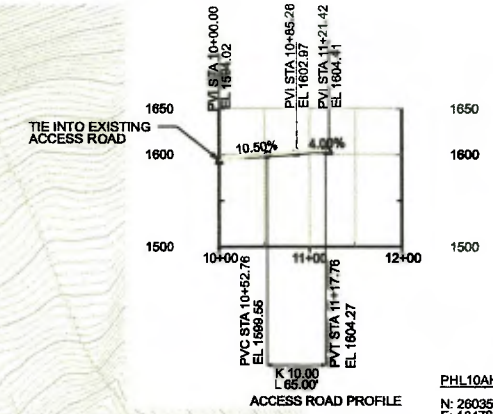
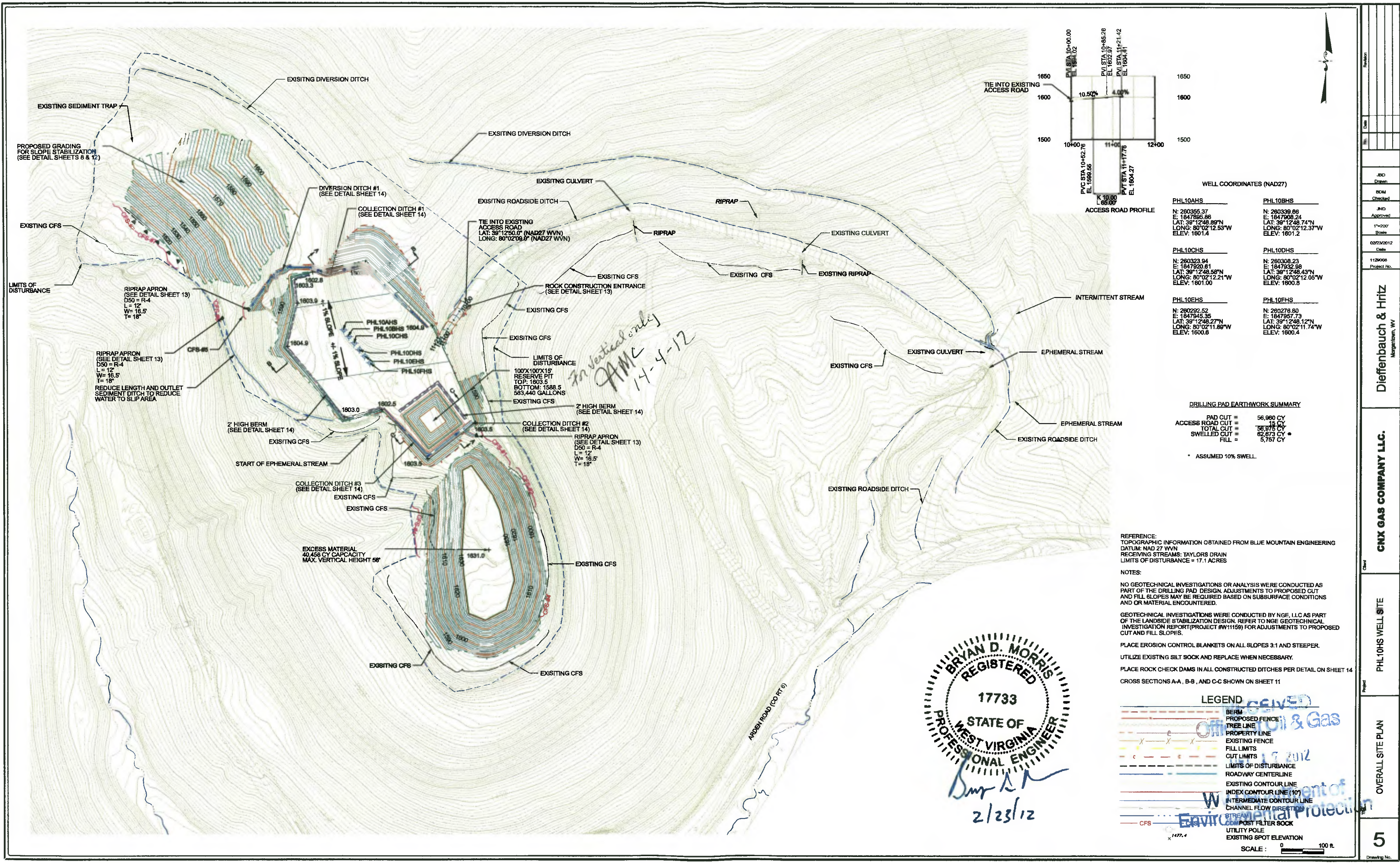


**LEGEND**

- PROPOSED FENCE
- TREE LINE
- PROPERTY LINE
- EXISTING FENCE
- FILL LIMITS
- CUT LIMITS
- LIMITS OF DISTURBANCE
- ROADWAY CENTERLINE
- EXISTING CONTOUR LINE
- INDEX CONTOUR LINE (100')
- INTERMEDIATE CONTOUR LINE
- CHANNEL FLOW DIRECTION
- STREAM
- COMPOST FILTER SOCK
- UTILITY POLE
- EXISTING SPOT ELEVATION

SCALE : 0 100 ft.

Revision	
Date	
No.	
JBD Design	
BDM Checked	
JND Approved	
1"=500' Scale	
02/23/2012 Date	
1129008 Project No.	
Client	CNX GAS COMPANY LLC.
Project	PHL10HS WELL SITE
Sheet	4
Drawn by	Diefenbach & Hritz Morgantown, WV



WELL COORDINATES (NAD27)

<b>PHL10AHS</b> N: 260355.37 E: 1847865.86 LAT: 39°12'48.89"N LONG: 80°02'12.53"W ELEV: 1801.4	<b>PHL10BHS</b> N: 260336.66 E: 1847908.24 LAT: 39°12'48.74"N LONG: 80°02'12.37"W ELEV: 1801.2
<b>PHL10CHS</b> N: 260323.94 E: 1847920.81 LAT: 39°12'48.58"N LONG: 80°02'12.21"W ELEV: 1801.00	<b>PHL10DHS</b> N: 260308.23 E: 1847932.88 LAT: 39°12'48.43"N LONG: 80°02'12.05"W ELEV: 1800.8
<b>PHL10EHS</b> N: 260292.52 E: 1847945.35 LAT: 39°12'48.27"N LONG: 80°02'11.89"W ELEV: 1800.6	<b>PHL10FHS</b> N: 260278.80 E: 1847957.73 LAT: 39°12'48.12"N LONG: 80°02'11.74"W ELEV: 1800.4

DRILLING PAD EARTHWORK SUMMARY

PAD CUT	56,980 CY
ACCESS ROAD CUT	15 CY
TOTAL CUT	58,975 CY
SWELLED CUT	62,873 CY
FILL	5,767 CY

\* ASSUMED 10% SWELL

REFERENCE:  
TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
DATUM: NAD 27 WVN  
RECEIVING STREAMS: TAYLORS DRAIN  
LIMITS OF DISTURBANCE = 17.1 ACRES

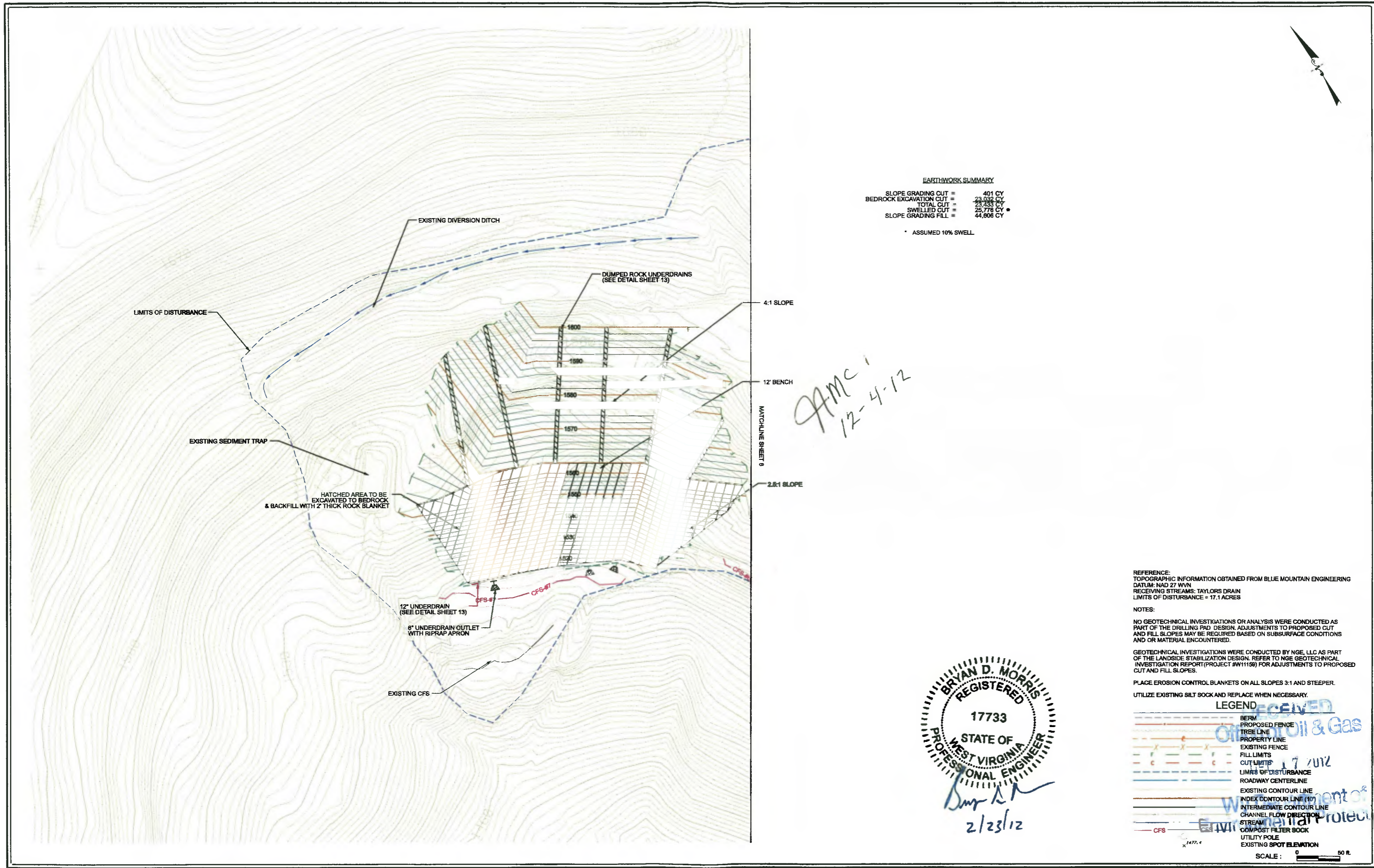
NOTES:  
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GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED BY NGE, I.L.C. AS PART OF THE LANDSIDE STABILIZATION DESIGN. REFER TO NGE GEOTECHNICAL INVESTIGATION REPORT (PROJECT #W11159) FOR ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES.  
PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 AND STEEPER.  
UTILIZE EXISTING SILT SOCK AND REPLACE WHEN NECESSARY.  
PLACE ROCK CHECK DAMS IN ALL CONSTRUCTED DITCHES PER DETAIL ON SHEET 14 CROSS SECTIONS A-A, B-B, AND C-C SHOWN ON SHEET 11

**BRYAN D. MORRIS**  
REGISTERED  
17733  
STATE OF WEST VIRGINIA  
PROFESSIONAL ENGINEER  
2/23/12

LEGEND

	BERM
	PROPOSED FENCE
	TREE LINE
	PROPERTY LINE
	EXISTING FENCE
	FILL LIMITS
	CUT LIMITS
	LIMITS OF DISTURBANCE
	ROADWAY CENTERLINE
	EXISTING CONTOUR LINE
	INDEX CONTOUR LINE (10')
	INTERMEDIATE CONTOUR LINE
	CHANNEL FLOW DIRECTION
	STREAM FLOW DIRECTION
	CFS
	UTILITY POLE
	EXISTING SPOT ELEVATION

SCALE: 0 100 ft.



**EARTHWORK SUMMARY**

SLOPE GRADING CUT	=	401 CY
BEDROCK EXCAVATION CUT	=	23,032 CY
TOTAL CUT	=	23,433 CY
SWELLED CUT	=	25,778 CY
SLOPE GRADING FILL	=	44,606 CY

\* ASSUMED 10% SWELL

*AMC 1  
12-4-12*

**BRYAN D. MORRIS**  
REGISTERED  
17733  
STATE OF  
WEST VIRGINIA  
PROFESSIONAL ENGINEER

*Bryan D. Morris  
2/23/12*

REFERENCE:  
TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
DATUM: NAD 27 WVN  
RECEIVING STREAMS: TAYLORS DRAIN  
LIMITS OF DISTURBANCE = 17.1 ACRES

NOTES:  
NO GEOTECHNICAL INVESTIGATIONS OR ANALYSIS WERE CONDUCTED AS PART OF THE DRILLING PAD DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON SUBSURFACE CONDITIONS AND OR MATERIAL ENCOUNTERED.  
GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED BY NGE, LLC AS PART OF THE LANDSIDE STABILIZATION DESIGN. REFER TO NGE GEOTECHNICAL INVESTIGATION REPORT (PROJECT #W11159) FOR ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES.  
PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 AND STEEPER.  
UTILIZE EXISTING SILT SOCK AND REPLACE WHEN NECESSARY.

**LEGEND**

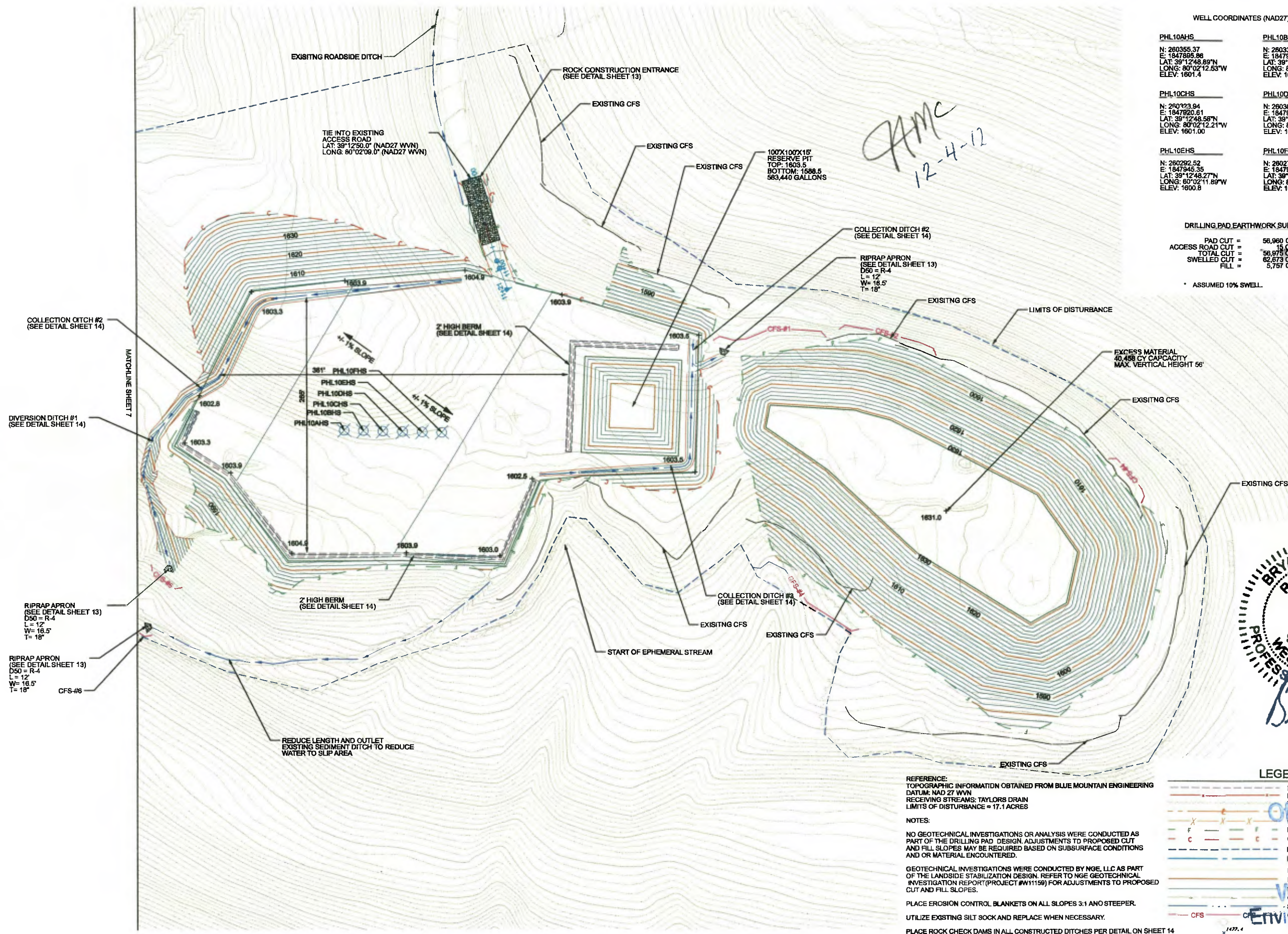
- BERM
- PROPOSED FENCE
- TREE LINE
- PROPERTY LINE
- EXISTING FENCE
- FILL LIMITS
- CUT LIMITS
- LIMITS OF DISTURBANCE
- ROADWAY CENTERLINE
- EXISTING CONTOUR LINE
- INDEX CONTOUR LINE (10')
- INTERMEDIATE CONTOUR LINE
- CHANNEL FLOW DIRECTION
- STREAM
- COMPOST FILTER SOCK
- UTILITY POLE
- EXISTING SPOT ELEVATION

SCALE: 0 50 ft.

Number	
Date	
Scale	1"=100'
Date	02/23/12
Project No.	1129098
Client	CNX GAS COMPANY LLC.
Project	PHILIONS WELL SITE
Proposed	PROPOSED SITE PLAN
Number	7

Dieffenbauch & Hritz  
Morgantown, WV





WELL COORDINATES (NAD27)

PHL10AHS N: 280355.37 E: 1847895.86 LAT: 39°12'48.89"N LONG: 80°02'12.53"W ELEV: 1801.4	PHL10BHS N: 280339.66 E: 1847908.24 LAT: 39°12'48.74"N LONG: 80°02'12.37"W ELEV: 1801.2
PHL10CHS N: 280123.94 E: 1847820.61 LAT: 39°12'48.58"N LONG: 80°02'12.21"W ELEV: 1801.00	PHL10DHS N: 280338.23 E: 1847932.98 LAT: 39°12'48.43"N LONG: 80°02'12.05"W ELEV: 1800.8
PHL10EHS N: 280292.52 E: 1847945.35 LAT: 39°12'48.27"N LONG: 80°02'11.89"W ELEV: 1800.8	PHL10FHS N: 280276.80 E: 1847967.73 LAT: 39°12'48.12"N LONG: 80°02'11.74"W ELEV: 1800.4

DRILLING PAD, EARTHWORK SUMMARY

PAD CUT =	56,960 CY
ACCESS ROAD CUT =	15 CY
TOTAL CUT =	56,975 CY
SWELLED CUT =	62,673 CY
FILL =	5,757 CY

\* ASSUMED 10% SWELL



LEGEND

	BERM
	PROPOSED FENCE
	TREE LINE
	PROPERTY LINE
	EXISTING FENCE
	FILL LIMITS
	CUT LIMITS
	LIMITS OF DISTURBANCE
	ROADWAY CENTERLINE
	EXISTING CONTOUR LINE
	INDEX CONTOUR LINE (10')
	INTERMEDIATE CONTOUR LINE
	CHANNEL FLOW DIRECTION
	STREAM
	COMPOSITE FILTER SOCK
	UTILITY POLE
	EXISTING SPOT ELEVATION

SCALE: 0 50 ft.

REFERENCE:  
TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
DATUM: NAD 27 WVN  
RECEIVING STREAMS: TAYLORS DRAIN  
LIMITS OF DISTURBANCE = 17.1 ACRES

NOTES:  
NO GEOTECHNICAL INVESTIGATIONS OR ANALYSIS WERE CONDUCTED AS PART OF THE DRILLING PAD DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON SUBSURFACE CONDITIONS AND OR MATERIAL ENCOUNTERED.

GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED BY NGE, LLC AS PART OF THE LANDSIDE STABILIZATION DESIGN. REFER TO NGE GEOTECHNICAL INVESTIGATION REPORT (PROJECT #W1159) FOR ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES.

PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 AND STEEPER.  
UTILIZE EXISTING SILT SOCK AND REPLACE WHEN NECESSARY.  
PLACE ROCK CHECK DAMS IN ALL CONSTRUCTED DITCHES PER DETAIL ON SHEET 14

- NOTES:
- 1) TO REDUCE MATERIAL SLIDING DOWNWARD IT WILL BE LIKELY NECESSARY TO PERFORM THE EXCAVATION TO BEDROCK AND ROCK BLANKET IN 30' TO 50' WIDE SECTIONS.
  - 2) THE ROCK BLANKET SHOULD BE 2' THICK AND CONSIST OF AASHTO SIZE #1 STONE MEETING THE REQUIREMENTS OF THE WV DOT-DOH.
  - 3) THE ROCK BLANKET SHOULD BE COVERED BY FILTER FABRIC MEETING THE REQUIREMENTS OF THE WV DOT-DOH.
  - 4) PRIOR TO GRADING SLOPE ABOVE 12' BENCH DUMPED ROCK UNDERDRAINS SHOULD CONSTRUCTED AT APPROX. 50' SPACING
  - 5) DUE TO NON-UNIFORM EXISTING GRUND SURFACE THE AREAS USED FOR UNDERDRAINS SHOULD BE SMOOTHED TO EXTENT POSSIBLE TO PROVIDE A UNIFORM GRADE FOR UNDERDRIAN PROFILE.
  - 6) ADDITIONAL DUMPED ROCK UNDERDRAINS MAY BE NECESSARY AND SHOULD BE FIELD LOCATED TO INTERCEPT ANY GROUNDWATER SEEPB.

DUMPED ROCK UNDERDRAINS  
(SEE DETAIL SHEET 13)

*JMC*  
12-4-12

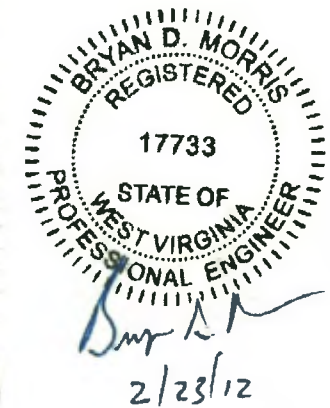
EXISTING SEDIMENT TRAP

REQUIRED AREA FOR EXCAVATION  
TO BEDROCK / 2' THICK ROCK BLANKET

ROCK BLANKET SHOULD DAYLIGHT  
ALONG THE TOE OF PROPOSED FILL SLOPE  
TO ALLOW DRAINAGE OF SUBSURFACE WATER.

12" UNDERDRAIN  
(SEE DETAIL SHEET 13)

6" UNDERDRAIN OUTLET  
WITH RIPRAP APRON



REFERENCE:  
TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
DATUM: NAD 27 WVN  
RECEIVING STREAMS: TAYLORS DRAIN  
LIMITS OF DISTURBANCE = 17.1 ACRES

NOTES:  
NO GEOTECHNICAL INVESTIGATIONS OR ANALYSIS WERE CONDUCTED AS PART OF THE DRILLING PAD DESIGN. ADJUSTMENTS TO PROPOSED CUT AND FILL SLOPES MAY BE REQUIRED BASED ON SUBSURFACE CONDITIONS AND OR MATERIAL ENCOUNTERED.

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PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 3:1 AND STEEPER.  
UTILIZE EXISTING SILT SOCK AND REPLACE WHEN NECESSARY.

**LEGEND**

- BERM
- PROPOSED FENCE
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- EXISTING FENCE
- FILL LIMITS
- CUT LIMITS
- LIMITS OF DISTURBANCE
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- CHANNEL FLOW DIRECTION
- STREAM
- COMPOST FILTER SOCK
- UTILITY POLE
- EXISTING SPOT ELEVATION

SCALE: 0 20 ft.

Drawn	
Checked	
Approved	
Scale	1"=40'
Date	02/23/2012
Project No.	1120008
Client	PHIL10HS WELL SITE
Project	SLIP STABILIZATION
Sheet	8

Dieffenbauch & Hritz  
Morgantown, WV

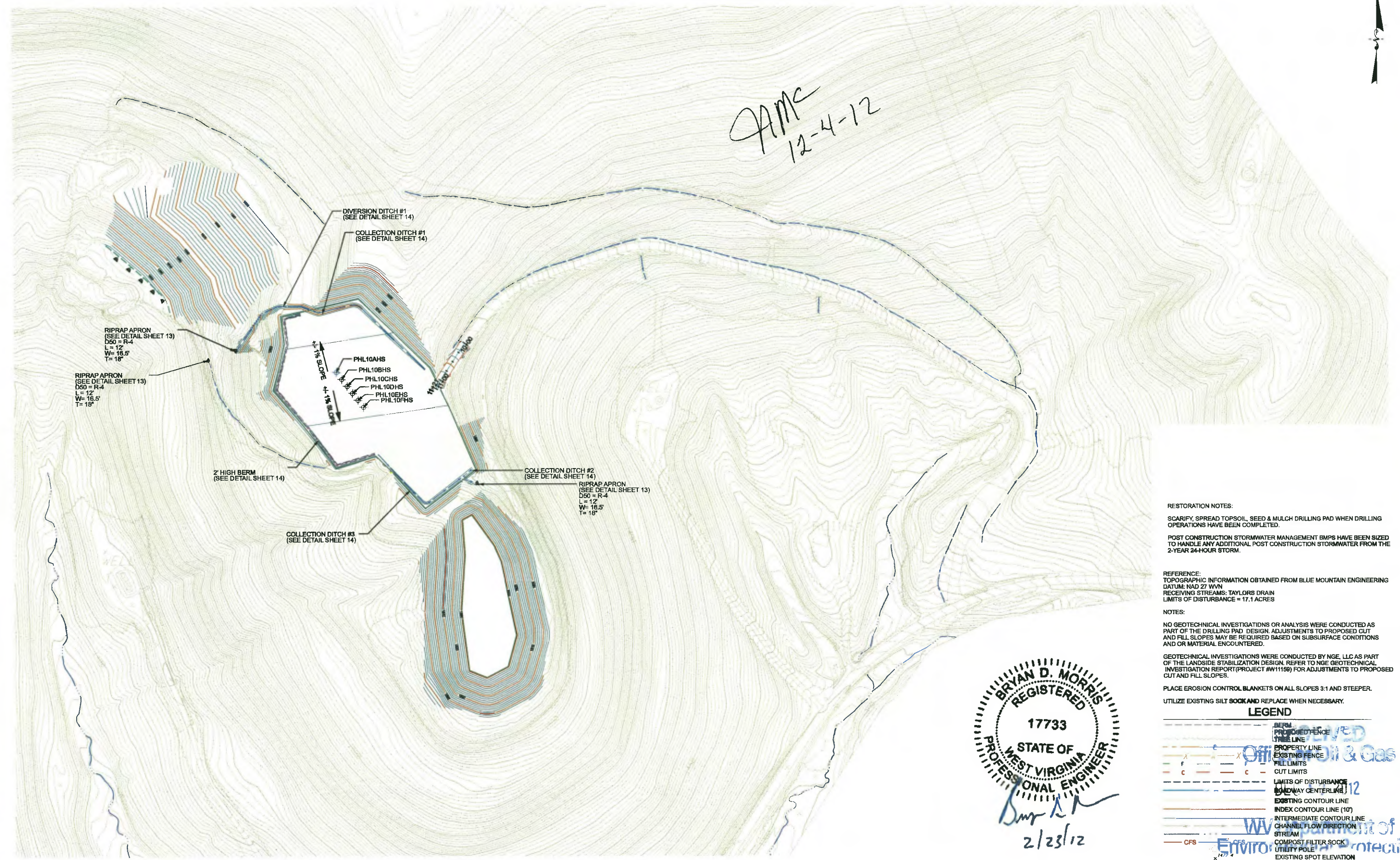
CNX GAS COMPANY LLC.

SLIP STABILIZATION

8



AMC  
12-4-12



RIPRAP APRON  
(SEE DETAIL SHEET 13)  
D50 = R-4  
L = 12'  
W = 16.5'  
T = 18"

RIPRAP APRON  
(SEE DETAIL SHEET 13)  
D50 = R-4  
L = 12'  
W = 16.5'  
T = 18"

DIVERSION DITCH #1  
(SEE DETAIL SHEET 14)

COLLECTION DITCH #1  
(SEE DETAIL SHEET 14)

PHL10AHS  
PHL10BHS  
PHL10CHS  
PHL10DHS  
PHL10EHS  
PHL10FHS

2' HIGH BERM  
(SEE DETAIL SHEET 14)

COLLECTION DITCH #2  
(SEE DETAIL SHEET 14)

RIPRAP APRON  
(SEE DETAIL SHEET 13)  
D50 = R-4  
L = 12'  
W = 16.5'  
T = 18"

COLLECTION DITCH #3  
(SEE DETAIL SHEET 14)

**RESTORATION NOTES:**  
SCARIFY, SPREAD TOPSOIL, SEED & MULCH DRILLING PAD WHEN DRILLING OPERATIONS HAVE BEEN COMPLETED.  
POST CONSTRUCTION STORMWATER MANAGEMENT BMPs HAVE BEEN SIZED TO HANDLE ANY ADDITIONAL POST CONSTRUCTION STORMWATER FROM THE 2-YEAR 24-HOUR STORM.

**REFERENCE:**  
TOPOGRAPHIC INFORMATION OBTAINED FROM BLUE MOUNTAIN ENGINEERING  
DATUM: NAD 27 WVN  
RECEIVING STREAMS: TAYLORS DRAIN  
LIMITS OF DISTURBANCE = 17.1 ACRES

**NOTES:**  
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UTILIZE EXISTING SILT SOCKS AND REPLACE WHEN NECESSARY.

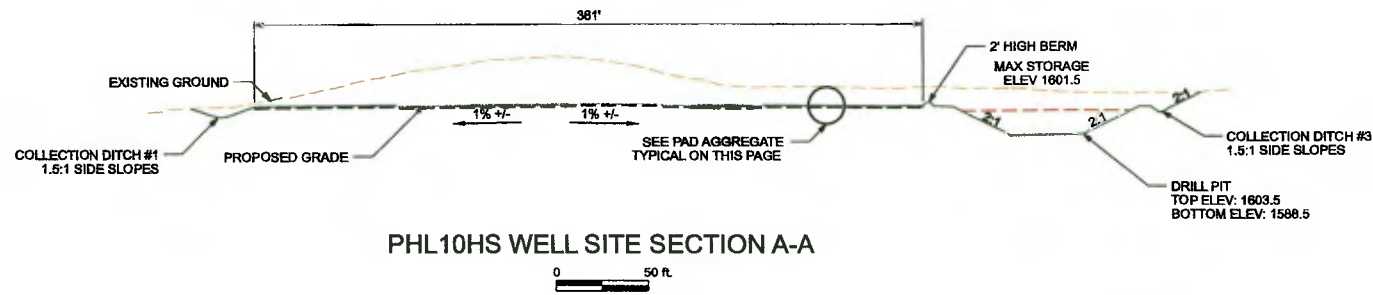
BRYAN D. MORRIS  
REGISTERED  
17733  
STATE OF  
WEST VIRGINIA  
PROFESSIONAL ENGINEER  
2/23/12

**LEGEND**

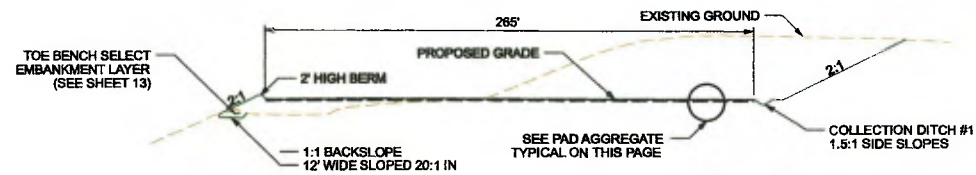
- BERM
- PROPOSED FENCE
- PROPERTY LINE
- EXISTING FENCE
- FILL LIMITS
- CUT LIMITS
- LIMITS OF DISTURBANCE
- ROADWAY CENTERLINE
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- CHANNEL FLOW DIRECTION
- STREAM
- COMPOST FILTER SOCK
- UTILITY POLE
- EXISTING SPOT ELEVATION

SCALE: 0 50 ft.

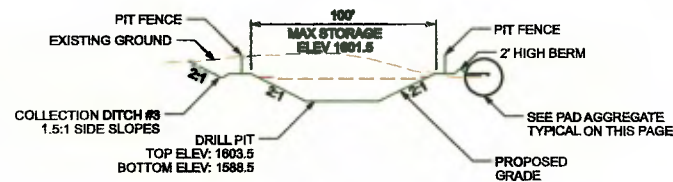
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Date				
No.				
JSD Drawn				
BCM Checked				
JSD Approved				
1"=100' Scale				
02/23/2012 Date				
1129008 Project No.				
Sheet				
Project				
Restoration Plan				
PHL10HS WELL SITE				
CNX GAS COMPANY LLC.				
Diefenbach & Hritz				
Morgantown, WV				
Drawing No.				10



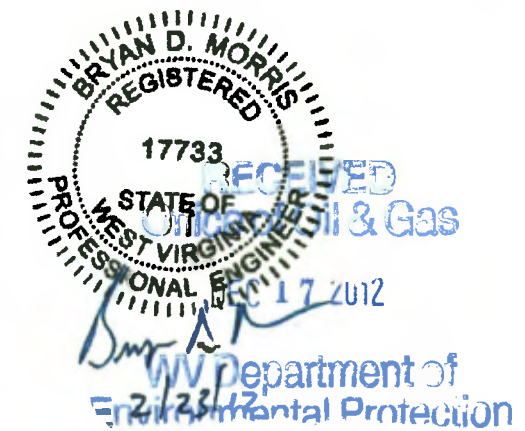
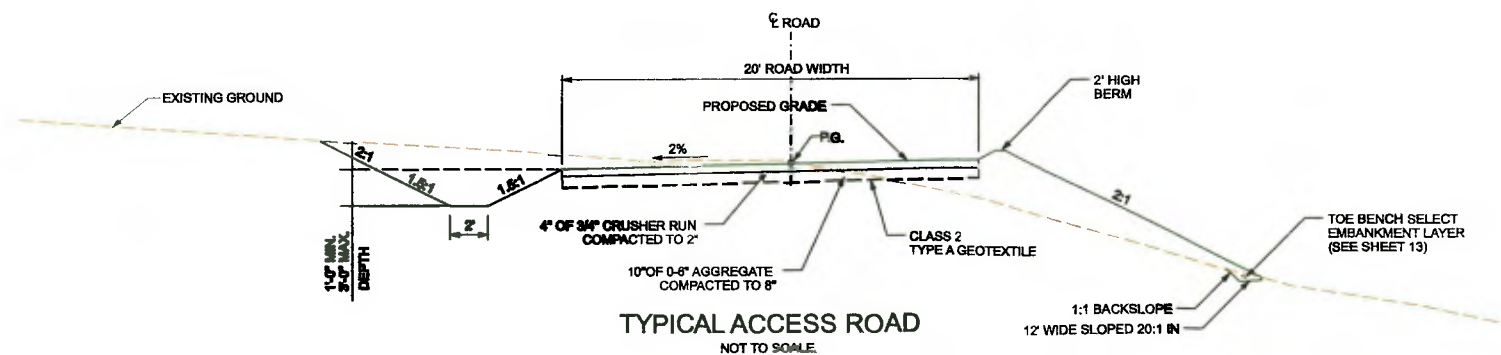
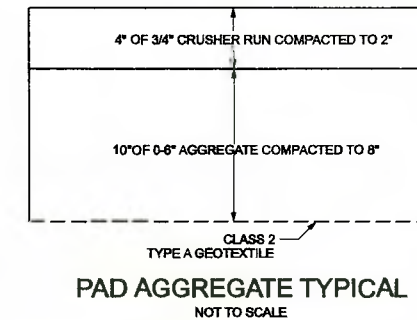
PHL10HS WELL SITE SECTION A-A



PHL10HS WELL SITE SECTION B-B



DRILL PIT SECTION C-C



Author	
Check	
Scale	1"=100'
Date	02/22/2012
Project No.	1129006
Company	CNX GAS COMPANY LLC.
Project	PHL10HS WELL SITE
Sheet	11

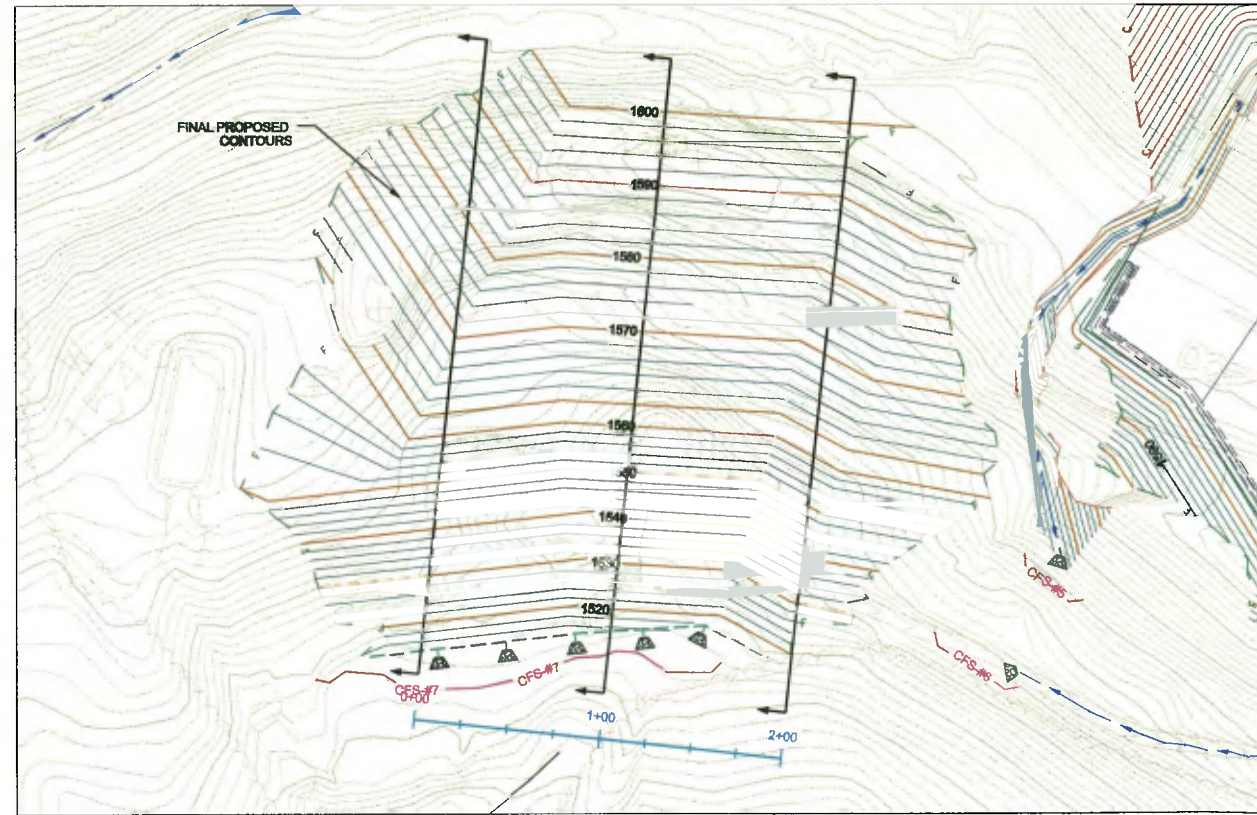
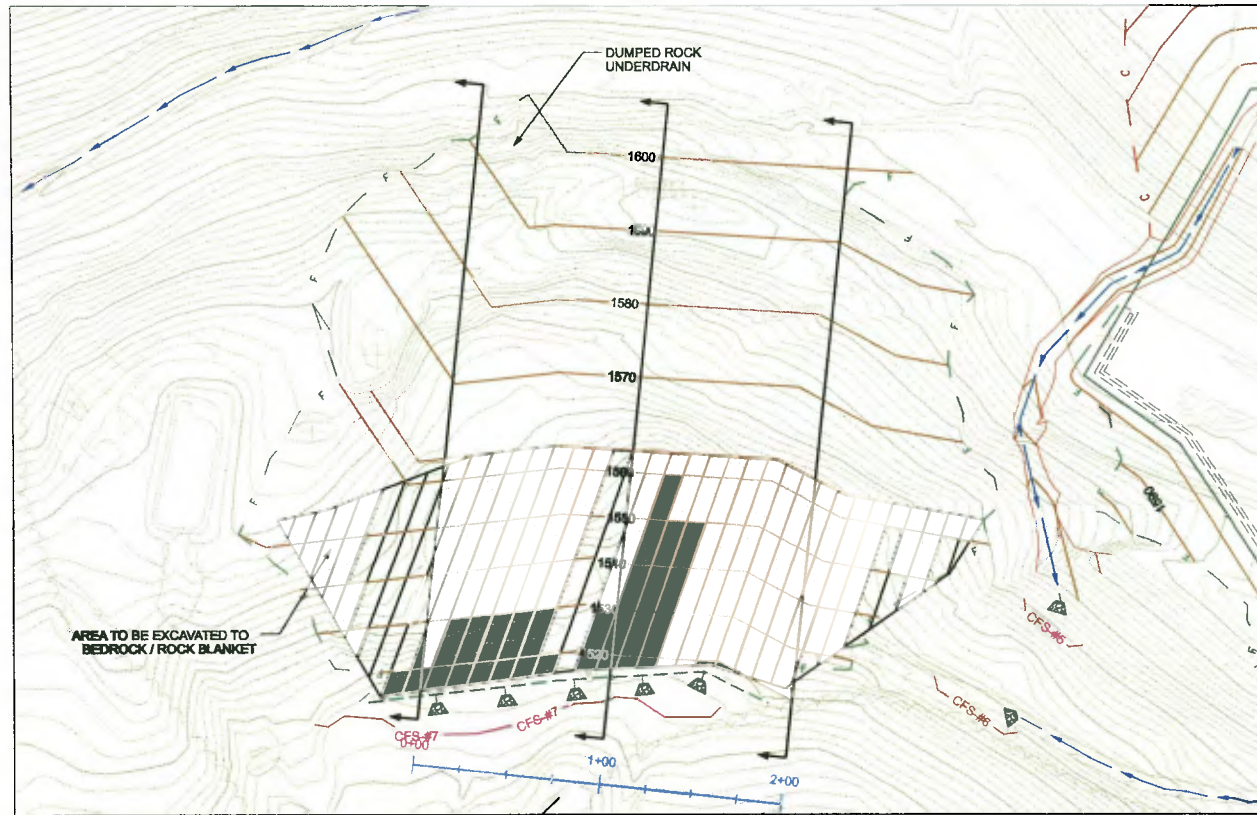
Diessenbauch & Hritz  
Morgantown, WV

CNX GAS COMPANY LLC.

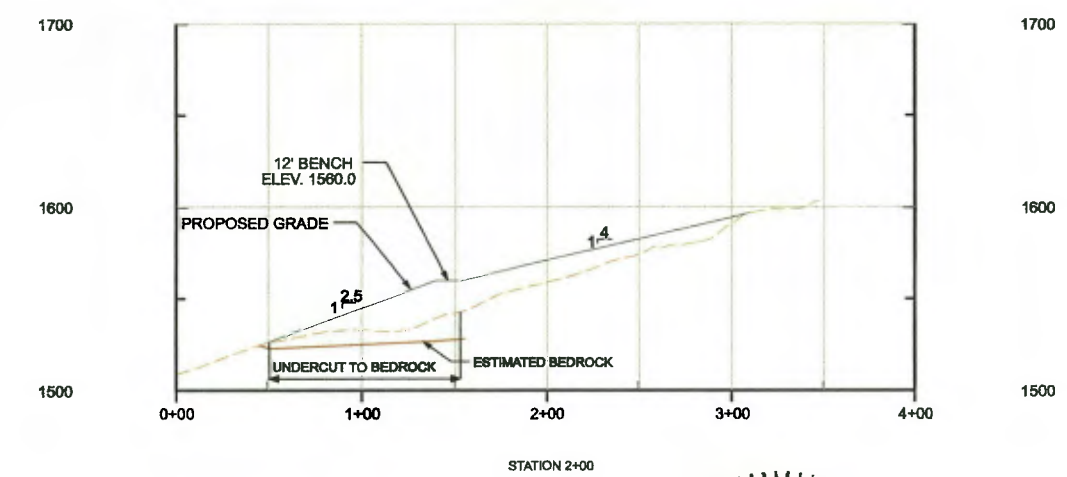
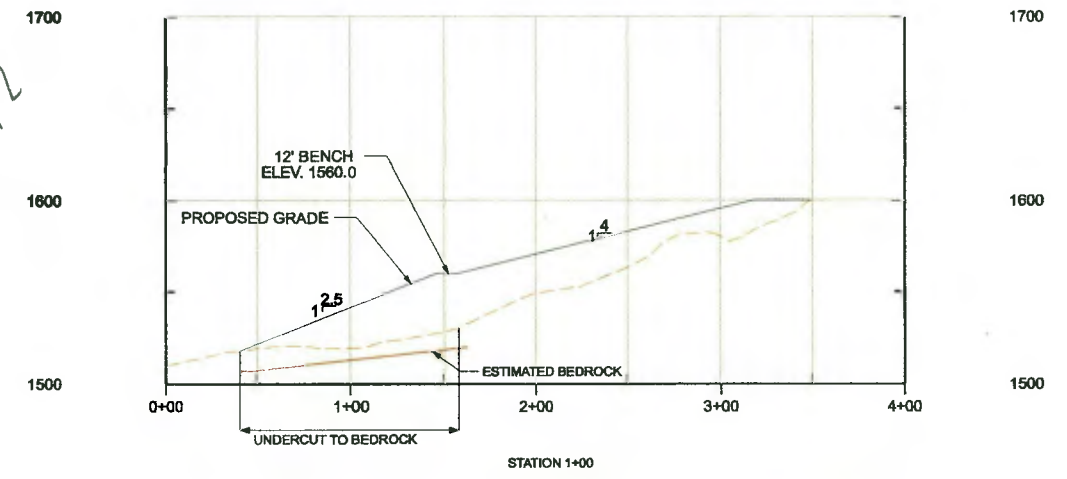
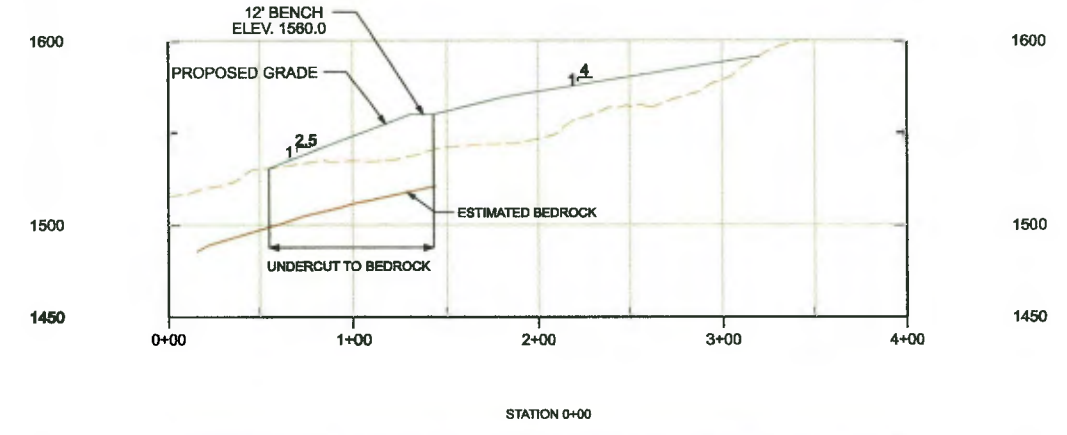
PHL10HS WELL SITE

TYPICAL SECTIONS

11  
Drawing No.



JMC  
12-4-12



BRYAN D. MORRIS  
REGISTERED  
17733  
STATE OF WEST VIRGINIA  
PROFESSIONAL ENGINEER

*Bryan D. Morris*  
2/23/12

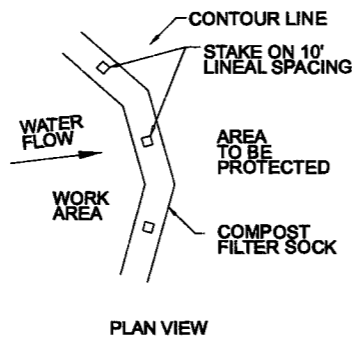
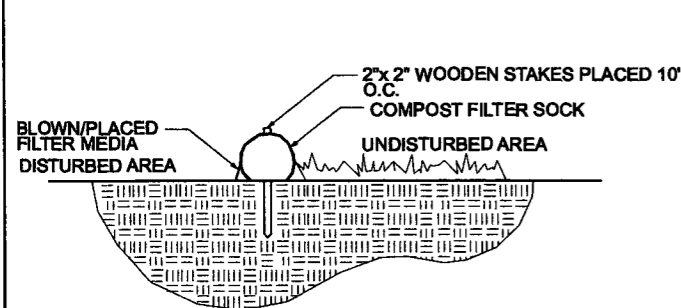
RECEIVED  
Office of Oil & Gas

DEC 17 2012

WV Department of Environmental Protection

SCALE: 0 50 ft.

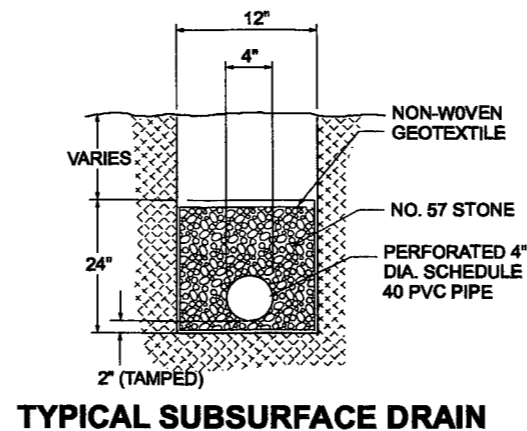
Revision	
Date	
Drawn	JMO
Checked	BCM
Approved	JMO
Scale	1"=100'
Date	02/23/2012
Project No.	1129006
Company	Dieffenbauch & Hritz Martinsburg, WV
Client	CNX GAS COMPANY LLC.
Project	PHILLOHS WELL SITE
Sheet	SLIP CROSS SECTIONS
Drawing No.	12



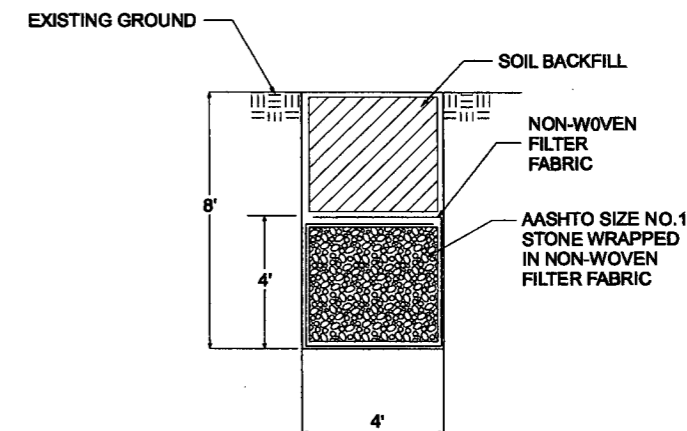
**COMPOST FILTER SOCK DETAIL**  
SEE COMPOST FILTER SOCK SIZE CHART

SOCK #	SIZE (IN)	% SLOPE	ACTUAL SLOPE LENGTH (FT)	MAX SLOPE LENGTH (FT)	CFS LENGTH (FT)	LOCATION
CFS-1	18	29	62	80	123	RIPRAP APRON
CFS-2	24	29	98	100	111	EXCESS STOCKPILE
CFS-3	24	25.8	84	110	65	EXCESS STOCKPILE
CFS-4	24	25	130	140	141	EXCESS STOCKPILE
CFS-5	32	50	60	60	46	RIPRAP APRON
CFS-6	18	36	60	60	59	RIPRAP APRON
CFS-7	24	26	140	140	233	SLIP FACE

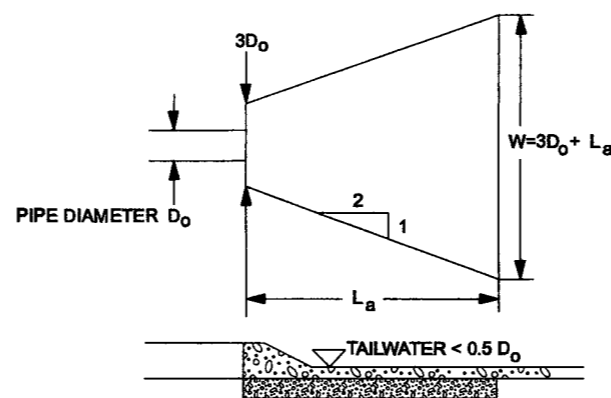
NOTE: SLOPE LENGTH MEASURED FROM FURTHEST POINT OF CONTRIBUTING DRAINAGE AREA UTILIZE EXISTING SILT SOCK AND REPLACE IF NEEDED.



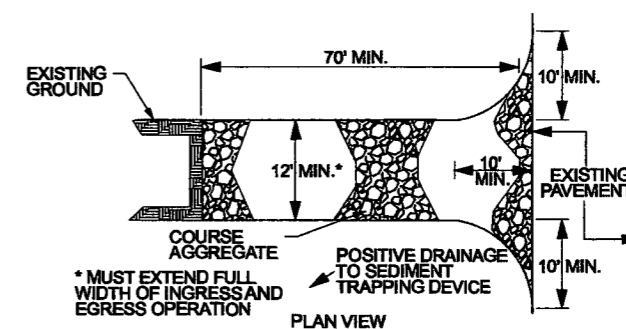
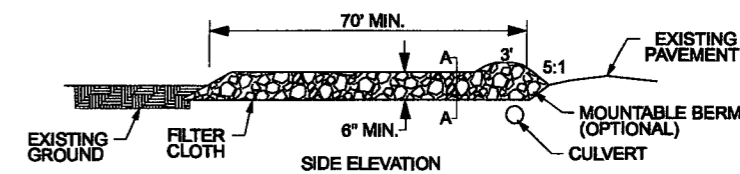
**TYPICAL SUBSURFACE DRAIN**



**DUMPED ROCK UNDERDRAIN**

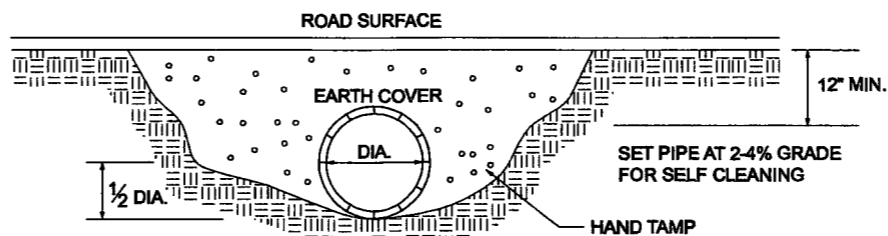


**RIP RAP APRON OUTLET PROTECTION**  
MINIMUM TAILWATER CONDITION

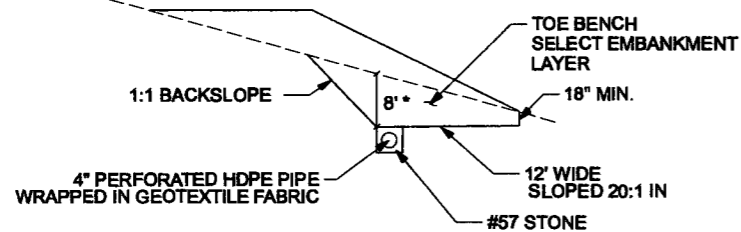


**STONE CONSTRUCTION ENTRANCE**

**COMPOST FILTER SOCK SIZE CHART**

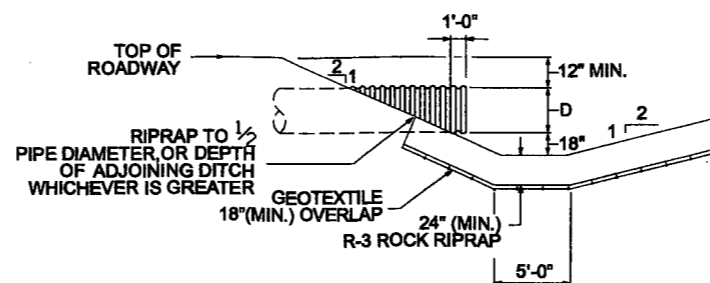


**TYPICAL CROSS DRAIN CULVERT**



\* EXCAVATE BENCH A MINIMUM OF 8\"/>

**TOE BENCH WITH DRAIN**



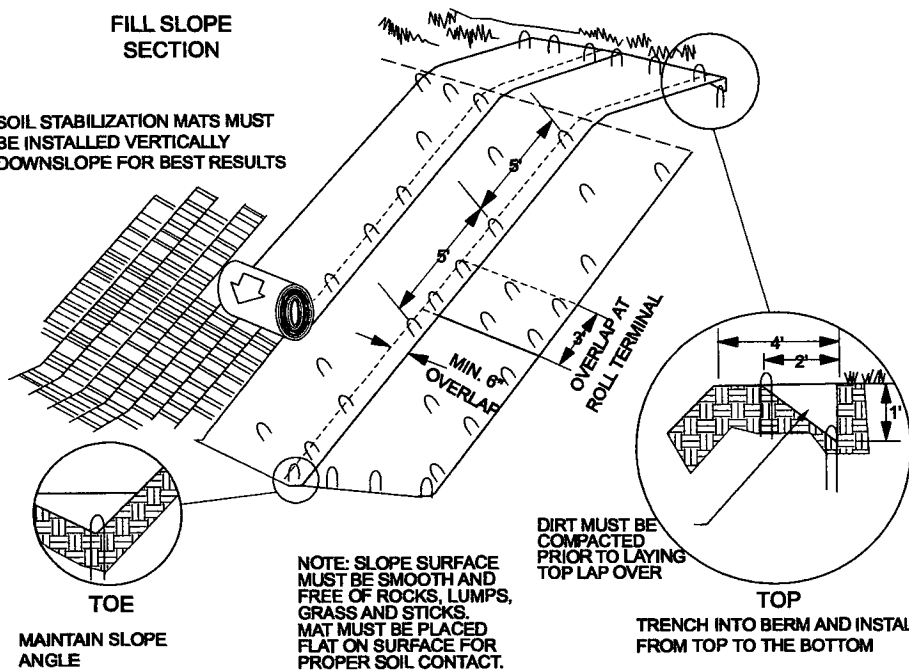
**PIPE INLET TYPICAL**

BRYAN D. MORRIS  
REGISTERED PROFESSIONAL ENGINEER  
Office of 733 & Gas  
STATE OF WEST VIRGINIA  
WV Department of Environmental Protection  
2/23/12

Revision  
Date  
No.  
JGD  
Dunn  
BDM  
Checked  
JND  
Approved  
N.T.S.  
Scale  
02/23/2012  
1129008  
Project No.  
Dieffenbach & Hritz  
Margaret, WV  
GNX GAS COMPANY LLC.  
PHL10HS WELL SITE  
E&S DETAIL SHEET  
13

**FILL SLOPE SECTION**

SOIL STABILIZATION MATS MUST BE INSTALLED VERTICALLY DOWNSLOPE FOR BEST RESULTS

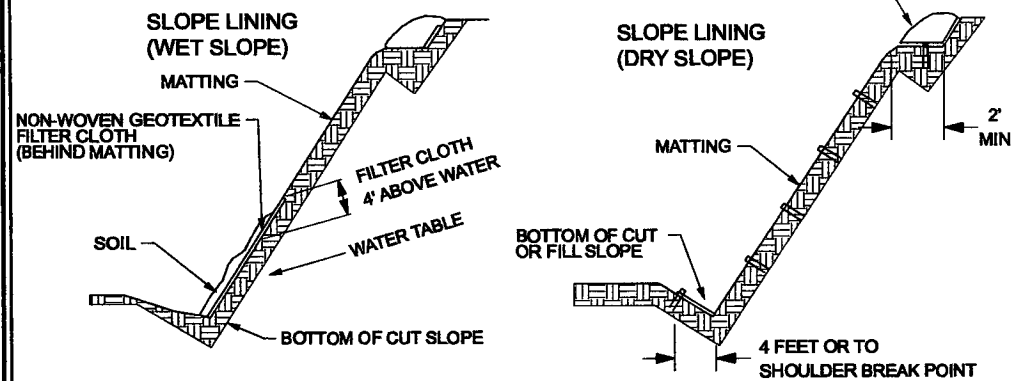


**RIPRAP GRADATION, FILTER BLANKET REQUIREMENTS, MAXIMUM VELOCITIES**

CLASS SIZE NO.	PERCENT PASSING (SQUARE OPENINGS)					
	R-8	R-7	R-6	R-5	R-4	R-3
42	100					
30		100				
24	15-50		100			
16		15-50		100		
15	0-15		15-50			
12		0-15		15-50	100	
9			0-15			
6				0-15	15-50	100
4					0-15	15-50
3						0-15
2						0-15
NOMINAL PLACEMENT THICKNESS (INCHES)	63	45	36	27	16	9
FILTER STONE	AASHTO #1	AASHTO #1	AASHTO #1	AASHTO #3	AASHTO #3	AASHTO #57
V <sub>max</sub> (ft/sec)	17.0	14.5	13.0	11.5	9.0	6.5

**COMPARISON OF VARIOUS GRADATIONS OF COARSE AGGREGATES  
TOTAL PERCENT PASSING**

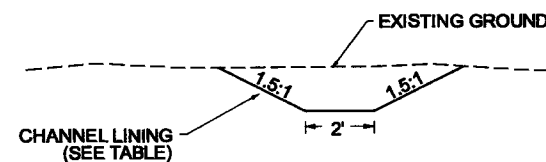
AASHTO NUMBER	6 1/2"	4"	3 1/2"	2 1/2"	2"	1 1/2"	3/4"	1/2"	3/6"	#4	#8	#16	#30	#100
1		100	90-100	25-60			0-5							
3				100	90-100	0-15		0-5						
5						90-100	20-55	0-10	0-5					
57						90-100		25-60		0-10	0-5			
67						100	90-100		20-55	0-10	0-5			
7							100	90-100	40-70	0-15	0-5			
6								100	85-100	10-30	0-10	0-5		
10									100	75-100				10-30



**ROLLED EROSION CONTROL PRODUCTS**

**NOTES:**

1. LOCATION AND EXTENT OF THE STRUCTURES ON THESE SHEETS MAY VARY DEPENDING ON ACTUAL FIELD CONDITIONS.
2. IN AREAS WHERE THE DEPTH TO BEDROCK IS SHALLOW, IT MAY BE MORE ECONOMICAL TO CONSTRUCT THE DITCHES BY EXCAVATING INTO BEDROCK. THE DITCHES SHALL BE OF SUFFICIENT CAPACITY TO CONVEY THE ESTIMATED DISCHARGE RATES. WHERE ROCK RIPRAP PROTECTION IS REQUIRED IN DITCHES BECAUSE OF HIGH FLOW VELOCITY, THE RIPRAP MUST ADHERE TO THE CONTRACT ITEM SPECIFICATION REQUIREMENTS.
3. USE TRAPEZOIDAL BUCKET TO CONSTRUCT DITCHES.

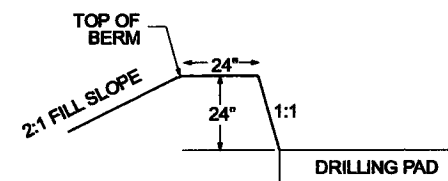


**DITCH TYPICAL**

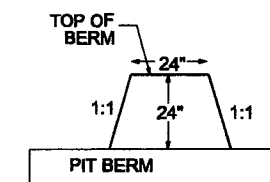
ITEM	CHANNEL LENGTH (FT)	MIN. CHANNEL DEPTH, D (FT)	MINIMUM FREEBOARD	BOTTOM WIDTH (FT)	TYPE OF CHANNEL	PEAK DESIGN FLOW, (CFS)	DESIGN SLOPE, (%)	FLOW DEPTH, (FT)	VELOCITY (FT/S)	SHEAR (LB/SF)	CHANNEL LINING	PLACEMENT THICKNESS (FT)
COLLECTION DITCH #1	372	1	0.5	2.0	TRAPEZOIDAL	4.61	2.0	0.46	3.50	n/a	DITCH FABRIC	n/a
COLLECTION DITCH #2	56	2.5	0.5	2.0	TRAPEZOIDAL	0.55	2.0	0.14	1.76	n/a	DITCH FABRIC	n/a
COLLECTION DITCH #3	259	1.1	0.5	2.0	TRAPEZOIDAL	3.67	1.0	0.52	2.56	n/a	DITCH FABRIC	n/a
DIVERSION DITCH #1	236	1	0.5	2.0	TRAPEZOIDAL	4.73	20	0.26	7.80	0*	R-4	1.5

\* SHEAR STRESS CALCULATED ASSUMING 40% VOID SPACE IN RIPRAP.

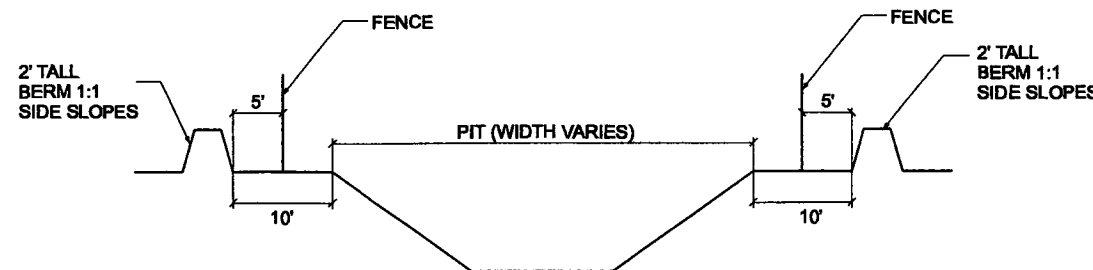
**DITCH DESIGN PARAMETERS**



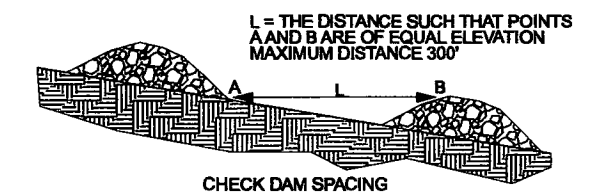
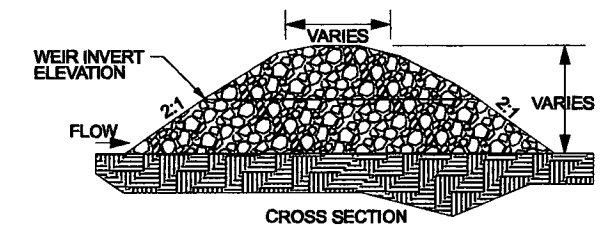
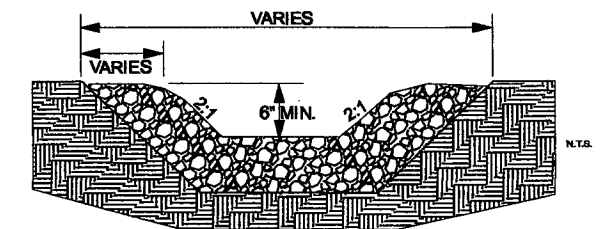
**DRILLING PAD BERM DETAIL**



**PIT BERM DETAIL**



**FENCE & BERM DETAIL FOR PITS**



**ROCK CHECK DAM**

BRYAN D. MORRIS  
REGISTERED PROFESSIONAL ENGINEER  
17733  
STATE OF WEST VIRGINIA  
2012  
Office of Oil & Gas  
Department of Environmental Protection



DRILLING PAD QUANTITY SUMMARY

DESCRIPTION	UNITS	QUANTITY
1.) COMPOST FILTER SOCK		
1a.) 18"	LF	182
1b.) 24"	LF	550
1c.) 32"	LF	46
2.) AGGREGATE SURFACING		
2a.) PAD 10" OF 0"-6" AGGREGATE (COMPACTED TO 8")	TONS	5,524
2b.) PAD 4" OF 3/4" CRUSHER RUN ( COMPCTED TO 2")	TONS	2,210
2c.) ACCESS ROAD 10" OF 0"-6" AGGREGATE (COMPACTED TO 8")	TONS	150
2d) ACCESS ROAD 4" OF 3/4" CRUSHER RUN ( COMPCTED TO 2")	TONS	60
2e.) GEOTEXTILE	SY	10,212
3.) PIT LINER 30 MIL		
3a.) RESERVE PIT (100'x100'x15' DEEP)	SY	1,988
4.) SLOPE MATTING	SY	7,011
5.) SEED & MULCH	AC	17
6.) DITCH LINING		
6a.) DITCH FABRIC	SY	486
6a.) R-4	TONS	148
7.) EXCAVATION		
7a.) PAD & PITS (CUT W/ NO SWELL)	CY	56,960
7b.) ROADS (CUT W/ NO SWELL)	CY	15
8.) DITCH LENGTH	LF	925
9.) RIPRAP APRONS	EA	3
10.) KEYWAY EXCAVATION (TOE LENGTH X 12' WIDTH X 8' DEPTH)	CY	8,825
11.) TOE DRAIN	LF	2,482
12.) PIT FENCE	LF	432

SLIP STABILIZATION QUANTITY SUMMARY

DESCRIPTION	UNITS	QUANTITY
7.) EXCAVATION		
7a.) EXCAVATION TO BEDROCK (CUT W/ NO SWELL)	CY	23,032
2.) SLOPE MATTING	SY	11,865
3.) DUMPED ROCK UNDERDRAIN		
3a.) NON-WOVEN FILTER FABRIC	SY	1,584
3b.) AASHTO SIZE NO.1	TONS	1,056
4.) DUMPED ROCK UNDERDRAIN LENGTH	LF	891
5.) 12 " UNDERDRAIN	LF	221
6.) RIPRAP APRONS	EA	5
7.) ROCK BLANKET		
7a.) NON-WOVEN FILTER FABRIC	SY	4,281
7b.) AASHTO SIZE NO.1	TONS	5,335
8.) SEED & MULCH	AC	2.5

RECEIVED  
 PHIL 10HS WELL SITE  
 CNX GAS COMPANY LLC.  
 DECEMBER 17 2012  
 WV Department of Environmental Protection

Revision: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 No. \_\_\_\_\_  
 JSD Drawn \_\_\_\_\_  
 BDM Checked \_\_\_\_\_  
 JTD Approved \_\_\_\_\_  
 NA Scale \_\_\_\_\_  
 02/22/2012 Date \_\_\_\_\_  
 1128008 Project No. \_\_\_\_\_  
 Dielffenbauch & Hritz  
 Morgantown, WV  
 CNX GAS COMPANY LLC.  
 PHIL 10HS WELL SITE  
 QUANTITY SUMMARY  
 on 15

1-03291

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that -

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
-----------------------	-----------------------	---------	-----------

See Attached

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: CNX Gas Company, LLC  
 By: Kent Wright *[Signature]*  
 Its: Designated Agent - Vice President, WV Operations

**RECEIVED  
Office of Oil & Gas**

DEC 17 2012

**WV Department of  
Environmental Protection**

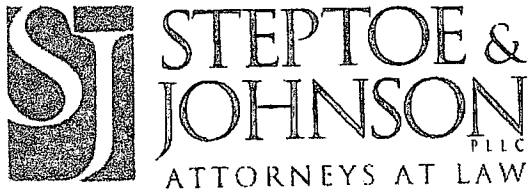
Attachment - Form WW-6A1 for PHL10FHS:

<u>Lease</u>	<u>Grantor, Lessor, etc</u>	<u>Grantee, Lessee, etc</u>	<u>Royalty</u>	<u>Book/Page</u>
070640	A.L and Lula B. Proudfoot Hope Natural Gas Company Consolidated Gas Supply Corp. Consolidated Gas Transmissino Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company	Hope Natural Gas Company Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	43/353 WV Secretary of State-53/261 99/481 51/795(Harrison County) 58/362(Harrison County) 151/423 16/577 17/1
DV014572	I.C. Proudfoot Consolidated Gas Supply Corp. Consolidated Gas Transmissino Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company	Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	68/88 99/481 51/795(Harrison County) 58/362(Harrison County) 151/423 16/577 17/1
070639	A. Romain Consolidated Gas Supply Corp. Consolidated Gas Transmissino Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company	Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	69 / 87 99/481 51/795(Harrison County) 58/362(Harrison County) 151/423 16/577 17/1
DV000046	Hillman Coal & Coke Co. / Tygart Resources, Inc. CNG Development Company CNG Producing Company Dominion Exploration & Production, Inc. Consol Gas Company	CNG Development Company CNG Producing Company Dominion Exploration & Production, Inc. Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	100 / 1 124 / 167 59 / 366 16 / 567 17/1
DV014524	Hugh R. Mitchell / G. Wilson Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company	Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	68/351 99/481 51/795(Harrison County) 58/362(Harrison County) 151/423 16/577 17/1
070638	J. L. McBee et ux Hope Natural Gas Company Consolidated Gas Supply Corp. Consolidated Gas Transmissino Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company	Hope Natural Gas Company Consolidated Gas Supply Corp. Consolidated Gas Transmission Corp. CNG Transmission Corp Dominion Transmission, Inc. Consol Energy Holdings, LLC, XVI Consol Gas Company CNX Gas Company LLC	1/8 Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change Merger/Name Change	43/357 WV Secretary of State-53/261 99/481 51/795(Harrison County) 58/362(Harrison County) 151/423 16/577 17/1

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Office of Oil & Gas

DEC 17 2012

WV Department of  
Environmental Protection



400 White Oaks Boulevard  
Bridgeport, WV 26330  
(304) 933-8000 (304) 933-8183 Fax  
www.step-toe-johnson.com

Writer's Contact Information

1-03291

April 29, 2011

West Virginia Department of Oil & Gas  
Attention: Gene Smith, Regulatory Compliance Mgr.  
602 57<sup>th</sup> Street SE  
Charleston, WV 25304

Re: Well No.: PHIL10 A, B, C, D, EHS  
AFE Order # 612805  
Consol Agreement No.: None  
S&J File No.: 185223.00030  
Lease No.: DV000046 - Hillman Coal & Coke Co.  
(Now owned by Tygart Resources, Inc.)  
26.35 Acres Oil and Gas  
Pleasant District, Barbour County, West Virginia  
Tax Map 15, part of Parcel 35 (Surface Designation)

Gentlemen:

Pursuant to your request, I hereby provide this additional certification to that certain title opinion dated January 20, 2011 covering the above referenced tract or parcel of land, therefore:

I hereby certify to you that, in our opinion, subject to the correctness of the indices and to anything which may be disclosed by an accurate survey and inspection of the Subject Property, as of the 8<sup>th</sup> day of August, 2010, record title to the Subject Property, Lease Number DV000046, including, unless otherwise specifically set forth in the title opinion, the oil and gas along with all operational rights within and underlying any and all public streets, roadways and highways overlying the Subject Property, is vested in TYGART RESOURCES, Inc., a Pennsylvania corporation, subject to the leasehold estate in the oil and gas vested in Consol Gas Company, subject to the qualifications and limitations contained in that certain title opinion dated August 9, 2010.

Very truly yours,

STEPTOE & JOHNSON PLLC

By: Robert Andre, III  
Robert Andre, III, Of Counsel

RECEIVED  
Office of Oil & Gas  
DEC 17 2012  
WV Department of  
Environmental Protection

cc: Chad Griffith, Esquire  
Title Supervisor – WV Gas Ops./Attorney  
CONSOL Gas, Inc.  
P. O. Box 1248  
Jane Lew, WV 26378-1248

WW-PN  
(5-04-2012)

1-03291

### Horizontal Natural Gas Well Work Permit Application Notice By Publication

**Notice is hereby given:**

Pursuant to West Virginia Code 22-6A-10(e) prior to filing an application for a permit for a horizontal well the applicant shall publish in the county in which the well is located or is proposed to be located a Class II legal advertisement.

**Paper:** The Barbour Democrat

**Public Notice Date:** 09/24/2012

The following applicant intends to apply for a horizontal natural well work permit which disturbs three acres or more of surface excluding pipelines, gathering lines and roads or utilizes more than two hundred ten thousand gallons of water in any thirty day period.

**Applicant:** CNX Gas Company, LLC **Well Number:** PHL10AHS, PHL10BHS, PHL10CHS, PHL10DHS, PHL10EHS, PHL10FHS

**Address:** P.O. Box 1248 Jane Lew, WV 26378

**Business Conducted:** Natural gas production.

**Location –**

State:	<u>West Virginia</u>	County:	<u>Barbour</u>
District:	<u>Pleasant</u>	Quadrangle:	<u>Philippi</u>
UTM Coordinate NAD83 Northing:	<u>583,170,.43m, 583,177.92m, 583,185.42m, 583,181.67m, 583,174.17m, 583,166.68m</u>		
UTM coordinate NAD83 Easting:	<u>4,340,931.12m, 4,340,921.51m, 4340,911.91m, 4,340,916.71m, 4,340,926.32m, 4,340,935.93m</u>		
Watershed:	<u>Taylor Drain</u>		

**Coordinate Conversion:**

To convert the coordinates above into longitude and latitude, visit: [http://tagis.dep.wv.gov/convert/llutm\\_conus.php](http://tagis.dep.wv.gov/convert/llutm_conus.php)

**Electronic notification:**

To receive an email when applications have been received or issued by the Office of Oil and Gas, visit <http://www.dep.wv.gov/insidedep/Pages/DEPMailingLists.aspx> to sign up.

**Reviewing Applications:**

Copies of the proposed permit application may be reviewed at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE Charleston, WV 25304 (304-926-0450). Full copies or scans of the proposed permit application will cost \$15, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to [DEP.oog@wv.gov](mailto:DEP.oog@wv.gov).

**Submitting Comments:**

Comments may be submitted online at <https://apps.dep.wv.gov/oog/comments/comments.cfm> or by letter to Permit Review, Office of Oil and Gas, 601 57<sup>th</sup> Street, SE Charleston, WV 25304. Please reference the county, well number, and operator when using this option.

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas.

For information related to horizontal drilling visit: [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx)

Office of Oil and Gas  
DEC 17 2012  
WV Department of Environmental Protection

OFFICE OF THE BARBOUR DEMOCRAT

1-03291

I, John Eric Cutright, Publisher of The BARBOUR DEMOCRAT, a weekly newspaper published in the City of Philippi, County of Barbour, and State of West Virginia, do certify that the annexed:

LEGAL NOTICE

was duly printed in said paper two consecutive weeks commencing on Wednesday, the 26<sup>TH</sup> day of September, 2012.

Given under my hand at Philippi, West Virginia, this 3<sup>RD</sup> day of October, 2012.

[Signature] \_\_\_\_\_, Publisher \_\_\_\_\_

Printer's Fee.....\$213.68

STATE OF WEST VIRGINIA  
COUNTY OF BARBOUR; to wit

Sworn to and subscribed before me this 3<sup>RD</sup> day of October, 2012.

[Signature]

NOTARY PUBLIC

My Commission Expires \_\_\_\_\_

For information related to horizontal drilling visit: [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx)

Regardless of format for comment submissions, they must be received no later than thirty days after the permit application is received by the Office of Oil and Gas. Comments may be submitted online at <https://apps.dep.wv.gov/ocg/comments/comments.cfm>, or by letter to Permit Review, Office of Oil and Gas, 501 57th Street, SE Charleston, WV 25304. Please reference the county, well number and operator when using this option.

Submitting Comments: Reviewing Applications: Copies of the proposed permit application will cost \$115, whether mailed or obtained at DEP headquarters. Copies may be requested by calling the office or by sending an email to [DEP.009@wv.gov](mailto:DEP.009@wv.gov).

Electronic notification: To receive an email when applications have been received or resubmitted by the Office of Oil and Gas, visit <http://www.dep.wv.gov/instantdep/Pages/DEPWaitingList.aspx> to sign up.

Coordinate Conversion: To convert the coordinates above into longitude and latitude, visit: <http://legis.dep.wv.gov/conver/ll.htm>.

UTM Coordinates: NAD83 Northing: 583,170,43m; 583,177,92m; 583,185,42m; 583,181,57m; 583,174,17m; 583,166,68m

UTM Coordinates: NAD83 Easting: 4,340,931.12m; 4,340,921.51m; 4,340,911.91m; 4,340,916.71m; 4,340,928.32m; 4,340,935.93m

Watershed: Taylor Drain

Location - State: West Virginia; County: Barbour

District: Pleasant; Quadrangle: Philippi

Address: PO Box 1248

Applicant: CNX Gas Company, LLC

Well Number: PH110AHS, PH108H, SPH110CHS, PH110DHS, PH110EHS, PH110FHS

Business Conducted: Natural gas production.

Public Notice Date: 9/24/2012

Paper: The Barbour Democrat

RECEIVED  
Office of Oil & Gas  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
Horizontal Natural Gas Well Work Permit Application Notice By Publication

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE CERTIFICATION**

Date of Notice Certification: 09/27/2012

API No. 47- 001 - 03291  
Operator's Well No. PHL10FHS  
Well Pad Name: Philippi 10

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>583,166.68m</u>
County:	<u>Barbour</u>	Northing:	<u>4,340,935.93m</u>
District:	<u>Pleasant</u>	Public Road Access:	<u>CR 6, CR 6/5, and CR22</u>
Quadrangle:	<u>Philippi</u>	Generally used farm name:	<u>Proudfoot / Watson</u>
Watershed:	<u>Taylor Drain</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

- \*PLEASE CHECK ALL THAT APPLY
- 1. NOTICE OF SEISMIC ACTIVITY or  NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
  - 2. NOTICE OF ENTRY FOR PLAT SURVEY or  NO PLAT SURVEY WAS CONDUCTED
  - 3. NOTICE OF INTENT TO DRILL or  NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or  WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
  - 4. NOTICE OF PLANNED OPERATION
  - 5. PUBLIC NOTICE
  - 6. NOTICE OF APPLICATION

**OOG OFFICE USE ONLY**

RECEIVED/  
NOT REQUIRED

RECEIVED

RECEIVED/  
NOT REQUIRED

RECEIVED

RECEIVED

RECEIVED

**Required Attachments:**

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

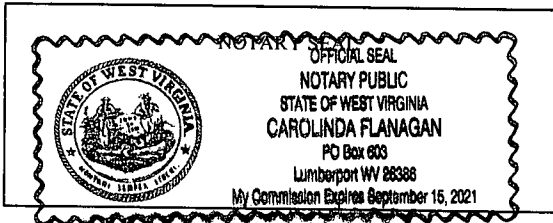
**RECEIVED**  
**Office of Oil & Gas**  
**DEPT. OF ENVIRONMENTAL PROTECTION**  
**WV Department of Environmental Protection**

**Certification of Notice is hereby given:**

THEREFORE, I Amanda Langford, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: CNX Gas Company, LLC  
By: Kent Wright  
Its: Designated Agent - Vice President, WV Operations  
Telephone: 304-884-2009 Amanda Langford

Address: P.O. Box 1248, Jane Lew, WV 26378  
Facsimile: 304-884-2245  
Email: amandalangford@consolenergy.com



Subscribed and sworn before me this 26<sup>TH</sup> day of OCT 2012.  
Carolinda Flanagan Notary Public  
My Commission Expires 9/15/2021

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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WV Department of  
Environmental Protection



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF APPLICATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 09/21/2012 **Date Permit Application Filed:** \_\_\_\_\_  
and 9/24/12

**Notice of:**

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b), no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner.

**Notice is hereby provided to:**

SURFACE OWNER(s)  
 Name: Mary Lou Watson  
 Address: 710 Mill Dam Road  
Towson, MD 21286  
 Name: Ronald Earl Cate %Mary Lou Watson  
 Address: 1772 Blue Ridge Church Road  
West Jefferson, NC 28694

SURFACE OWNER(s) (Road and/or Other Disturbance)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments/Pits)  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: CoalQuest Development, LLC %ICG LLC  
 Address: 300 Corporate Center Drive  
Scott Depot, WV 25560

COAL OPERATOR  
 Name: None of Declaration  
 Address: \_\_\_\_\_

WATER PURVEYOR(s)  
 Name: See Attached List  
 Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS FIELD  
 Name: None of Declaration  
 Address: \_\_\_\_\_

**RECEIVED**  
**Office of Oil & Gas**  
**DEC 17 2012**  
**WV Department of Environmental Protection**

\*Please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall also include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments.

**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No wellpad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such

factors, if necessary.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

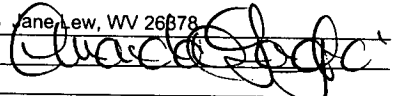
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Office of Oil & Gas  
DEPT. OF ENVIRONMENTAL PROTECTION  
WV Department of Environmental Protection

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

**Notice is hereby given by:**

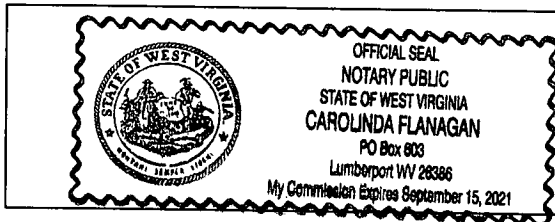
Well Operator: CNX Gas Company, LLC  
Telephone: 304-884-2009 Amanda Langford  
Email: amandalangford@consolenergy.com

Address: P.O. Box 1248 Jane Lew, WV 26878  
Facsimile: 304-884-2245



**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).



Subscribed and sworn before me this 26<sup>TH</sup> day of OCT, 2012.  
Carolinda Flanagan Notary Public  
My Commission Expires 9/15/2021

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Environmental Protection

## LAND SURVEYING SERVICES

Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
 Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
 P. O. Box 1248  
 Jane Lew, WV 26378

### WATER WELL REPORT

Project: PHL10  
 District: Pleasant  
 County: Barbour  
 State: WV

The following people may have water supplies within 2,000 feet of the above location:

/ Mary Lou Watson	710 Mill Dam Rd.	Towson, MD 21286
/Joyce Romain	Rt. 3, Box 188	Philippi, WV 26416
/Linda Proudfoot	107 Hall St.	Philippi, WV 26416
/Larry Wolfe	Rt. 3, Box 46	Philippi, WV 26416
/Jack Weaver	Rt. 3, Box 197E	Philippi, WV 26416
/Lester Chelli	Rt. 3, Box 202B	Philippi, WV 26416
/Midwest Energy, Inc.	12 Millbrook Rd.	Bridgeport, WV 26330
/Philippi Development, Inc.	2708 Cranberry Sq.	Morgantown, WV 26505
/Barton McCauley	1 Corelogic Dr. DFW 4-3	West Lake, TX 76262

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 Environmental Protection

1-03291

## LAND SURVEYING SERVICES

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Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
P. O. Box 1248  
Jane Lew, WV 26378

### WATER WELL REPORT

Project: PHL10  
District: Pleasant  
County: Barbour  
State: WV

The following people may have water supplies between 2,000 feet and 2,500 feet of the above location:

✓ Mrs. Chester Proudfoot  
✓ Robert McBee  
✓ Kevin Keene  
✓ Michael Kettlewell

15 Marilyn Rd.  
181 Beacon Dr. Ext.  
Rt. 3, Box 189A  
7861 Morningstar Dr., NE

Newark, DE 19713  
Weirton, WV 26062  
Philippi, WV 26416  
Louisville, OH 44641

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7011 3500 0000 5003 2373

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Return Receipt Fee (Endorsement Required)				
Restricted Delivery Fee (Endorsement Required)				
Total Postage & Fees	\$	6.40		

Sent To: Michael Kottlow  
 7861 Morningstar Drive NE  
 Louisville, OH 44641  
 Street, Apt. No., or PO Box No.: PHL10 - Notice of Application  
 City, State, ZIP+4: Water-Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

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 Environmental Protection

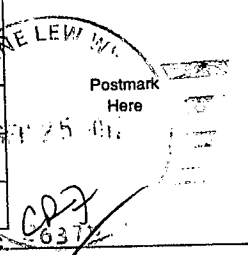
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Return Receipt Fee (Endorsement Required)	235
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Midwest Energy Inc.**  
12 Millbrook Road  
Bridgeport, WV 26330  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

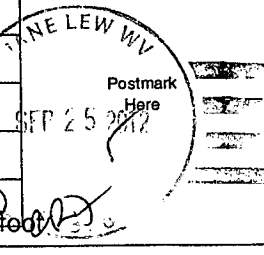
7011 3500 0000 5003 2342

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Certified Fee	295
Return Receipt Fee (Endorsement Required)	235
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Mrs. Chester Proudfoot**  
15 Marilyn Road  
Newark, DE 19713  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

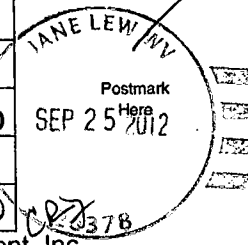
7011 3500 0000 5003 2304

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Certified Fee	295
Return Receipt Fee (Endorsement Required)	235
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Philippi Development, Inc.**  
2708 Cranberry Square  
Morgantown, WV 26505  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

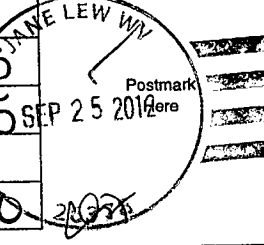
7011 3500 0000 5003 2359

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Certified Fee	295
Return Receipt Fee (Endorsement Required)	235
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Robert McBee**  
181 Beacon Drive Ext.  
Weirton, WV 26062  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

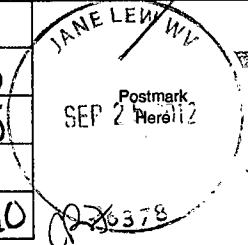
7011 3500 0000 5003 2335

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Certified Fee	295
Return Receipt Fee (Endorsement Required)	235
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Barton McCauley**  
1 Corelogic Drive DFW 4-3  
West Lake, TX 76262  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

PS Form 3800, August 2006 See Reverse for Instructions

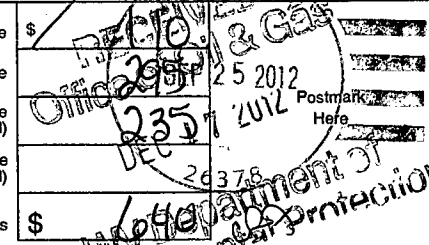
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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 640



Sent To: **Kevin Keene**  
Rt. 3 Box 189A  
Philippi, WV 26416  
Street, Apt. No.; or PO Box No. PHL10 - Notice of Application  
City, State, ZIP+4 Water Purveyor

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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 640	

Sent To: **Mary Lou Watson**  
 710 Mill Dam Road  
 Towson, MD 21286  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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151212 5005 0000 0000 005E T101

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Sent To: **Rt. 3 Box 46**  
 Philippi, WV 26416  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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18221 5005 0000 0000 005E T101

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Certified Fee	295	
Return Receipt Fee (Endorsement Required)	235	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 640	

Sent To: **Joyce Romain**  
 Rt. 3 Box 188  
 Philippi, WV 26416  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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2922 5005 0000 0000 005E T101

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Return Receipt Fee (Endorsement Required)	235	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 640	

Sent To: **Jack Weaver**  
 Rt. 3 Box 197E  
 Philippi, WV 26416  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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9622 5005 0000 0000 005E T101

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Certified Fee	295	
Return Receipt Fee (Endorsement Required)	235	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 640	

Sent To: **Linda Proudfoot**  
 107 Hall Street  
 Philippi, WV 26416  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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4224 5005 0000 0000 005E T101

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Return Receipt Fee (Endorsement Required)	235	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 640	

Sent To: **Lester J. & Marsha Ann Chelton**  
 Rt. 3 Box 292-B  
 Philippi, WV 26416  
 Street, Apt. No., or PO Box No.: PHL 10 - Notice of Application  
 City, State, ZIP+4: Water Purveyor

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9222 5005 0000 0000 005E T101

7011 3500 0000 5003 2120

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Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	
Sent To <b>Mary Lou Watson</b> <b>710 Mill Dam Road</b> Street, Apt. No.; or PO Box No. <b>Towson, MD 21286</b> <b>PHL10--Notice-of-Application</b> <b>Surface Owner</b> City, State, ZIP+4		

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7011 3500 0000 5003 2137

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Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.40	
Sent To <b>Ronald Earl Cate</b> <b>1772 Blue Ridge Church Road</b> Street, Apt. No.; or PO Box No. <b>West Jefferson, NC 28694</b> <b>PHL10--Notice-of-Application</b> <b>Surface Owner</b> City, State, ZIP+4		

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Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.40	
Sent To <b>%ICG LLC 300</b> <b>Corporate Center Drive</b> Street, Apt. No.; or PO Box No. <b>Scott Depot, WV 25560</b> <b>PHL10--Notice-of-Application</b> <b>Coal Owner</b> City, State, ZIP+4		

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DEC 17 2012  
WV Department of Environmental Protection

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** 09/21/2012      **Date of Planned Entry:** \_\_\_\_\_

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

SURFACE OWNER(s)

Name: Mary Lou Watson ✓  
 Address: 710 Mill Dam Road  
 Towson, MD 21286

Name: Ronald Earl Cate %Mary Lou Watson ✓  
 Address: 1772 Blue Ridge Church Road  
 West Jefferson, NC 28694

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE

Name: CoalQuest Development, LLC %ICG LLC ✓  
 Address: 300 Corporate Center Drive  
 Scott Depot, WV 25560

MINERAL OWNER(s)

Name: See Attached List  
 Address: \_\_\_\_\_

\*please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: West Virginia  
 County: Barbour  
 District: Pleasant  
 Quadrangle: Philippi

Approx. Latitude & Longitude: 4,340,935.93m / 583,166.68m  
 Public Road Access: County Route 6 and County Route 22  
 Watershed: Taylor Drain  
 Generally used farm name: Proudfoot / Watson

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: CNX Gas Company, LLC  
 Telephone: 304-884-2009 Amanda Langford  
 Email: amandalangford@consolenergy.com

Address: P.O. Box 1248 Jane Lew, WV 26378  
 Facsimile: 304-884-2245

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**PHL10HS – Mineral Owners:**

Mary Lou Watson  
710 Mill Dam Road  
Towson, MD 21286

Ronald Earl Cate  
% Mary Lou Watson  
1772 Blue Ridge Church Road  
West Jefferson, NC 28694

Joy Reed  
Rt. 1, Box 154  
Moatsville, WV 26405

Jeremy & Brandy Bennett  
Rt. 3 Box 195  
Philippi, WV 26416

Darrell Bennett  
207 Nicole Lane  
Berkley Springs, WV 25411

Midwest Energy Inc.  
12 Millbrook Road  
Bridgeport, WV 26330

Lester J. & Marsha Ann Chelli  
Rt. 3 Box 292-B  
Philippi, WV 26416

**PHL10HS – Coal Owner:**

CoalQuest Development, LLC  
%ICG LLC  
300 Corporate Center Drive  
Scott Depot, WV 25560

**PHL10HS – Surface Owners:**

Mary Lou Watson  
710 Mill Dam Road  
Towson, MD 21286

Ronald Earl Cate  
% Mary Lou Watson  
1772 Blue Ridge Church Road  
West Jefferson, NC 28694

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7011 3500 0000 0056 2021

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Postage	\$ 1.10
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Return Receipt Fee (Endorsement Required)	2.35
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Mary Lou Watson  
 710 Mill Dam Road  
 Towson, MD 21286  
 PHL10 - Notice of Plat Survey  
 Surface & Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 0056 2012

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Jeremy & Brandy Bennett  
 Rt. 3 Box 195  
 Philippi, WV 26416  
 PHL10 - Notice of Plat Survey  
 Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 0056 2012

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Ronald Earl Gate  
 1772 Blue Ridge Church Road  
 West Jefferson, NC 28694  
 PHL10 - Notice of Plat Survey  
 Surface & Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 0056 2012

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Darrell Bennett  
 207 Nicole Lane  
 Berkley Springs, WV 25411  
 PHL10 - Notice of Plat Survey  
 Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 0056 2012

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Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Joy Reed  
 Rt. 1 Box 154  
 Moatsville, WV 26405  
 PHL10 - Notice of Plat Survey  
 Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 0056 2012

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Certified Fee	2.95
Return Receipt Fee (Endorsement Required)	2.35
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$ 6.40

JANE LEW WV  
 SEP 21 2012  
 Postmark Here  
 26378

Sent To: Midwest Energy Inc.  
 12 Millbrook Road  
 Bridgeport, WV 26330  
 PHL10 - Notice of Plat Survey  
 Mineral Owner

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 5003 2090

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Postage	\$ 1.10	
Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.40	

Sent To **Lester J. & Marsha Ann Chelli**  
 Rt. 3 Box 292-B  
 Street, Apt. No.; or PO Box No. **Philippi, WV 26416**  
 City, State, ZIP+4 **PHL10 - Notice of Plat Survey**  
**Mineral Owner**

PS Form 3800, August 2006 See Reverse for Instructions

7011 3500 0000 5003 2042

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Postage	\$ 1.10	
Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.40	

Sent To **CoatQuest Development, LLC**  
 %ICG LLC 300  
 Corporate Center Drive  
 Street, Apt. No.; or PO Box No. **Scott Depot, WV 25560**  
 City, State, ZIP+4 **PHL10 - Notice of Plat Survey**  
**Coal Owner**

PS Form 3800, August 2006 See Reverse for Instructions

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**PHL10HS – Mineral Owners:**

Mary Lou Watson  
710 Mill Dam Road  
Towson, MD 21286

Ronald Earl Cate  
% Mary Lou Watson  
1772 Blue Ridge Church Road  
West Jefferson, NC 28694

Joy Reed  
Rt. 1, Box 154  
Moatsville, WV 26405

Jeremy & Brandy Bennett  
Rt. 3 Box 195  
Philippi, WV 26416

Darrell Bennett  
207 Nicole Lane  
Berkley Springs, WV 25411

Midwest Energy Inc.  
12 Millbrook Road  
Bridgeport, WV 26330

Lester J. & Marsha Ann Chelli  
Rt. 3 Box 292-B  
Philippi, WV26416

**PHL10HS – Coal Owner:**

CoalQuest Development, LLC  
%ICG LLC  
300 Corporate Center Drive  
Scott Depot, WV 25560

**PHL10HS – Surface Owners:**

Mary Lou Watson  
710 Mill Dam Road  
Towson, MD 21286

Ronald Earl Cate  
% Mary Lou Watson  
1772 Blue Ridge Church Road  
West Jefferson, NC 28694

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF PLANNED OPERATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**  
**Date of Notice:** 09/21/2012      **Date Permit Application Filed:** \_\_\_\_\_

**Delivery method pursuant to West Virginia Code § 22-6A-16(c)**

- CERTIFIED MAIL       HAND  
RETURN RECEIPT REQUESTED      DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

**Notice is hereby provided to the SURFACE OWNER(s)**

(at the address listed in the records of the sheriff at the time of notice):

Name: Mary Lou Watson  
Address: 710 Mill Dam Road  
Towson, MD 21286

Name: Ronald Earl Cate %Mary Lou Watson  
Address: 1772 Blue Ridge Church Road  
West Jefferson, NC 28694

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>583,166.68m</u>
County:	<u>Barbour</u>		Northing:	<u>4,340,935.93m</u>
District:	<u>Pleasant</u>	Public Road Access:	<u>County Route 6 and County Route 22</u>	
Quadrangle:	<u>Philippi</u>	Generally used farm name:	<u>Proudfoot / Watson</u>	
Watershed:	<u>Taylor Drain</u>			

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: CNX Gas Company, LLC  
Telephone: 304-884-2009 Amanda Langford  
Email: amandalangford@consolenergy.com

Address: P.O. Box 1248 Jane Lew, WV 26378  
Facsimile: 304-884-2245

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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WV Department of Environmental Protection

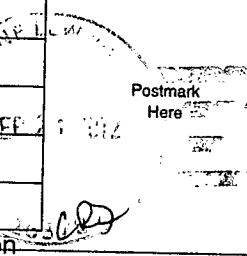


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Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 5.75	

Sent To: Mary Lou Watson  
 710 Mill Dam Road  
 Towson, MD 21286  
 PHL10 - Notice of Planned Operation  
 Surface Owner

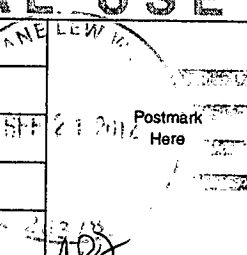
PS Form 3800, August 2006 See Reverse for Instructions

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Postage	\$ .46	
Certified Fee	2.95	
Return Receipt Fee (Endorsement Required)	2.35	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 5.75	

Sent To: Ronald Earl Cate  
 1772 Blue Ridge Church Road  
 West Jefferson, NC 28694  
 PHL10 - Notice of Planned Operation  
 Surface Owner

PS Form 3800, August 2006 See Reverse for Instructions

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 WV Department of  
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OIL AND GAS ROAD  
DISTRICT WIDE BONDING AGREEMENT  
For DOH District 7

THIS AGREEMENT, executed in duplicate, made and entered into this 20<sup>th</sup> day of March, 2012, by and between the WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, hereinafter called "DEPARTMENT," and CNX Gas Company, LLC, hereinafter called "COMPANY."

WITNESSETH:

WHEREAS, Company has horizontal gas well drilling operations in certain areas of West Virginia; and

WHEREAS, the Department believes that the frequent and repetitive use of certain sections of highways in the State by Company, its contractors, agents, independent contractors or suppliers of drilling materials or drilling equipment, and employees contributes to increased wear and tear to public roads in the state road system in the State, including local roads ("State Owned Roads"); and,

WHEREAS, the Department and Company have entered into this Agreement to satisfy the requirements of the Department's policy entitled "Oil & Gas Road Policy" dated January 3, 2012, as issued by Paul A. Mattox, Jr., Secretary of Transportation / Commissioner of Highways, and any subsequent related policies, hereinafter called "Policy", a copy of which is made a part of this Bonding Agreement and is identified as Attachment 1.

NOW, THEREFORE, for and in consideration of the mutual agreements hereinafter set forth, the parties agree as follows:

I. For purposes of this Bonding Agreement, "Project Transportation Usage" of the Company shall be understood to mean use of one or more State Owned Roads for the delivery and removal of drilling materials and drilling equipment at the site or location of one or more of Company's horizontal gas well pad locations. To the extent reasonably practical, prior to commencing use of a State Owned Road for Project Transportation Usage after January 1, 2011, the Company shall submit to the Department a section or sections of current official WVDOH County Highway maps identifying the exact location of the proposed project and the State Owned Roads that the Company will utilize for the Project Transportation Usage.

II. Company and Department shall within 14 days of the Company's submittal, agree to a list of these sections of State Owned Roads, hereinafter called "Project Roads List", to be utilized for each of Company's projects, identified by route number and milepost; at a time to be mutually agreed to by the parties prior to initial commencement of Project Transportation Usage of a particular State Owned Road on a Project Roads List, the Company and Department will jointly review the condition of the roads and bridges on the Project Roads List. The Department will document the road type and surface condition and general right-of-way width of each section of road on the Project Road List. Either party may supplement this documentation with photographs, video or other evidence of the present condition of the road surface, shoulders, ditches, culverts, bridges or other structures or appurtenances of roads on the Project Road List, as well as approaches to the roads, utility facilities located within or along the right-of-way, or any other condition, including third-party activities, that may affect the duties and responsibilities of the parties under this Agreement. A copy of any such documentation must be made and provided to the other party within ten business days after the joint review of the roads on the Project Roads List.

III. Department shall issue a Project Agreement or Project Permit, as appropriate, to Company to use State Owned Roads and may include any minor or major improvements required of Company prior to, during or after Project with the assignment of responsibilities of

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both parties prior to, during and after the operator has completed well fracturing..

IV. In the Project Agreement/Project Permit, the Department shall not require the use of State Owned Roads other than the roads proposed by Company unless the Department has safety concerns as to the Company's proposed roads. A failure to agree on roads that may otherwise be lawfully used for a particular Project Transportation Usage shall result in the designation of the State Owned Roads proposed by Company, with milepost determinations as designated by Department. This Agreement shall only cover portions of State Owned Roads designated on the Project Roads List.

V. For the duration of Company's Project Transportation Usage of the Stated Owned Roads on the Project Roads List, whether by the Company, its contractors (while working on behalf of Company), agents, independent contractors or suppliers of drilling materials or drilling equipment, or employees, the Company agrees to pay for all reasonable maintenance and repair costs incurred by the Department to repair areas of the State Owned Roads included in the Project Roads List that were directly damaged by Company's Project Transportation Usage, as determined to be reasonably necessary and appropriate by the Department. The Department shall keep a record of all labor performed by Department employees and contractors for such maintenance and repairs and shall send an invoice for the same to Company.

VI. Company shall be responsible for the cost of all maintenance and repairs reasonably necessary to put the existing roadways, bridges and appurtenances on the Project Roads List utilized for the Project Transportation Usage in the condition that existed immediately prior to the Project Transportation Usage. Company shall not be required to pay for maintenance or repairs to put any areas of such roadways, bridges and appurtenances on the Project Roads List in a condition better than the condition that existed immediately prior to the Project Transportation Usage. Company shall also not be required to pay for maintenance or repairs to any areas of these roadways, bridges or appurtenances on the Project Roads List that are not actually utilized for the Project Transportation Usage or for damage not caused by Project Transportation Usage.

VII. Company shall notify the Department in writing of Company's final completion of Project Transportation Usage for particular roadways, bridges and appurtenances on the Project Roads List. Within fourteen days after its receipt of written notification of the completion of the Project Transportation Usage for all roads on a Project Roads List, the Department will review the condition of the roadways, bridges and appurtenances on the Project Roads List actually utilized for the Project Transportation Usage and advise Company of any final repairs reasonably necessary to leave these roads, bridges and appurtenances in a condition reasonably deemed by Department to be equal to their condition prior to commencement of Project Transportation Usage; and, upon completion of all such final repairs by or on behalf of Company and acceptance by Department, the Company shall be released from all further liability for maintenance or repairs to roads, bridges, or appurtenances on said Project Roads List. Any maintenance or repair work under the Project Agreement/Project Permit for roads, bridges or appurtenances on the Project Roads List may be performed by a contractor directly chosen by the Company as approved by the Department, the Department's workforce, or a private contractor hired by the Department through the public bid process in accordance with state law, all of which work shall be subject to the standards and specifications of the Department.

VIII. In order to ensure performance of Company's performance and payment obligations under this Bonding Agreement, the Company shall post a corporate surety bond, hereinafter called "Master Bond", with the Department named as the beneficiary, which form of bond shall be subject to the consent of the Department, not to be unreasonably withheld. The amount and form of the bond shall be in accordance with the Policy as set forth above. However, the amount of the Master Bond does not limit the amount of claims that may be made by the Department against the Company under this Bonding Agreement. The Company shall provide the Master Bond to the Department within one (1) month after the execution of this Bonding Agreement. The Master Bond shall secure the good faith performance of all payment obligations of Company under the terms of this Bonding Agreement respecting the roads, bridges and appurtenances on the Project Roads List for each Project Transportation Usage undertaken by the Company, and shall remain in effect until termination of this Agreement. Company shall not be obligated to provide any other bonds, sureties, or other guarantees of performance to the Department for Company's use of State Owned Roads, except as required in this Agreement.

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IX. Company shall maintain Commercial General Liability Insurance in the amount of two million dollars, with a minimum coverage of one million dollars per occurrence, for personal injury or death to persons, or for property damage, resulting from Company's Project Transportation Usage and shall present evidence of such insurance to Department upon request.

X. Company's usage of State Owned Roads under the Project Agreement/Project Permit shall comply with all applicable Federal, State and local laws and regulations including, but not limited to, to the extent applicable, the National Environmental Policy Act, Section 404 of the Clean Water Act, Section 106 of the National Historic Preservation Act, Rare, Threatened and Endangered Species Act, Section 401 Water Quality Certification, and hazardous waste requirements. Further, upon reasonable written request of Department, Company shall furnish Department with acceptable documentation of such compliance which is in the possession of the Company.

XI. Company shall defend, indemnify and hold Department harmless from and against any and all losses, damage, and liability, and from all claims for damages on account of or by reason of bodily injury, including death, which may be sustained, or claimed to be sustained, by any person or persons, including employees of Department, and from and against any and all claims, losses or liabilities for damages to property, arising out of the negligent or willful acts or omissions of Company, its agents, independent contractors and suppliers of drilling materials or drilling equipment, employees and contractors, in the performance of all Project Transportation Usage activities undertaken pursuant to this Agreement (collectively, "claims"). The Company shall not be responsible to indemnify, defend or hold harmless Department for any claims caused by the negligent or willful acts or omissions of the Department or its agents, employees and contractors or third parties not performing work at the direction of Company or delivering drilling equipment or drilling materials, including water, for use by or for company.

XII. If a provision of this Agreement is or becomes illegal, invalid or unenforceable in any jurisdiction, that shall not affect the validity or enforceability of any other provision of this Agreement; or the validity or enforceability in other jurisdictions of that or any other provision of this Agreement.

XIII. Department shall give Company a minimum of thirty days written notice of default under the terms of this Bonding Agreement and the opportunity to cure this default during such thirty-day period. If a default is not cured to the satisfaction of Department, or provision acceptable to Department is not made for a cure, Department may then elect to terminate this Bonding Agreement in whole or in part, and may in addition exercise its rights under the Master Bond or seek any other lawful relief available. Company may terminate this Bonding Agreement upon thirty days written notice to Department for any reason. In the event Company terminates this Agreement for any reason, it shall be liable for the repair and maintenance costs set forth above for prior Project Transportation Usage.

XIV. Nothing herein shall be construed to mean that Company shall have any jurisdiction or control over any public roads in the state road system.

XV. Company, its contractors, agents, employees and suppliers shall at all times be subject to applicable provisions of state and federal law, including without limitation laws requiring operation of vehicles in accordance with legal size and weight restrictions and posted weight limits. Oversize/overweight permits for vehicle or loads not otherwise conforming with law must be obtained in accordance with law; Department agrees to work in good faith with Company to review and grant (where authorized by law) such permits in a timely manner upon request by Company.

XVI. This Bonding Agreement shall be construed and enforced in accordance with the laws of the State of West Virginia, as they may be amended.

XVII. This Bonding Agreement shall be binding upon the successors and assigns of each party hereto.

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IN WITNESS WHEREOF, the parties hereto have caused this Bonding Agreement to be executed by their duly authorized officers effective as of the date first above written.

WEST VIRGINIA DEPARTMENT OF  
TRANSPORTATION,  
DIVISION OF HIGHWAYS

Francis M. Leshner  
Witness

By: Mark S. Murphy  
State Highway Engineer

David A. Pitt  
Witness

By: [Signature]  
Title: Vice President - WV Operations

(To be executed in duplicate)

APPROVED AS TO FORM THIS  
9<sup>th</sup> DAY OF March 2012

[Signature]  
ATTORNEY LEGAL DIVISION  
WEST VIRGINIA DEPARTMENT  
OF HIGHWAYS

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## Section V - Planned Additives to be used in Fracturing or Stimulations

Type: Friction Reducer (DWP-612)

Chemical Component as listed on MSDS: Long Chain Polyacrylamide

CAS: N/A

Type: Biocide (DWP-944)

1<sup>st</sup> Chemical Component as listed on MSDS: 2,2-Dibromo-3-nitrilopropionamide

CAS: 10222-01-2

2<sup>nd</sup> Chemical Component as listed on MSDS: Polyethylene Glycol Mixture

CAS: 25322-68-3

Type: Scale Inhibitor (DAP-901)

1<sup>st</sup> Chemical Component as listed on MSDS: Methanol

CAS: 67-56-1

2<sup>nd</sup> Chemical Component as listed on MSDS: Phosphoric Acid Ammonium Salt

CAS: Trade Secret

3<sup>rd</sup> Chemical Component as listed on MSDS: Ammonium Chloride

CAS: 12125-02-9

4<sup>th</sup> Chemical Component as listed on MSDS: Organic Phosphonate

CAS: Trade Secret

5<sup>th</sup> Chemical Component as listed on MSDS: Amine Salt

CAS: Trade Secret

6<sup>th</sup> Chemical Component as listed on MSDS: Oxyalkylated Polyamine

CAS: Trade Secret

Type: Surfactant (DWP-938)

Chemical Component as listed on MSDS: Soap

CAS: N/A

Type: Hydrochloric Acid

Chemical Component as listed on MSDS: Hydrochloric Acid

CAS: 7647-01-0

Type: PA Breaker (DWP-690)

Chemical Component as listed on MSDS: Hydrogen Peroxide

CAS: Trade Secret

Type: Gel Slurry (DWP-111)

Chemical Component as listed on MSDS: Viscosifier

CAS: N/A

Type: Oxidizer Breaker (DWP-901)

Chemical Component as listed on MSDS: Ammonium Persulfate

CAS: 7727-54-0

Type: Buffer (DWP-204)

Chemical Component as listed on MSDS: Formic Acid

CAS: 64-18-6

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
BLANKET BOND FOR OIL OR GAS WELLS,  
LIQUID INJECTION WELLS OR WASTE DISPOSAL WELLS

KNOW ALL MEN BY THESE PRESENTS:

- (1) That we, CNX Gas Company LLC
- (2) CNX Center, 1000 CONSOL Energy Drive, Canonsburg, PA 15317-6506
- As Principal, and (3) RLI Insurance Company
- (4) P.O. Box 3967, Peoria, IL 61612

a firm and/or a corporation authorized to do business in the State of West Virginia, as Surety, are held and firmly bound unto the State of West Virginia in the just and full sum of (5) two hundred and fifty thousand dollars (\$250,000) to the payment whereof well and truly to make, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the above bound Principal in pursuance of the provisions of Chapter 22, Article 6 and/or 6A, of the Code of West Virginia, 1931, as amended, and the regulations promulgated thereunder, has made or intends to make application to the Chief of the Office of Oil and Gas, Department of Environmental Protection, the State of West Virginia for a permit to perform well work (as defined in Chapter 22, Article 6 and/or 6A), on oil or gas wells and/or liquid injection wells and/or waste disposal wells, or has acquired or purchased, or shall hereafter acquire or purchase such wells, or has been or shall be assigned operating responsibility, for such wells located in West Virginia; and

WHEREAS, THE Obligee as a condition precedent to the issuance of such Permit or release of other obligation has required the Principal to furnish a SURETY BOND acceptable to the Obligee guaranteeing the performance of said provisions of Chapter 22, Article 6 or 6A, of the Code of West Virginia, 1931, as amended, and the regulations promulgated thereunder;

NOW THEREFORE, the condition of this obligation is such that if the Principal, its personal representatives, successors, heirs and assigns shall in performing well work (as defined in Chapter 22, Article 6 and/or 6A) or operating such wells shall furnish all reports, information and affidavits as may be required by the Department of Environmental Protection, Office of Oil and Gas, documenting that said wells have been plugged and abandoned in accordance with Chapter 22, Article 6, of the Code of West Virginia, 1931, as amended, and the regulations promulgated thereunder, then this obligation to be void; otherwise to remain in full force and effect.

This bond shall be effective from the (11) 02nd day of May, 2012, until released by the Department of Environmental Protection.

IN WITNESS WHEREOF the said Principal has hereunder set his or its hand and affixed his or its seal, and the said surety has caused its corporate name to be signed hereto and its corporate seal to be hereunto affixed by its duly authorized officer or agent this instrument this (12) 02nd day of May, 2012.

(15) Principal (13) CNX Gas Company LLC (Seal)  
Corporate Seal (Principal)

(14) By: Nicholas J. DeIuliis  
(Title) Nicholas J. DeIuliis, Manager  
(Must be President or V. President)

(18) Surety (16) RLI Insurance Company (Seal)  
Corporate Seal (Surety)

(17) Sandra L. Ham  
Sandra L. Ham, Attorney-In-Fact

19) Countersigned: NA  
(Resident West Virginia Agent)

(20) Address: \_\_\_\_\_

(21) Telephone: \_\_\_\_\_

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(I.E. ETSE)

ACKNOWLEDGMENTS

Acknowledgment by Principal If Individual or Partnership

- 1. STATE OF \_\_\_\_\_
  - 2. County of \_\_\_\_\_ to-wit:
  - 3. I, \_\_\_\_\_, a Notary Public in and for the
  - 4. county and state aforesaid, do hereby certify that \_\_\_\_\_ whose name is signed to the foregoing writing, has this day acknowledged the same before me in my said county.
  - 5. Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.
  - 6. Notary Seal \_\_\_\_\_
  - 7. \_\_\_\_\_
- (Notary Public)
- 8. My commission expires on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

Acknowledgment by Principal If Corporation or Limited Liability Company

- 9. STATE OF Pennsylvania
- 10. County of Washington to-wit:
- 11. I, Kathryn A. Galie, a Notary Public in and for the
- 12. county and state aforesaid, do hereby certify that Nicholas J. DeIuliis
- 13. who as, Manager signed the foregoing writing for
- 14. CNX Gas Company, LLC a corporation/LLC, has this day, in my said county, before me, acknowledged the said writing to be the act and deed of the said corp/LLC.
- 15. Given under my hand this 3rd day of May 2012.
- 16. Notary Seal Kathryn A. Galie, Notary Public  
(Notary Public for Twp., Allegheny County  
My Commission Expires Oct. 1, 2015)
- 17. *Kathryn A. Galie*
- 18. My commission expires on the October day of October 2015.

Acknowledgment by Surety

- 19. STATE OF Missouri
- 20. County of St. Louis City to-wit:
- 21. I, JoAnn R. Frank, a Notary Public in and for the
- 22. county and state aforesaid, do hereby certify that Sandra L. Ham
- 23. who as, Attorney-In-Fact signed the foregoing writing for
- 24. RLI Insurance Company a corporation has this day, in my said county, before me, acknowledged the said writing to be the act and deed of the said corporation.
- 25. Given under my hand this 02nd day of May 2012.
- 26. Notary Seal JOANN R. FRANK  
Notary Public  
State of Missouri  
Commissioned for St. Louis City  
My Commission Expires June 20, 2014  
Commission Number: 10395672
- 27. *JoAnn R. Frank*
- 28. My commission expires on the 20th day of June

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Sufficiency in Form and Manner  
Of Execution Approved

Attorney General

This \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

By \_\_\_\_\_  
(Assistant Attorney General)

WV Department of  
Environmental Protection



RLI Surety  
 P.O. Box 3967 | Peoria, IL 61612-3967  
 Phone: (800)645-2402 | Fax: (309)689-2036  
 www.rlicorp.com

**POWER OF ATTORNEY**  
**RLI Insurance Company**

**Know All Men by These Presents:**

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company**, an Illinois corporation, does hereby make, constitute and appoint:

Pamela A. Beelman, Cynthia L. Choren, Heidi A. Notheisen, Debra C. Schneider, JoAnn R. Frank, Karen L. Roider, Sandra L. Ham,  
 jointly or severally.

in the City of Saint Louis, State of Missouri its true and lawful Agent and Attorney in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, the following described bond.

**Any and all bonds provided the bond penalty does not exceed Twenty Five Million Dollars (\$25,000,000.00).**

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon this Company as if such bond had been executed and acknowledged by the regularly elected officers of this Company.

The **RLI Insurance Company** further certifies that the following is a true and exact copy of the Resolution adopted by the Board of Directors of **RLI Insurance Company**, and now in force to-wit:

"All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** has caused these presents to be executed by its Vice President with its corporate seal affixed this 11th day of July, 2011.



**RLI Insurance Company**

By: [Signature]  
 Roy C. Die Vice President

State of Illinois }  
 County of Peoria } SS

**CERTIFICATE**

On this 11th day of July, 2011, before me, a Notary Public, personally appeared Roy C. Die, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

I, the undersigned officer of **RLI Insurance Company**, a stock corporation of the State of Illinois, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force in testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** this 02nd day of May, 2012.

By: [Signature]  
 Cherie L. Montgomery Notary Public

**RLI Insurance Company**

By: [Signature]  
 Roy C. Die Vice President



**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION**

1) Well Operator: CNX Gas Company, LLC.

	Barbour	Pleasant	Philippi
--	---------	----------	----------

Operator ID      County      District      Quadrangle

2) Operator's Well Number: PHL10FHS Well Pad Name: PHL10HS

3 Elevation, current ground: 1619' Elevation, proposed post-construction: 1603'

4) Well Type: (a) Gas  Oil   
Other \_\_\_\_\_  
(b) If Gas: Shallow  Deep \_\_\_\_\_  
Horizontal  \_\_\_\_\_

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Formation - Marcellus, Depth - 7850', Thickness - 90', Pressure - 4000#

7) Proposed Total Vertical Depth: 7850'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 16200'

10) Approximate Fresh Water Strata Depths: 305', 575'

11) Method to Determine Fresh Water Depth: offset wells

12) Approximate Saltwater Depths: 1800'

13) Approximate Coal Seam Depths: 355', 425', 575'

14) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

15) Does land contain coal seams tributary or adjacent to, active mine? No

16) Describe proposed well work: Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 16200'. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement.

17) Describe fracturing/stimulating methods in detail:  
The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres):

19) Area to be disturbed for well pad only, less access road (acres):

17.0 Acres  
14.0 Acres

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20)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft.</b>	<b>FOOTAGE: For Drilling</b>	<b>INTERVALS: Left in Well</b>	<b>CEMENT: Fill -up (Cu. Ft.)</b>
Conductor	20"	N	L.S.	81.3#	40'	40'	Sand In
Fresh Water	13 3/8"	N	J-55	54.5#	625'	625'	CTS w/ Approved Class A Type Cement
Coal							
Intermediate	9 5/8"	N	J-55	36#	2000'	2000'	CTS w/ Approved Class A Type Cement
Production	5 1/2"	N	P-110	20#	16200'	16200'	2400 cu. ft. W 50/50 POZ Lead & Class A Tail
Tubing	2 3/8"	N	J-55	4.7#	7790'	7790'	
Liners							

<b>TYPE</b>	<b>Size</b>	<b>Wellbore Diameter</b>	<b>Wall Thickness</b>	<b>Burst Pressure</b>	<b>Cement Type</b>	<b>Cement Yield</b>
Conductor	20"	26"	0.438	2110	Class A Type	1.18
Fresh Water	13 3/8"	17 1/2"	0.380	2730	Class A Type	1.39
Coal						
Intermediate	9 5/8"	12 3/8"	0.352	3520	Class A Type	1.18
Production	5 1/2"	8 3/4" & 8 1/2"	0.361	12640	Class A Type	1.26
Tubing	2 3/8"	8 3/4" & 8 1/2"	0.190	7700	-----	-----
Liners						

**PACKERS**

Kind:	None			
Sizes:	None			
Depths Set:	None			

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*JAMC Court*  
10-1-12

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21) Describe centralizer placement 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 joints (free floating) through the lateral and the curve.  
(Note: cementing the 5 1/2" casing completely in open hole lateral and curve.)

22) Describe all cement additives associated with each cement type. Conductor - 2% CaCl<sub>2</sub>. Fresh Water/Coal - 2% CaCl<sub>2</sub>. Intermediate - 2% CaCl<sub>2</sub>. Production: 2.6% Cement extender, 0.7% Fluid Loss Additive 0.5% High Temperature Retarder, 0.2% Friction Reducer.

23) Proposed borehole conditioning procedures. Conductor - The hole is drilled w/ air and casing is ran in air. Apart from insuring the hole is clean via air circulation at TD there are no other conditioning procedures. Fresh Water/Coal - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom the casing shoe will be cleared with fresh water and gel prior to cementing. Intermediate - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom the casing shoe will be cleared with fresh water and gel prior to cementing. (Note: Drilling soap may be utilized if the hole gets wet/damp during the drilling of all air holes with the exception of the conductor). Production - The hole is drilled with synthetic oil base mud and once at TD the hole is circulated at a drilling pump rate until the hole is clean. Once casing is ran the hole is circulated for a minimum of one hole volume prior to pumping cement.

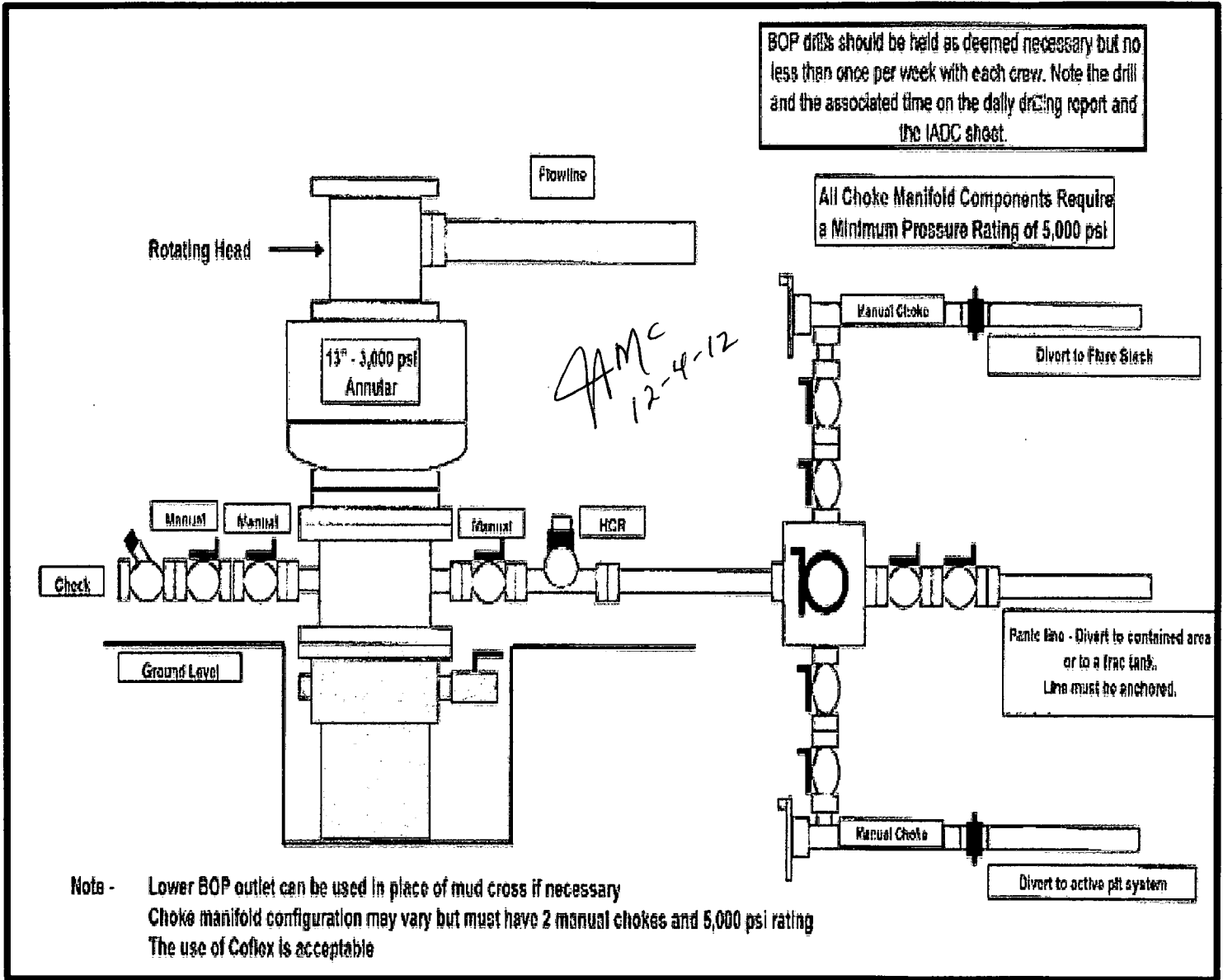
\*Note: Attach additional sheets as needed.

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# 4.0 BOP Requirements

## 4.1 BOP Equipment

The following is a list of all BOP equipment with types, sizes and ratings to be utilized and available during the drilling of the deep well.

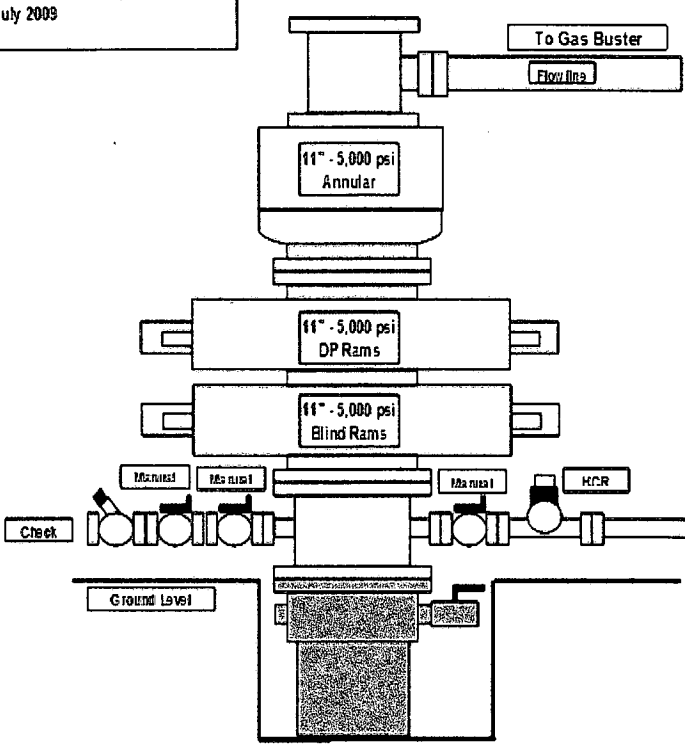


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Waynesburg District  
Minimum BOP Requirements  
July 2009

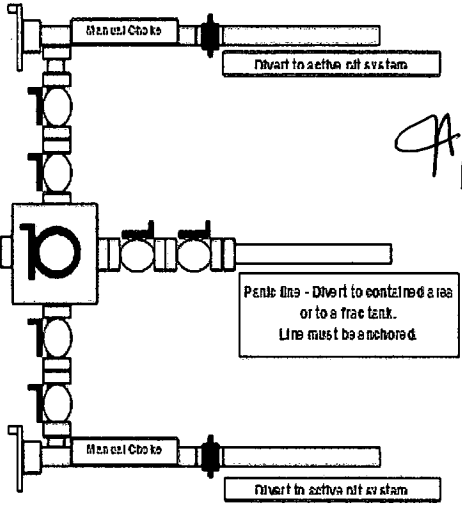


HORIZONTAL RIG SETUP



BOP drills should be held as deemed necessary but no less than once per week with each crew. Note the drill and the associated time on the daily drilling report and the IADC sheet.

All Choke Manifold Components Require a Minimum Pressure Rating of 5,000 psi



Note - Lower BOP outlet can be used in place of mud cross if necessary  
Choke manifold configuration may vary but must have 2 manual chokes and 5,000 psi rating  
The use of Coflex is acceptable

Remote Controls

Remote controls shall be readily accessible to the driller. Remote controls for all systems shall be capable of closing the preventer. Remote controls systems shall be capable of both opening and closing the preventer.

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## 4.2 Procedure and Schedule for Testing BOP Equipment

### Well Control Equipment Testing

- i. Perform all tests described below using clear water or an appropriate clear liquid for subfreezing temperatures with a viscosity similar to water.
- ii. Annular type preventers shall be tested to 50 percent of rated working pressure. This test shall be performed prior to drilling out 9 5/8" casing shoe.
- iii. Valves shall be tested from working pressure side during BOPE tests with all downstream valves open.
- iv. All of the above described tests and/or drills shall be recorded in the drilling log.

## 4.3 BOP Installation Schedule

The BOP will be installed after running intermediate casing. BOP equipment shall be installed on the innermost string of casing after the intermediate casing.

## 4.4 BOP Training

All supervisors and toolpushers used on this well will be BOP trained and certified. A trained person will be present during the drilling operations. Training dates of personnel are located in Appendix C. Training certificates will be available for review upon request.

## 4.5 Drilling Record

Detailed records of significant drilling events such as lost circulation, fluid entry, abnormal pressures, etc. are maintained through a daily log in the doghouse. The daily log allows the drilling superintendent to enter daily reports containing the specified information. The records are then retained electronically in Consol's office in Jane Lew, WV.

The Emergency Response Plan for this operating area requires the district oil and gas inspector or the designated Office of Oil and Gas representative be notified as soon as possible of any unusual drilling events such as large kicks that occur during drilling operations. Any encounter of hydrogen sulfide gas requires immediate notification of the DEP Office of Oil and Gas.

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## **5.0 Well Flaring Operations**

### **5.1 Size, Construction and Length of Flare Line**

The flare line will be a 3" diameter, steel line that extends a minimum of 50' from the well. A small diameter steel line will parallel the flow line and serve as the pilot to ignite the flare. The end of the kill line will also be at the terminus of the flow line.

### **5.2 Flare Anchor and Choke Assembly**

The line will be anchored to the surface of the ground by cross pinning it in place using metal staking at multiple points along the line. A 2" kill line will replace any need for a choke assembly.

### **5.3 Flare Lighting System**

The system for lighting the flare will be ¼" pilot line fueled by propane. A flare gun will be used as a backup. Notification to the local fire department prior to lighting the flare will be given immediately if practicable and as soon as possible thereafter.

### **5.4 Flare Safe Distances**

The flare line(s) discharge shall be located not less than 50 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of rig and trailers. The flare system shall have an effective method for ignition. All flammable material beyond the end of the flare line will be cleared to a minimum distance of 50 feet. The drill pit will be less than 5000 bbls capacity.

## **6.0 Well Killing Operations**

If well killing is necessary, BJ Services will be on stand-by from the Clarksburg, WV yard. BJ Services has appropriate chemicals and mixing units to provide KCL water or weighted mud if necessary for killing operations.

In event the decision is made to activate the BOP, a soft closure method will be utilized.

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## 7.0 Hydrogen Sulfide Operations

### 7.1 H2S Monitoring

We do not anticipate any H2S while drilling.

### 7.2 H2S Training

We do not anticipate any H2S while drilling.

### 7.3 Personal Protection Equipment

The following personal protection equipment will be available and in use as needed on location:

- Hardhats,
- safety shoes,
- safety glasses and/or safety goggles/face shields,
- hearing protection earplugs, and
- work gloves

In the event that other hazards are identified or presented during the drilling operation, we will attempt to eliminate the hazard, and if not practical, additional PPE will be provided to mitigate the risk to the worker.

### 7.4 H2S Notification and Control

We do not anticipate any H2S while drilling.

## 8.0 Notification

In an emergency which requires the notification of residents and emergency personnel that may be affected during drilling activity, the emergency response plan will be immediately implemented. This plan specifies the roles and responsibilities of onsite personnel in case of emergency and addresses emergency notification of potentially affected residents and public emergency response personnel.

All CONSOL Gas HAZWOPER trained at the first responder operations level.

For well # **PHL10FHS**, no residents dwell within 1500' of location.

A list of Potentially Affected Parties, if applicable, is in Appendix D. This is a tabulation of all businesses, residence, schools within a one mile radius. This represents the current owners of record as recorded in the courthouse.

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM  
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name CNX Gas Company, LLC OP Code 494495754

Watershed Taylor Drain Quadrangle Philippi

Elevation 1619' County Barbour District Pleasant

Description of anticipated Pit Waste: Fluids associated with the drilling of new gas wells

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a synthetic liner be used in the pit? Yes  If so, what mil.?~~30 mil.~~ 60 mil LKC

Proposed Disposal Method For Treated Pit Wastes:  
 Land Application  
 Underground Injection ( UIC Permit Number \_\_\_\_\_ )  
 Reuse (at API Number \_\_\_\_\_ )  
 Off Site Disposal (Supply form WW-9 for disposal location)  
 Other (Explain Recycle on other well on same pad or adjacent pads)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Air and water based mud  
-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used? Bactericide, Polymers and Weighting Agents

Will closed loop system be used? No

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill  
-If left in pit and plan to solidify what medium will be used? Cement, lime, N/A  
-Landfill or offsite name/permit number? MeadowFill, S&S Landfill, and Northwestern Landfill

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Kent Wright*

Company Official (Typed Name) Kent Wright

Company Official Title Designated Agent - Vice President, WV Operations

Subscribed and sworn before me this 26TH day of OCTOBER, 20 12

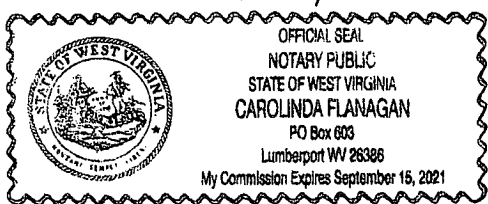
*Carolinda Flanagan* Notary Public

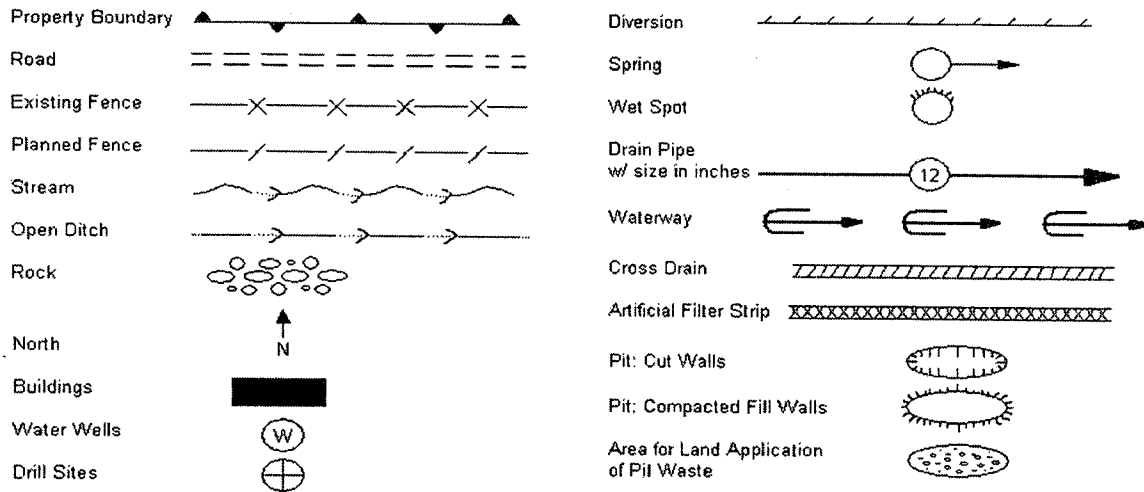
My commission expires 9/15/2021

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Proposed Revegetation Treatment: Acres Disturbed 18.0 Prevegetation pH 6.5

Lime according to pH test Tons/acre or to correct to pH 7.0

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch Hay or Straw at 2 Tons/acre

Seed Mixtures

Seed Type	Area I		Seed Type	Area II	
		lbs/acre			lbs/acre
Orchardgrass	25		Orchardgrass	25	
Birdsfoot Trefoil	15		Birdsfoot Trefoil	15	
Landino Clover	10		Landino Clover	10	

Attach:  
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: JAMCout

Comments: \_\_\_\_\_

Title: Inspector

Date: 10-1-12

Field Reviewed?  Yes  No

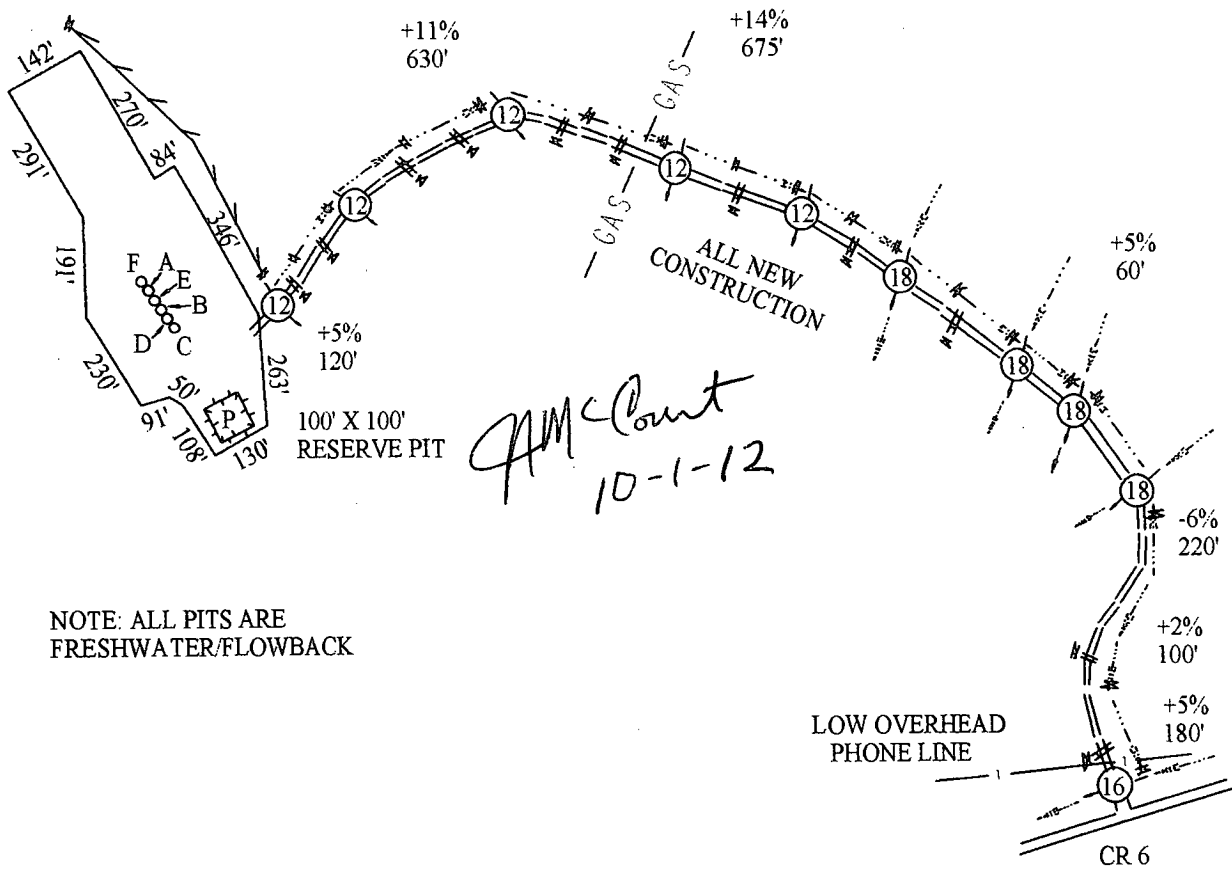
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# PHILIPPI 10 SITE

SURFACE OWNER:

MARY LOU WATSON  
710 MILL DAM RD.  
TOWSON, WV 21286



NOTE: ALL PITS ARE  
FRESHWATER/FLOWBACK

LOCATION IS ON A WOODED POINT. USABLE  
TIMBER WILL BE CUT AND STACKED. TOPSOIL  
WILL BE STOCKPILED FOR USE IN REVEGETATION.

ACCESS ROAD LEAVES CR 6 AND RUNS THROUGH  
AN OLD FIELD, THEN QUARTERS UP AROUND THE  
HILL TO THE SITE. ROCK WILL BE USED WHERE  
NECESSARY.

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 5762

DRAWINGS TO ACCOMPANY FORM WW-9

CNX GAS COMPANY LLC

P. O. BOX 1248

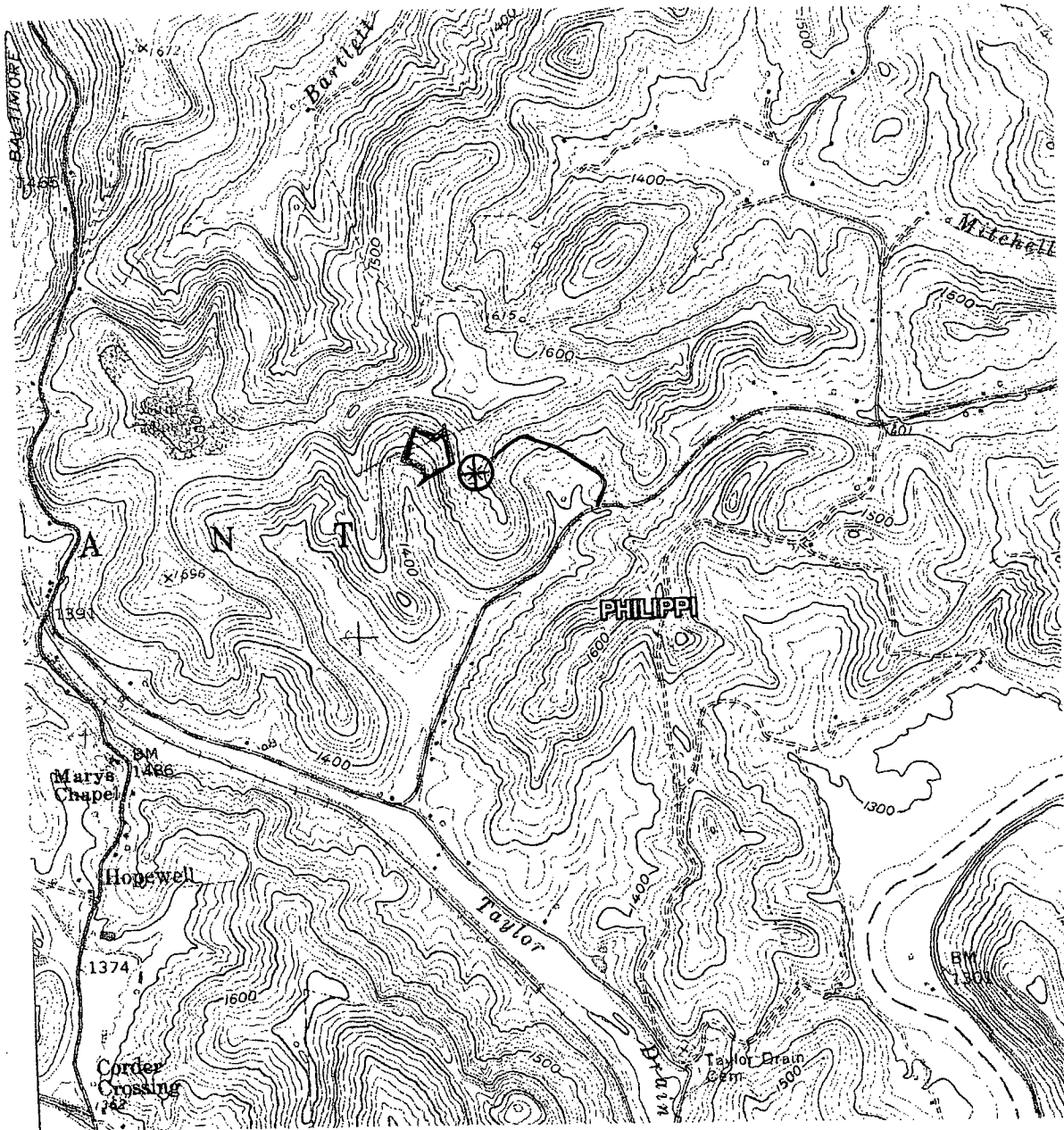
JANE LEW, WY 26378

WATERSHED: TAYLOR DRAIN  
DEC 17 2012

DISTRICT: PLEASANT COUNTY: BARBOUR

QUADRANGLE: PHILIPPI ENVIRONMENTAL PHILIPPI  
WELL NO.: (REV)

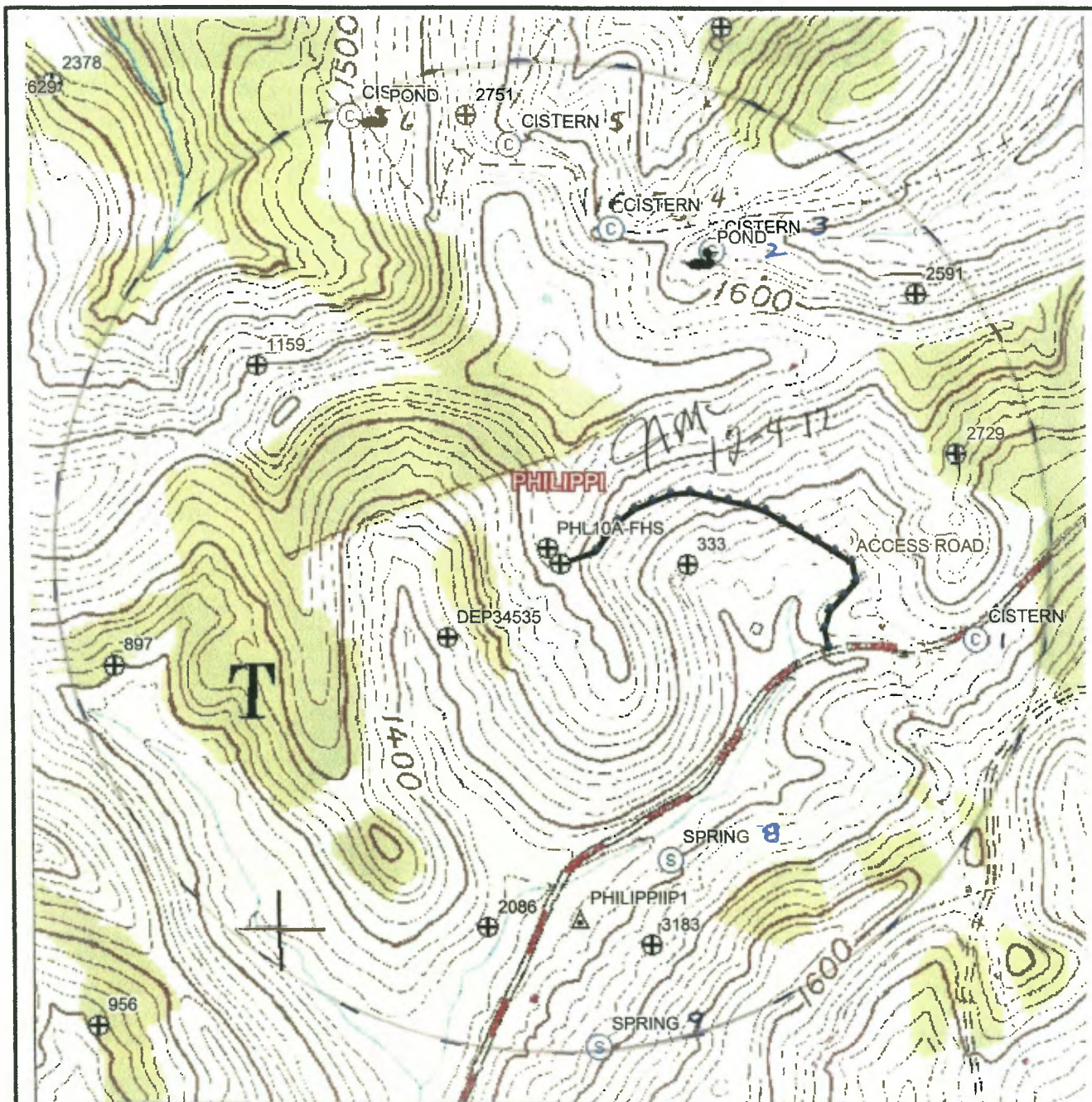
DATE: 08/16/12 PAGE of



*AMC Court  
10-1-12*

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 5762

DRAWINGS TO ACCOMPANY FORM WW-9	
CNX GAS COMPANY LLC	
P. O. BOX 1248	
JANE LEW, WV 26378 & Gas <i>RECEIVED</i> Office of Oil & Gas	
WATERSHED:	TAYLOR DRAIN / UIC
DISTRICT:	PLEASANT BARBOUR
QUADRANGLE:	PHILIPPI WV Department of Environmental Protection PHL10FHS (REV)
DATE:	08/16/12
PAGE	of



COORDINATES ARE NAD 27  
WV NORTH SPC.

- PHL10WATPURV
- 1, 259887.776, 1850032.824, 1450.998, "cistern"
  - 2, 261805.637, 1848685.561, 1562.749, "pond"
  - 3, 261856.683, 1848739.219, 1553.304, "cistern"
  - 4, 261974.270, 1848232.520, 1599.294, "cistern"
  - 5, 262397.298, 1847736.178, 1622.381, "cistern"
  - 6, 262529.502, 1847059.112, 1517.749, "pond"
  - 7, 262548.916, 1846938.082, 1499.398, "cistern"
  - 8, 258789.406, 1848477.893, 1379.807, "spring"
  - 9, 257848.310, 1848106.258, 1479.434, "spring"

GRID NORTH

CNX GAS COMPANY LLC P. O. BOX 1248 JANE LEW, WV 26378
PLAT SHOWING WATER PURVEYORS WITHIN 2500 FEET OF THE PHL10 PAD CENTER
PLEASANT DISTRICT BARBOUR CO. WEST VIRGINIA SCALE: 1" = 733.30'
LAND SURVEYING SERVICES 21 CEDAR LANE BRIDGEPORT, WV 26330 PHONE: 304-642-2018 OR 5762

DEC 17 2012  
Environmental Services Corporation



# LAND SURVEYING SERVICES

Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
P. O. Box 1248  
Jane Lew, WV 26378

## WATER WELL REPORT

Project: PHL10  
District: Pleasant  
County: Barbour  
State: WV

The following people may have water supplies within 2,000 feet of the above location:

Mary Lou Watson	710 Mill Dam Rd.	Towson, MD 21286
Joyce Romain	Rt. 3, Box 188	Philippi, WV 26416
Linda Proudfoot	107 Hall St.	Philippi, WV 26416
Larry Wolfe	Rt. 3, Box 46	Philippi, WV 26416
Jack Weaver	Rt. 3, Box 197E	Philippi, WV 26416
Lester Chelli	Rt. 3, Box 202B	Philippi, WV 26416
Midwest Energy, Inc.	12 Millbrook Rd.	Bridgeport, WV 26330
Philippi Development, Inc.	2708 Cranberry Sq.	Morgantown, WV 26505
Barton McCauley	1 Corelogic Dr. DFW 4-3	West Lake, TX 76262

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# LAND SURVEYING SERVICES

Stephen D. Losh, PS J. Michael Evans, PS 21 Cedar Lane Bridgeport, WV 26330  
Phone & Fax (304) 842-2018 or 842-5762 sdlosh@frontier.com

August 16, 2012

CNX GAS COMPANY LLC  
P. O. Box 1248  
Jane Lew, WV 26378

## WATER WELL REPORT

Project: PHL10  
District: Pleasant  
County: Barbour  
State: WV

The following people may have water supplies between 2,000 feet and 2,500 feet of the above location:

Mrs. Chester Proudfoot  
Robert McBee  
Kevin Keene  
Michael Kettlewell

15 Marilyn Rd.  
181 Beacon Dr. Ext.  
Rt. 3, Box 189A  
7861 Morningstar Dr., NE

Newark, DE 19713  
Weirton, WV 26062  
Philippi, WV 26416  
Louisville, OH 44641

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**PHL10HS: SURFACE OWNERS WITHIN A 1 MILE RADIUS**

ALBERT & JOYCE ROMAN	RT 3 BX 188	PHILIPPI, WV 26416	304-457-4289	
ANGELA CARBAUGH	RR 3 BX 189 H	PHILIPPI, WV 26416	unavailable	
ANNA MAE MAYLE	RT 3 BX 206 C	PHILIPPI, WV 26416	unavailable	
AQUILLA CREED WARD	RR 1 BX 61	VOLGA, WV 26238	304-622-4394	
BARTON J. MCCAULEY	RR 3, BX 189	PHILIPPI, WV 26416	304-457-9567	
BROOKS WEAVER C/O JACK	RT 3 BOX 197E	PHILIPPI, WV 26416	unavailable	
BRUNER LAND CO./ GREG VAN DOUGLAS KENNEDY	RR 3 BOX 164	PHILIPPI, WV 26416	unavailable	
CAROLINE R. ALLEN	RR 3BX 186-F	PHILIPPI, WV 26416	unavailable	
CHARLES ROY SMITH	RR 3 BOX 202	PHILIPPI, WV 26416	304-457-6131	
CHELLI LESTER	RT 3 BOX 202 B	PHILIPPI, WV 26416	unavailable	
CHESTER PROUDFOOT	15 MARILYN RD	NEWARK, DE 19713-18007	unavailable	
CLARE M. & LILAH ABBOTT	RT1 BX 176	MOATSVILLE, WV 26405	304-457-3705	
DOLETTA E. BENNETT	RT 3 BO 200- A	PHILIPPI, WV 26416	304-457-3573	
EDWARD C. FREY	105 GALL ST	PHILIPPI, WV 26416	304-457-2069	
ERNEST J. ODONELL	RT 3 BX 189-F	PHILIPPI, WV 26416	unavailable	
FRANK & LORALEI UNGER	RT 3 BX 189 E	PHILIPPI, WV 26416	304-457-1833	
FRANK D. PLUM	RT 3 BOX 680	PHILIPPI, WV 26416	304-457-2202	
GARY & PATRICIA MCCAULEY	RT 3 BX 195 A	PHILIPPI, WV 26416	304-457-3521	
GLEN J. & PATRICIA L. MAYLE	RR 3 BX 150	PHILIPPI, WV 26416	304-457-1926	
JACK & TAMARA WEAVER	RR 3 BX 197-E	PHILIPPI, WV 26416	unavailable	
JOHN W. COFFMAN & ALICE MCBEE	RR3 BX 189 C	PHILIPPI, WV 26416	unavailable	
JUANITA PROUDFOOT	RR 3 BX 244-C	PHILIPPI, WV 26416	unavailable	
KEVIN L. KEENE	RT 3 BOX 189-A	PHILIPPI, WV 26416	unavailable	
LARRY, STANLEY, ROBERT WOLFE	RT 3 BOX 46	PHILIPPI, WV 26416	304-457-5041	STANLEY
LEONARD L. COLLINS	1720 MILLERTON ST. S.E.	CANTON, OH 44707	unavailable	
LINDA G. PROUDFOOT	107 HALL STREET	PHILIPPI, WV 26416	304-457-2840	
LISA FREGMIN-RIFFLE	1724 PRIDE AVE	CLARKSBURG, WV 26301	304-838-2864	
LISA KATHLEEN LEPSCH	RT 3 BX 203	PHILIPPI, WV 26416	unavailable	
LOUIS R. ROSEMAN	7824 WILLIAMSPORT PIKE	FALLING WATERS, WV 25419	304-671-6533	
ORAN LEE WARDER	1820 KESSLER PRKY	DALLAS, TX 75208	940-612-3306	
PHILIP G. HALLER & CECILIA LAKE	RR 3 BOX 196	PHILIPPI, WV 26416	304-457-3475	CECILIA LAKE
REGGIE & SANDRA MINNICK	RD 3 BX 206	PHILIPPI, WV 26416	304-457-3732	
RICHARD & TAMELA CORDER	RR 1 BX 361	FLEMINGTON, WV 26347	304-739-4651	
RICHARD L. KEENE & ESTHER KEENE	RR 3 BOX 189	PHILIPPI, WV 26416	unavailable	
ROBERT & GINETTE KELLY	RT 3 BX 189 G	PHILIPPI, WV 26416	unavailable	
ROBERT & MARY MCBEE	181 BEACON DR EXT	WEIRTON, WV 26062-4945	304-723-0849	
ROBERT L. MCBEE	181 BEACON DR	WEIRTON, WV 26062-4945	304-723-0849	
ROBERT W. CONTI JR.	RR 3 BX 240	PHILIPPI, WV 26416	unavailable	
RON & AMANDA MCCORMICK	RR3 BOX 197-C	PHILIPPI, WV 26416	304-457-5737	
RONALD E. & MARY LOU WATSON	700 MILL DAM RD	TOWSON, MD 21286	410-337-7079	
TAYLOR DRAIN CEMETRY ASSOC.	6138 ROHNSVILLE RD	BOONSBORO, MD 21713-2749	304-457-3521	G. McCauley
VICTOR & DONNA COLLINS	3203 ALLIANCE RD NW	MALVERN, OH 44644	unavailable	
WILBERT E. MAYLE	PO BX 244	MOATSVILLE, WV 26405	304-457-3243	
WILFORD ALLEN JR.	RR 3 BX 186-F	PHILIPPI, WV 26416	unavailable	
WILLIAM BEASTON	RT 1 BX 406F	GRAFTON, WV 26354	304-265-1165	

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WW-6A7  
(6-12)

OPERATOR: CNX Gas Company. LLC

WELL NO: PHL10FHS

PAD NAME: Philippi 10

REVIEWED BY: Amanda Langford

SIGNATURE: 

## WELL RESTRICTIONS CHECKLIST

### HORIZONTAL 6A WELL

#### Well Restrictions

At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland; OR

DEP Waiver and Permit Conditions

At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream; OR

DEP Waiver and Permit Conditions

At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply; OR

DEP Waiver and Permit Conditions

At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from an Occupied Dwelling Structure to Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad; OR

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

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# Internal Use Only

Date: 12-17-12

Reviewer: Natalie

## Administrative Checklist

✓ Fees

First Well	Subsequent Well
10,250.00 with pit <input type="checkbox"/>	5,250.00 with pit <input type="checkbox"/>
10,150.00 no pit <input type="checkbox"/>	5,150.00 no pit <input checked="" type="checkbox"/>

✓ Site Construction Plan

✓ Reclamation Plan

✓ Erosion and Sediment Control Plan

✓ Mylar Plat

✓ WW-PN Public Notice

✓ Well Site Safety Plan

✓ Water Management Plan

✓ Bond (250,000)

Horizontal 6A Well Permit App. Checklist

OPERATOR: CNX GAS CO, LLC

PAD NAME: PHILIPPI 10 WELL: PHL10FHS

PAD BUILT:  YES  NO DATE REVIEWED: \_\_\_\_\_ INT. \_\_\_\_\_

REVIEWED BY (APPLICANT): AMANDA LANGFORD

APPLICANT SIGNATURE: *Amanda Langford*

**CHECKLIST FOR FILING A PERMIT  
HORIZONTAL 6A WELL**

Please include these required elements in the Horizontal Well 6A applications, in order listed below.  
Do not use staples.

First Well	Subsequent Well
\$10,150.00 <input type="checkbox"/>	\$5,150.00 <input checked="" type="checkbox"/>

# 2780006877  
\$5,150.00

- Fees
- Checklist / Cover letter
- WW-6B Notice of Application  Field Approved
- Cement Additives
- Well Bore Schematic
- WW-6A Notice of Application notarized w/ any attachments
- Public Notice (dated copy of advertisement or affidavit of publication)
- WW-6AC Notice Certifications and Waivers
- WW-6A3 Notice of Entry for Plat Survey
- N/A WW-6A4 Notice of Intent to Drill
- WW-6A5 Notice of Planned Operation
- Registered Mail receipts

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Horizontal 6A Well Permit App. Checklist

N/A WW-6RW Well Location Restriction Waiver

       WW-6AW Voluntary Statement of No Objection

       Waiver for Surface Owner at Wellhead

       Waiver for Surface Owner for Roads or other Disturbances

       Waiver for Coal Owner, Operator or Lessee

       Waiver for surface owner for Impoundment or Pit

       Waiver for Surface Owner or Water Purveyor within 1500 feet of Center of Pad

N/A Waiver for Natural gas Storage Field Operator

WW-6A1

Road Crossing Letter

Road Bonding Agreement / DOH Certification

WW-9  Field Approved

Frac Additives List of Chemical Names & CAS #s

Site Safety Plan  Field Approved

JAM<sup>c</sup>  
12-4-12

Site Construction Plan - SEE ATTACHED E+S CONTROL PLAN  Field Approved

Reclamation Plan (WW9) SEE ATTACHED E+S CONTROL PLAN  Field Approved

Erosion and Sediment Control Plan  Field Approved

Topographic Map w/water purveyors, showing access road

Mylar Plat (Signed and sealed) (Surface Owner matches WW-6A)

N/A Within a Municipality (Emergency Rule)

N/A Class 1 Legal Advertisement for first permit on pad

Water Management Plan  DWWM Approved

Copy of To Scale Plans SEE ATTACHED E+S CONTROL PLAN

Inspector packet mailed to inspector (Plat, Topographic Map, WW-6B, WW-9, All Plans)

Bond (\$250,000)

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DEC 17 2012  
WV Department of  
Environmental Protection



Horizontal 6A Well Permit App. Checklist

- Operator is registered with the SOS
- Workers Compensation / Unemployment Insurance account is OK
- Professional Engineer/Company has COA
- Check for Mine Data at proposed coordinates
- Check for Floodplain Data at proposed coordinates
- WW-6A7 Well Restrictions Form w/ Signature
  - At Least 100 Feet from Pad and LOD (including any E&S Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland
    - DEP Waiver and Permit Conditions
  - At Least 300 Feet from Pad and LOD (including any E&S Control Feature) to any Naturally Producing Trout Stream
    - DEP Waiver and Permit Conditions
  - At Least 1000 Feet from Pad and LOD (including any E&S Control Feature) to any Groundwater Intake or Public Water Supply
    - DEP Waiver and Permit Conditions
  - At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled
    - Surface Owner Waiver and Recorded with County Clerk, OR
    - DEP Variance and Permit Conditions
  - At Least 625 Feet from an Occupied Dwelling Structure to the Center of the Pad
    - Surface Owner Waiver and Recorded with County Clerk, OR
    - DEP Variance and Permit Conditions
  - At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad
    - Surface Owner Waiver and Recorded with County Clerk, OR
    - DEP Variance and Permit Conditions

JAMC  
12-4-12

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Environmental Protection

Plot

Received Date: 12/17/2012

API: 103291

Operator: CNX GAS COMPANY LLC

WELL: PHL10FHS

Pad Name: PHILIPPI 10

End Comment Period: 1-18-13

Pad Built:  Yes  No

Date Reviewed: 2-23-12 INT. LKC

o Have Gene check casing  
o Needs As-Built

### CHECKLIST FOR FILING A PERMIT

CK# 2780006877

#### Horizontal 6A Well

Needs WMP

print mine map

First Well	Subsequent Well
10,250.00 with pit <input type="checkbox"/>	5,250.00 with pit <input type="checkbox"/>
10,150.00 no pit <input type="checkbox"/>	5,150.00 no pit <input checked="" type="checkbox"/>

- Fees
- Checklist / Cover letter
- WW-6B Well Work Permit Application
- Cement Additives
- Well Bore Schematic
- WW-6A Notice of Application notarized w/ any attachments
- Public Notice (dated copy of advertisement or affidavit of publication)
- WW-6AC Notice Certifications and Waivers
- WW-6A3 Notice of Entry for Plat Survey
- WW-6A4 Notice of Intent to Drill
- WW-6A5 Notice of Planned Operation
- Registered Mail receipts, Affidavits of Personal Service or Waivers
- WW-6RW Well Location Restriction Waiver
- WW-6AW Voluntary Statement of No Objection
  - Waiver for Surface Owner at Wellhead
  - Waiver for Surface Owner for Roads or other Disturbances
  - Waiver for Coal Owner, Operator or Lessee
  - Waiver for surface owner for Impoundment or Pit
  - Waiver for Surface Owner or Water Purveyor within 1500 feet of Center of Pad
  - Waiver for Natural gas Storage Field Operator

case 30' past void?  Field Approved

\* also update 6B in SSP

drilling in permitted mine  
- name of mine? operator?  
depth?  
starting w/ 20" conductor  
planning to drill thru coal (possible void) w/ 13 3/8" casing hole

- WW-6A1
- Road Crossing Letter
- Road Bonding Agreement / DOH Certification *need one*
- WW-9 Construction and Reclamation Plan - *Ch. to 60mil.*  Field Approved
- Frac additives with CAS#'s
- Site safety plan  Field Approved
- Site Construction Plan - *need As-Built drawing*  Field Approved
- Reclamation Plan  Field Approved
- Erosion and Sediment Control Plan  Field Approved
- Topographic Map w/ water purveyors showing access road

Mylar Plat (Signed and sealed) (Surface Owner matches WW-6A) - *Proodfoot min. owner? Not listed*

Signed Restriction List - *need one* *wa notices - On 6A/*

Within a Municipality (Emergency Rule)

Class 1 Legal Advertisement for first permit on pad

Water Management Plan  DWWM Approval

Copy of To Scale Plans

Inspector packet mailed to inspector (Plat, Topographic Map, WW-6B, WW-9, All Plans)

~~Now~~ Comments

Bond (\$250,000)

Operator is registered with the SOS

Workers Compensation / Unemployment Insurance account is OK

Professional Engineer/Company has COA

*In Mine*  Check for mine data at proposed coordinates - *in permitted mine - print map*

Check for floodplain data at proposed coordinates

Already-built

Well Restrictions

- At Least 100 Feet from Pad and LOD (including any ES Control Feature) to any Perennial Stream, Lake, Pond, Reservoir or Wetland

DEP Waiver and Permit Conditions

- At Least 300 Feet from Pad and LOD (including any ES Control Feature) to any Naturally Producing Trout Stream

DEP Waiver and Permit Conditions

- At Least 1000 Feet from Pad and LOD (including any ES Control Feature) to any Groundwater Intake or Public Water Supply

DEP Waiver and Permit Conditions

- At Least 250 Feet from an Existing Water Well or Developed Spring to Well Being Drilled

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

- At Least 625 Feet from an Occupied Dwelling Structure to the Center of the Pad

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions

- At Least 625 Feet from Agricultural Buildings Larger than 2500 Square Feet to the Center of the Pad

Surface Owner Waiver and Recorded with County Clerk, OR

DEP Variance and Permit Conditions



1-03291

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**

Office of the District Engineer/Manager  
District Seven

P. O. Box 1228, Weston, West Virginia 26452 · (304) 269-0400

*PHL10HS*  
*Entrance*

May 26, 2011

CNX Gas Company, LLC  
P.O. Box 1248  
Jane Lew, WV 26378  
Attn: Jeffery Hosaflook

Dear applicant:

Your approved copy of Permit Number: **07-11-0245** of type *Approach-Commercial* is enclosed. A description of the work is on the attached permit.

Your attention is called to Paragraph Three (3) of Form MM-109 stating it is mandatory that the applicant notify the District Seven Permit Office at 304-269-8948 at least forty-eight (48) hours prior to starting construction of the project.

Failure to comply with this clause of the permit will result in cancellation of your permit.

A copy of this permit is to be available on the job at all times while the work is in progress for inspection by the West Virginia Division of Highways personnel.

Very truly yours,

Ron Hooton  
Highway District Manager  
By:

Gary L. Weaver  
Permit Supervisor

RH  
enclosures

E.E.O./AFFIRMATIVE ACTION EMPLOYER

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DEC 17 2012  
WV Department of  
Environmental Protection

PERMIT TO ENTER UPON, UNDER, OVER OR ACROSS THE STATE ROADS OF THE STATE OF WEST VIRGINIA, AS PROVIDED FOR IN SECTION 6, ARTICLE 16, CHAPTER 17; SECTION 9, ARTICLE 16, CHAPTER 17; SECTION 8, ARTICLE 4, CHAPTER 17, WEST VIRGINIA CODE, 1931, AS AMENDED.

THIS PERMIT, Made this 18th day of MAY 20 11, between the WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS, a statutory corporation hereinafter called DIVISION and CNX Gas Company LLC ATTN: Jeffery T. Hosaflook  
Address: P. O. Box 1248, Jane Lew, West Virginia 26378 Phone No: 304-884-2000  
hereinafter called APPLICANT.

**WITNESSETH**

In consideration of the hereinafter set out covenants and in accordance with Section 6, Article 16, Chapter 17; or Section 9, Article 16, Chapter 17; or Section 8, Article 4, Chapter 17, of the Official Code of West Virginia, 1931, as amended, and the rules and regulations promulgated thereunder, APPLICANT does hereby apply to enter

Route Type & No. County Route 6 DOH Project No. \_\_\_\_\_ (if applicable);  
at 1.65 miles East of US 119 & 250 Mile Post \_\_\_\_\_  
in Barbour County, for the purposes hereinafter set forth and in accordance with the plans and specifications which are attached hereto and made a part hereof: To construct and maintain a 20ft  
Approach on the North side of County Route 6. Approximately 1.65 miles East of the junction of US Rt 119 & 250. Entrance to be used for Marcellus well location PHL 10HS.

APPLICANT further agrees to accept the conditions hereinafter set forth:

- APPLICANT shall deposit with DIVISION the sum of \$ \$50,000.00 in the form of an official, certified or cashier's check, or executed bond with surety satisfactory to DIVISION to cover any damage and inspection costs DIVISION may sustain by reason of the granting of this permit, including any expense incurred in restoring said highway to its original condition or the proper repair of any and all damages that may result within one (1) year from the date of the completion of said work.
- APPLICANT agrees to reimburse DIVISION for inspection costs as follows:
  - A. For any inspection costs incurred under this permit.
  - B. At \$ \_\_\_\_\_ per linear foot for \_\_\_\_\_ feet of water line installed under this permit
  - C. At \$ \_\_\_\_\_ per linear foot for \_\_\_\_\_ feet of sewer line installed under this permit
- APPLICANT shall notify DIVISION at least 48 hours in advance of the date the work will begin. Failure to comply will be cause for cancellation of this permit.
- APPLICANT agrees to protect its employees, equipment and users of the highway at all times in accordance with the current Division of Highways manual "Traffic Control For Street and Highway Construction and Maintenance Operations".
- APPLICANT agrees to comply with all applicable state and federal laws in the performance of work under this permit.
- Supplementary conditions cited on the reverse side of this permit are understood and agreed to be a part hereof.
- The work authorized under this permit shall be completed on or before (Date): 18 May 12

RECOMMENDED:

\_\_\_\_\_  
Title **ORIGINAL SIGNED BY**  
**PERMIT SUPERVISOR**

Jeffery T. Hosaflook  
Signature and Title of Applicant **Land Agent**

**BOND REQUIREMENT:**

BOND NO. 105424925 /DATE 4/12/2010

Attached  On File

INSPECTION: Owner/Consultant

Full Time  Part Time

Periodic  Reimbursable  No Cost

AUTHORIZATION NO: \_\_\_\_\_

APPROVED:

\_\_\_\_\_  
Original signed by **District Highway Manager**  
Title \_\_\_\_\_  
West Virginia Division of Highways

PERMIT NO: \_\_\_\_\_

**RECEIVED**  
**Office of Oil & Gas**

**DEC 17 2012**

0711

**WV Department of Environmental Protection**

CHAPTER 17 WEST VIRGINIA CODE, 1931

**§17-4-8. Use of roadbed by railroad, telephone company, etc.**

No railroad or electric or other railway shall be constructed upon the roadbed of any state road, except to cross the same, nor shall any person, firm or corporation enter upon or construct any works in or upon such road, or lay or maintain thereon or thereunder any drainage, sewer or water pipes, gas pipes, electric conduits or other pipes, nor shall any telephone, telegraph or electric line or power pole, or any other structure whatsoever, be erected upon, in or over any portion of a state road, except under such restrictions, conditions and regulations as may be prescribed by the state road commissioner. Whenever any railroad or electric or other railway, heretofore or hereafter constructed, shall cross any state road, it shall be required to keep its own roadbed, and the bed of the road or highway at such crossing, in proper repair, or else to construct and maintain an overhead or undergrade crossing, subject to the approval of the state road commissioner; and the tracks of such railroad or railway at grade crossings shall be so constructed as to give a safe and easy approach to and across the same, and when the construction of such approaches is made necessary by a change in the railroad grade at the grade crossing, the cost shall be upon the railway company.

**§17-16-6. Permit by commission or county court for openings in or structures on public roads; franchises and easements of oil, etc., transportation companies.**

No opening shall be made in any state or county-district road or highway, nor shall any structure be placed therein or thereover, nor shall any structure, which has been so placed, be changed or removed, except in accordance with a permit from the state road commission or county court, as the case may be. No road or highway shall be dug up for laying or placing pipes, sewers, poles or wires, or for other purposes, and no trees shall be planted or removed or obstructions placed thereon, without the written permit of the commission or county court, or its duly authorized agent, and then only in accordance with the regulations of the commission or court. The work shall be done under the supervision and to the satisfaction of the commission or court; and the entire expense of replacing the highway in as good condition as before shall be paid by the persons to whom the permit was given, or by whom the work was done: **Provided, however,** That nothing herein contained shall be so construed as to prevent any oil or gas company or person having a proper permit or franchise from transporting oil or gasoline along any of the public highways of this State, nor to give such company a franchise without paying to the landowners through whose lands such road passes the usual and customary compensation paid or to be paid to the landowners for such right of way. Any grant or franchise when made shall be construed to give to such company or person only the right to use the easement in such public road.

A violation of any provision of this section shall be a misdemeanor, and the person or corporation violating the same shall, upon conviction thereof, be fined not less than twenty-five nor more than one hundred dollars for each offense.

**§17-16-9. Private driveways or approaches to roads; obstruction of ditches.**

The owner or tenant of land fronting on any state road shall construct and keep in repair all approaches or driveways to and from the same, under the direction of the state road commission, and, likewise, the owner or tenant of land fronting on any county-district road shall construct and keep in repair approaches or driveways to and from the same, under the direction of the county road engineer, and it shall be unlawful for such owner or tenant to fill up any ditch, or place any material of any kind or character in any ditch, so as in any manner to obstruct or interfere with the purposes for which it was made.

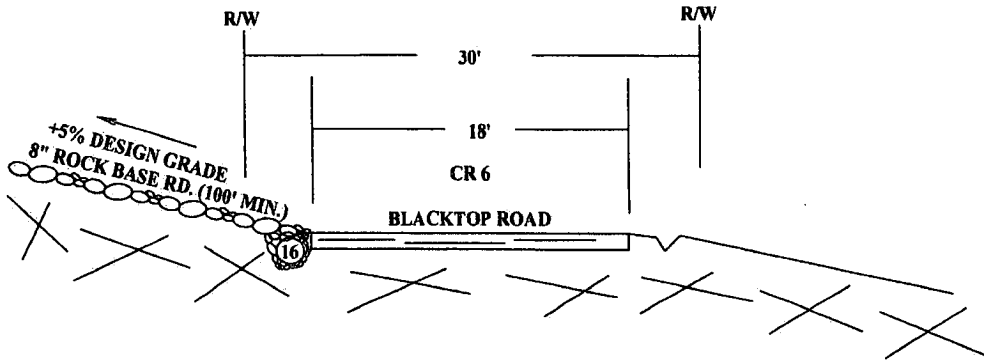
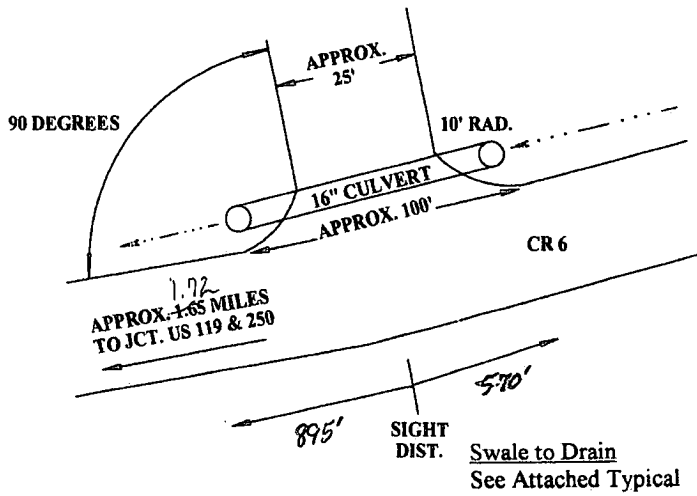
**SUPPLEMENTARY CONDITIONS**

1. The person, firm or corporation to whom a permit is issued agrees to hold the State of West Virginia and DIVISION harmless on account of any damages to persons or property which may arise during the process of the work authorized by this permit or by reason thereof.
2. Applications for permission to perform work within highway rights of way shall be made on DIVISION'S standard permit form and shall be signed by the authorized representative of the person, firm or corporation applying.
3. The APPLICANT shall give detailed information concerning the work to be performed and the application must include a sketch sufficient to show the nature of the work performed.
4. APPLICANT, his agents, successor, heirs or assigns, contractors or any other person, firm or corporation working under APPLICANT'S real or apparent authority, shall perform the work in a manner satisfactory to DIVISION. Damage to the road resulting at any time from work authorized under this permit shall be repaired by APPLICANT. Unsatisfactory repairs may be corrected by DIVISION or its authorized agent and the cost thereof paid by APPLICANT.
5. DIVISION assumes no liability for damage to the proposed work by reason of construction or maintenance work on the road.
6. This permit is granted subject to removal of the authorized installation by APPLICANT at no cost to DIVISION, when required for improvement of the road, and subject to all regulations now or hereafter adopted by DIVISION.
7. Utility installation shall be in accordance with the current manual, "Accommodation of Utilities on Highway Rights-of-Way".
8. Driveways shall be in accordance with the current manual, "Rules and Regulations for Construction of Driveways on State Highway Rights-of-Way."
9. DIVISION reserves the right to cancel this permit at any time, should APPLICANT fail to comply with the terms and conditions under which it is granted.
10. This permit is granted only insofar as the DIVISION has a right to do so.

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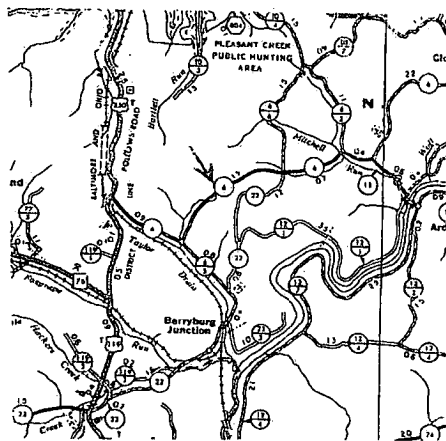
1-03291

PLAN VIEW NOT TO SCALE.



SECTION NOT TO SCALE.

ALL WORK WILL CONFORM TO WV DOH RULES AND REGULATIONS.



Prepared by:

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018

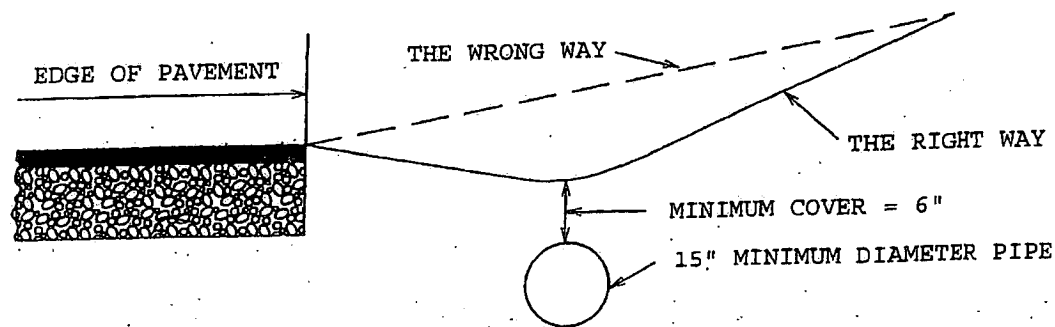
CNX GAS COMPANY LLC P. O. BOX 1248 JANE LEW, WV 26378		
PLAT SHOWING PROPOSED ACCESS ROAD ENTRY ONTO COUNTY ROUTE 6		
DISTRICT PLEASANT	COUNTY BARBOUR	STATE WV
DATE 04/12/11	SCALE N/A	DESIGN NO. PH10AHS

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PIPE INSTALLATION FOR SIDE ROAD  
APPROACH WITH STEEP GRADE

FIGURE 17.

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Dist. Permit # \_\_\_\_\_  
BOND # \_\_\_\_\_

### OIL and GAS DATA INFORMATION SHEET

**APPLICANT**

Company Name CNX Gas Company LLC.

Address P.O. Box 1248

City Jane Lew ST WV Zip 26378

Contact Person  
Permit Michael W. Ash Telephone 304-884-2011

24/7 Road  
Maintenance  
Contact Michael W. Ash Telephone 304-884-2011 Cell 304-517-6481

24/7 Backup  
Contact Geoff Fanning Telephone 304-884-2046 Cell 724-833-0881

Drilling/Fracking will require transport of Less than 5000 Barrels of Fluids  5000/+

**SITE LOCATION**

Site Name: PHL10HS Road Local Name: ARDEN ROAD Rte. # 6

Decimal Format GPS 39.21223 080.07162  
N: 39-2122589 W: 80-0342580 County BARBOUR

**Location Description**

On Rte.# 6 being 1.65 miles E. of Jct. of Rte. # 119&250 <sup>US</sup> and Rte.# 6

**DOH USE ONLY HAULING ROUTE From US or WV Route (Attach Map)**

Name & Rte. #	Beg MP	End MP	Surface Type	Condition
<u>0140006 000NB</u>	<u>0.00</u>	<u>1.65</u>	<u>Asphalt</u>	<u>Good</u>
_____	_____	_____	_____	_____
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MINIMUM REQUIREMENTS FOR APPROACHES

**DRAINAGE** - all driveways and buffer areas must be constructed so as not to impair drainage within the highway right of way nor alter the stability of the roadway subgrade and at the same time not impair or materially alter drainage of the adjacent areas. All culverts, catch basins, drainage channels, pipes and other drainage structures required within the buffer area and under the driveways as the result of the property to be developed shall be installed in accordance with standards of the West Virginia Department of Highways.

West Virginia Department of Highways may require a drop-inlet for the full width of the driveway depending on the grade and amount of water (shut flow) which would flow onto the highway. Water shall not be discharged across sidewalks or allowed to drain from steep approaches onto the highway pavement.

**ALIGNMENT & PROFILE** - the constructed driveway slopes shall conform with the slope of the existing adjacent shoulder slopes and shall be carried for the full width of the shoulder. As a rule, the following driveway slopes are standard:

- (a) For shoulders of compacted aggregate material - 3/4" per foot.
- (b) For paved shoulders - 1/2" per foot.

Where curbs are used along the roadway and sidewalks are provided or contemplated, the gradient of the driveway usually should fit the plane of the sidewalk. If the difference in elevation of the gutter and the sidewalk is such that this is not practical, then the sidewalk should be lowered to provide a suitable gradient for the driveway; in such cases the surface of the sidewalk should be sloped gently from either side of the driveway. Vertical curves on driveways should be flat enough to prevent dragging on central or overhang portions of passenger vehicles.

**SURFACING** - driveways should be appropriately surfaced or stabilized between the travelway and the service area:

**COMMERCIAL** - when the travel way is paved all driveways classed as commercial must be paved. Pavement for driveways approaches shall be equal to or better than either of the following:

- (a) 2 1/2" of bituminous concrete on eight inches of compacted gravel or stone.
- (b) Eight inches of reinforced concrete.

Prior to placing of surface the County Supervisor must inspect the base as to grade, drainage, and stability. Residential and farm driveways to residences or farms need not be surfaced although 6 inches of compacted stone or gravel and/or pavement is highly desirable and recommended.

**HEAVY EQUIPMENT** - where trucks will be hauling logs, coal, heavy equipment, mining or drilling equipment, etc. the approaches shall be surfaced with at least eight inches of compacted gravel or stone for a distance of 100 feet or sufficient distance to prevent the dragging of mud and debris onto the roadway.

**PLACING OF STONE** - the stone shall be placed and shaped on the prepared surface in layers to achieve the desired compacted thickness. When more than one layer is required each layer shall be shaped and compacted to the required density (not less than 95 percent of the maximum density obtainable) before the succeeding layer is placed. West Virginia Department of Highways may conduct a compaction test on any approach being constructed.

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**SETBACK** - rural and urban pump islands or other installations with parking parallel to the right of way line must be 12 feet outside the right of way line.

**PARKING** - each roadside business establishment must provide sufficient parking or storage space off the right of way to prevent the storage of vehicles on the driveway or the backing up of traffic on the travelway.

**SIGNING** - all advertising signs in conjunction with the roadside establishment must be placed outside the highway right of way, and shall comply, where required, with West Virginia Laws regulating outdoor advertising.

**LIGHTING** - the lighting of the roadside establishments at night shall be concentrated on the service area itself and light beams shall not be directed toward the eyes of approaching drivers on the highway. All lighting equipment for the roadside establishment should be located off the highway right of way and shall not extend over the right of way.

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ASSURANCE OF COMPLIANCE WITH THE DEPARTMENT OF COMMERCE REGULATIONS  
UNDER TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

As a condition to the approval of a permit to enter upon West Virginia Dept. of Highways right of way, the permittee agrees to the following:

(1) The permittee, for himself, his heirs, personal representatives, successors in interest, and assigns, as a part of the consideration hereof, does hereby agree that in the event facilities are constructed, maintained, or otherwise operated, for the accommodation of the traveling public or business users on any federal-aid highway, such as eating, sleeping, rest, recreation, and vehicles services, he will not discriminate on the ground of race, color, or national origin against such traveling public or highway users in their access to and use of the facilities and services so constructed, maintained, or otherwise operated, and that the permittee shall maintain and operate such facilities and services in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations, Commerce and Foreign Trade Subtitle A, Office of the Secretary of Commerce, Part 8 (15 C.F.R., Part 8) and as said Regulations may be amended.

(2) That in the event of breach of any of the above non-discrimination covenants in Paragraph 1, The West Virginia Dept. of Highways shall have the right to terminate the permit as if said permit had never been paid or issued.

(3) The permittee, for himself, his personal representatives, successors in interest and assigns, as a part of the consideration hereof, does hereby agree that, (1) No person, on the ground of race, color, or national origin shall be excluded from participation in, and be denied the benefits of, or otherwise subjected to discrimination and the use of said facilities. (2) That in connection with the construction of any improvements of said land and the furnishing of services thereon, no discrimination shall be practiced in the selection of employees and contractors, by contractors in the selection and retention of first tier subcontractors, and by first tier subcontractors (3) That such discrimination shall not be practiced against the public in their access to and use of the facilities and services provided for public accommodations such as eating, sleeping, rest, recreation, and the vehicle servicing constructed or operated on, over, or under the space of the right of way. (4) That the permittee shall use the premises in compliance with all other requirements imposed pursuant to Title 15, Code of Federal Regulations. Commerce and Foreign Trade, Subtitle A, Office of the Secretary of Commerce, Part 8 (15) C.F.R., Part 3), and as said Regulations may be amended.

(4) That in the event of any of the above non-discrimination covenants the West Virginia Department of Highways of West Virginia, shall have the right to terminate the permit as if the same had never been made or issued.

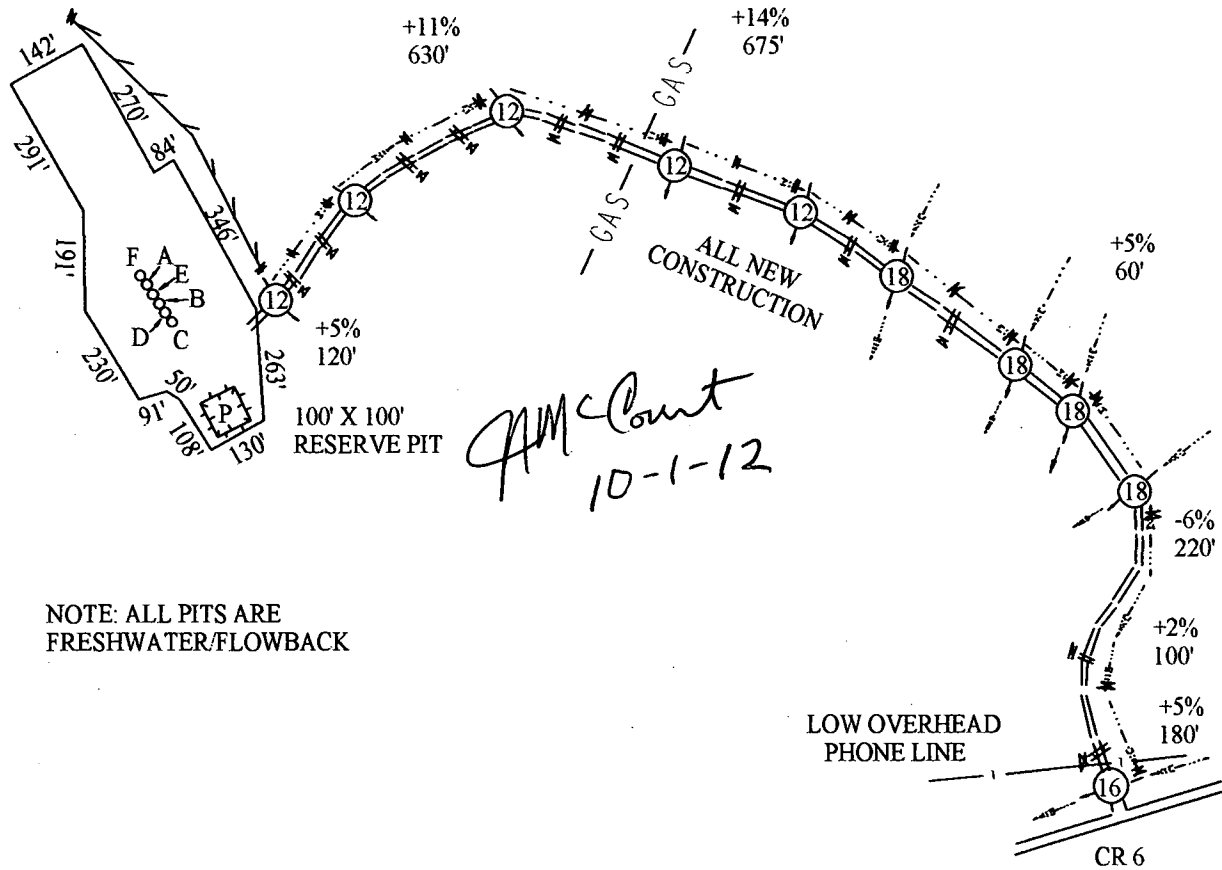
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001-03291

# PHILIPPI 10 SITE

SURFACE OWNER:

MARY LOU WATSON  
710 MILL DAM RD.  
TOWSON, WV 21286



NOTE: ALL PITS ARE FRESHWATER/FLOWBACK

LOCATION IS ON A WOODED POINT. USABLE TIMBER WILL BE CUT AND STACKED. TOPSOIL WILL BE STOCKPILED FOR USE IN REVEGETATION.

ACCESS ROAD LEAVES CR 6 AND RUNS THROUGH AN OLD FIELD, THEN QUARTERS UP AROUND THE HILL TO THE SITE. ROCK WILL BE USED WHERE NECESSARY.

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 5762

DRAWINGS TO ACCOMPANY FORM WW-9

CNX GAS COMPANY LLC

P. O. BOX 1248

JANE LEWIS 26378

WATERSHED:

TAYLOR DRAIN

DISTRICT: PLEASANT

COUNTY: BARBOUR

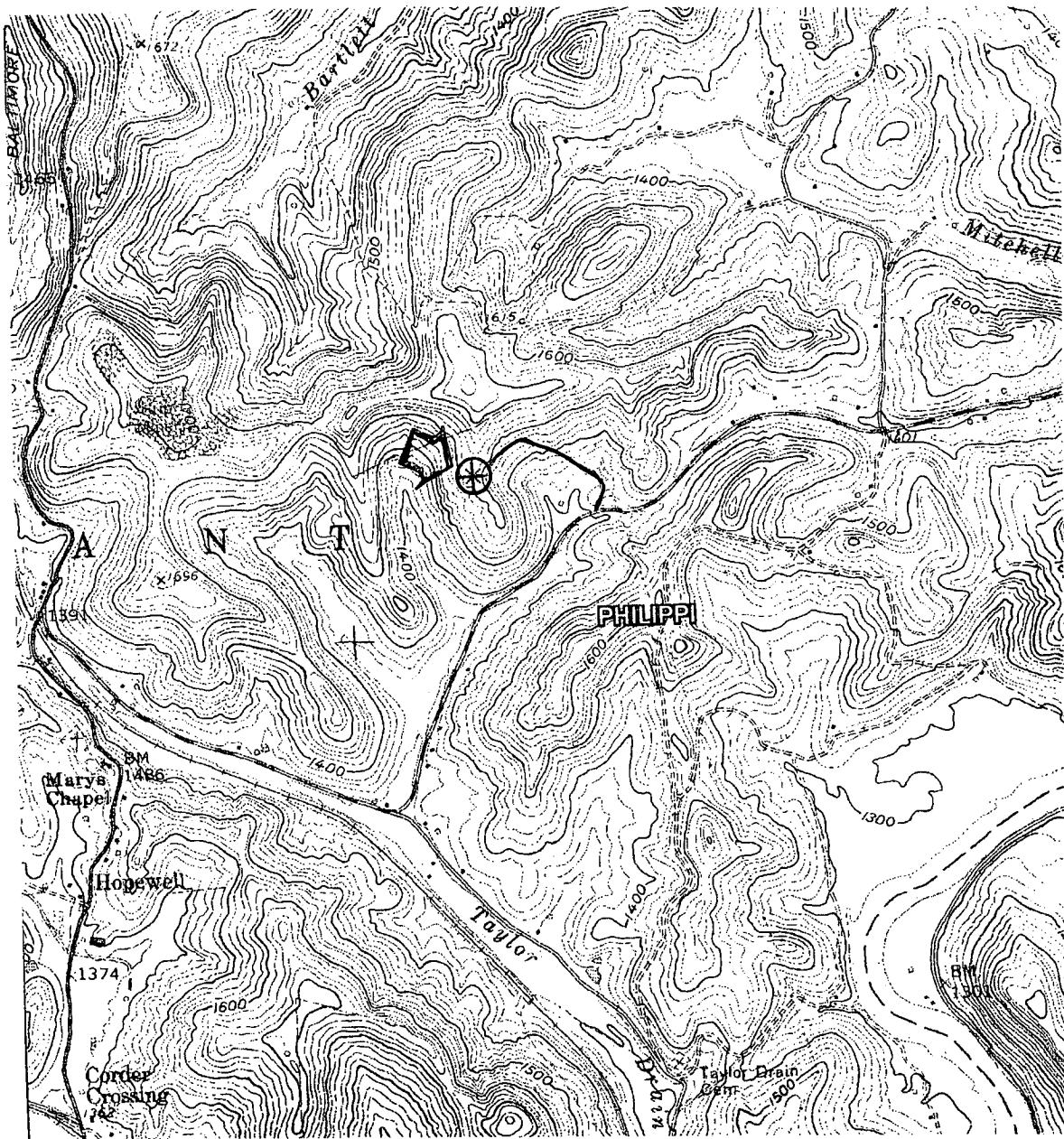
QUADRANGLE: PHILIPPI

WELL NO.: PHL10FHS (REV)

DATE: 08/16/12

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WV Department of Environment & Natural Resources



*AM Count  
10-1-12*

LAND SURVEYING SERVICES  
21 CEDAR LANE  
BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 5762

DRAWINGS TO ACCOMPANY FORM WW-9	
CNX GAS COMPANY LLC	
P. O. BOX 1248	
JANE LEW, WV 26781	
Office of Oil & Gas	
WATERSHED:	TAYLOR DRAIN 2012
DISTRICT:	PLEASANT
QUADRANGLE:	PHILIPPI
WELL NO.:	PHL10FHS (REV)
DATE:	08/16/12
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BRIDGEPORT



1-03291 MOD



Carolinda Flanagan  
Permitting Analyst  
P.O. Box 1248  
Jane Lew, WV 26378  
(304) 884-2057



August 15, 2013

West Virginia Department of Environmental Protection  
Office of Oil & Gas  
Attn: Laura Cooper  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345

Mine or no?  
Mod withdrawn  
1/8/14  
\* Already drilled

RE: PHL10A,B,C, D,E, F - (Modification - Conductor Lengthened)  
PHL10E - (Modification - Lateral Extension and Conductor Lengthened)

Dear Laura,

Enclosed, please find modifications for the PHL10 Well Pad. I have attached updated casing plans where the drilling program has lengthened the conductor to 100' as well as a Lateral Extension of the "E" lateral as follows:

- PHL10AHS - 47-001-03251 - Conductor Lengthened to 100'
- PHL10BHS - 47-001-03252 - Conductor Lengthened to 100'
- PHL10CHS - 47-001-03253 - Conductor Lengthened to 100'
- PHL10DHS - 47-001-03254 - Conductor Lengthened to 100'
- PHL10EHS - 47-001-03255 - Conductor Lengthened to 100' and Lateral Extended with one new lease acquired (shown in red)
- ~~PHL10FHS - 47-001-03291 - Conductor Lengthened to 100'~~

Should you need any additional information, please contact me at (304) 884-2057 or by email at [carolindaflanagan@consolenergy.com](mailto:carolindaflanagan@consolenergy.com). Thank you!

Sincerely,

Carolinda Flanagan

Received

AUG 16 2013

Office of Oil and Gas  
WV Dept. of Environmental Protection

WW - 6B  
(3/13)

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: CNX Gas Company LLC      494458046      Barbour      Pleasant      Philippi  
Operator ID      County      District      Quadrangle

2) Operator's Well Number: PHL10FHS      Well Pad Name: PHL10HS

3 Elevation, current ground: 1619'      Elevation, proposed post-construction: 1603'

4) Well Type: (a) Gas       Oil       Underground Storage   
Other \_\_\_\_\_  
(b) If Gas: Shallow       Deep   
Horizontal       \_\_\_\_\_

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Formation - Marcellus, Depth - 7850', Thickness - 90', Pressure - 4000#

7) Proposed Total Vertical Depth: 7850'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 16,200'

10) Approximate Fresh Water Strata Depths: 305', 575'

11) Method to Determine Fresh Water Depth: Offset Wells

12) Approximate Saltwater Depths: 1800'

13) Approximate Coal Seam Depths: 355', 425', 575'

14) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

15) Does proposed well location contain coal seams directly overlying or adjacent to an active mine? If so, indicate name and depth of mine: No

16) Describe proposed well work: Drill & stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 16200'. Well to be drilled to a TVD of 7850', formation @ TVD - Marcellus. Well will be plugged back to an approximate depth of 7200' (approximate due to exact Kick off point being unknown). Plugging back will be done using the displacement method and Class A type cement. A solid cement plug will be set from TD to KOP. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement. Well bore will not be drilled any deeper than 100' into the Onondaga Group, nor will there be any production, perforation, or stimulation of any formations below the target formation.

17) Describe fracturing/stimulating methods in detail:  
The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 17.0 Acres

19) Area to be disturbed for well pad only, less access road (acres): 14.0 Acres

**Received**  
17.0 Acres

AUG 10  
Page 1 of 3

WW - 6B  
(3/13)

20)

**CASING AND TUBING PROGRAM**

<b>TYPE</b>	<b>Size</b>	<b>New or Used</b>	<b>Grade</b>	<b>Weight per ft.</b>	<b>FOOTAGE: For Drilling</b>	<b>INTERVALS: Left in Well</b>	<b>CEMENT: Fill -up (Cu. Ft.)</b>
Conductor	20"	N	L.S.	81.3#	100'	100'	Grouted to surface
Fresh Water	13 3/8"	N	J-55	54.5#	625'	625'	CTS w/ approved Class A Type Cement
Coal					<i>Deep Heat 8-M-13</i>		
Intermediate	9 5/8"	N	J-55	36#	2000'	2000'	CTS w/ approved Class A Type Cement
Production	5 1/2"	N	P-110	20#	16200'	16200'	2400 cu. ft. w/ 50/50 POZ Lead & Class A Tail
Tubing	2 3/8"	N	J-55	4.7#	7790	7790	
Liners							

<b>TYPE</b>	<b>Size</b>	<b>Wellbore Diameter</b>	<b>Wall Thickness</b>	<b>Burst Pressure</b>	<b>Cement Type</b>	<b>Cement Yield</b>
Conductor	20"	26"	0.438	2110	Class A Type	1.18
Fresh Water	13 3/8"	17 1/2"	0.380	2730	Class A Type	1.39
Coal						
Intermediate	9 5/8"	12 1/4"	0.352	3520	Class A Type	1.18
Production	5 1/2"	8 3/4" and 8 1/2"	0.361	12640	Class A Type	1.26
Tubing	2 3/8"	5 1/2" CSG	0.190	7700	.....	.....
Liners						

**PACKERS**

Kind:	None			
Sizes:	None			
Depths Set:	None			

**Received**

AUG 16 2012  
Page 2 of 3

WW - 6B  
(3/13)

21) Describe centralizer placement 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.)

22) Describe all cement additives associated with each cement type. Conductor - 2% CaCl2. Fresh Water/Coal - 2% CaCl2. Intermediate - 2% CaCl2. Production - 2.6% Cement extender, 0.7% Fluid loss additive, 0.5% High Temperature Retarder, 0.2% Friction Reducer

23) Proposed borehole conditioning procedures. Conductor - The hole is drilled w/ air and casing ran in air. Apart from insuring the hole is clean via air circulation at TD, there are no other conditioning procedures. Fresh Water/Coal - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. Intermediate - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom, the casing shoe will be cleared with fresh water and gel prior to cementing. (Note: Drilling soap may be utilized if hole gets wet/damp during the drilling of all air holes with the exception of the conductor). Production - The hole will be drilled with synthetic oil base mud and once at TD the hole is circulated at a drilling pump rate until the hole is clean. Once casing is ran the hole is circulated for a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.

Received

AUG 16 2013  
Page 3 of 3

emailed asking for As-Built again on 3/4

**Cooper, Laura K**

---

**From:** Cooper, Laura K  
**Sent:** Monday, February 25, 2013 10:24 AM  
**To:** 'Langford, Amanda'; Flanagan, Carolinda  
**Subject:** PHL10FHS API: 103291 1/18/13

Hey Amanda and Carolinda,

I've reviewed the above-referenced permit application, and have the following issues that need cleared up before issuance:

- ✓ 1. On your 6B, your answers for questions 14 & 15 indicate that there is no mine underlying your drilling location, but our mine records indicate you will be drilling through a leased and permitted underground mine. Please indicate on a revised version of your 6B the name of the mine, depth, and operator.
- ✓ 2. We also need a copy of your road bonding agreement with DOH. What you've provided here is an approach agreement.
- ✓ 3. On your WW9, we ask that a 60mil liner be used on any pits containing drilling waste. If this pit is already permitted and built with a 30mil liner that will be okay, but if not please use a 60mil.
- ✓ 4. Since this site is already built, we need an as-built drawing signed by an engineer for the existing site

**PLEASE INCLUDE THE INFORMATION IN THE SUBJECT LINE OF THIS EMAIL FOR ALL CORRESPONDENCE CONCERNING THIS PERMIT APPLICATION WHETHER IT BE BY EMAIL OR MAIL. THE ITEMS REQUESTED IN THIS EMAIL WILL NEED TO BE RECEIVED BY THE OFFICE OF OIL AND GAS WITHIN 20 DAYS TO AVOID THE PERMIT APPLICATION BEING RETURNED. IF YOU WISH TO RESUBMIT AN APPLICATION THAT HAS BEEN RETURNED, THE OPERATOR IS REQUIRED TO COMPLETE AND SUBMIT NEW FORMS, MYLAR PLAT AND ASSOCIATED FEES.**

Thanks,

Laura K. Cooper  
Environmental Resource Specialist  
Permit Review  
WVDEP Office of Oil and Gas, Room 2027  
Office: 304-926-0499 ext. 1547  
Mobile: 304-206-8901  
Email: [Laura.K.Cooper@wv.gov](mailto:Laura.K.Cooper@wv.gov)

**Cooper, Laura K**

---

**From:** Flanagan, Carolinda <CarolindaFlanagan@consolenergy.com>  
**Sent:** Friday, March 01, 2013 4:50 PM  
**To:** Cooper, Laura K  
**Cc:** Langford, Amanda  
**Subject:** PHL10FHS API: 103291  
**Attachments:** PHL10FHS.PDF

Laura,

Attached, please find, a copy of our road bonding agreement and a copy of the WW9 displaying the 60ml liner to be used. After speaking with our geologist and engineer, I have included a generic type map displaying our location adjacent to the mine, the top hole is approximately 113' away from the mine. We have been in very close contact with CoalQuest/ICG/Arch Coal Company and they specifically have picked this exact location and gave us the permission to drill at this location near the Sentinel Mine. I will have the 6B updated to include that info and send it to you on Monday. I am also checking into the as-built and will get back to you asap. Should you need anything further, please let me know! Thank you!

Carolinda

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**Office of Oil and Gas**

**MAR 01 2013**

**WV Department of  
Environmental Protection**



Carolinda Flanagan  
P.O. Box 1248  
Jane Lew, WV 26378  
(304) 884-2057



December 13, 2012

West Virginia Department of Environmental Protection  
Office of Oil & Gas  
Attn: Laura Adkins  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304-2345

**RE: Well PHL10FHS Permit Application**

Dear Mrs. Adkins,

Enclosed, please find the Marcellus Horizontal well permit application for the PHL10FHS lateral, for your consideration and approval.

Feel free to contact me should further information or correspondence be required.

Sincerely,

  
Carolinda Flanagan

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# INVASIVE SPECIES TRANSFER PREVENTION PLAN



Prepared: December 15, 2011

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## **Introduction**

The invasion of aquatic habitats by non-indigenous species, also known as non-native and exotic species can compete with native species for food, habitat, and can directly or indirectly kill native species, degrade habitat, and alter food webs.

AIS may enter water bodies through various human assisted vectors<sup>1</sup>. Oil and gas drilling activities associated with the withdrawal and transport of water may unknowingly introduce AIS into new waters.

Actions taken to prevent the introduction of new AIS will include best management practices for the withdrawal of water of streams and transport of water.

## **Purpose of the plan**

The purpose of this BMP is to identify measures to deter the transfer of aquatic invasive species (“AIS”) between water bodies associated with oil and gas drilling activities. AIS are plants and animals that have been introduced into new ecosystems causing unintended environmental, recreational, economic or health impacts. This BMP will outline actions recommended to be newly implemented, in addition to existing efforts, in order to close pathways and prevent new aquatic invasive species from entering and becoming established.

## **Vector and Pathway Definition**

A vector is a physical means by which a non-indigenous species is transported to a new region, primarily by humans, whether deliberate or accidental. Within a vector, one or more pathways or routes of transfer exist by which an invasive species is transferred from one ecosystem to another.

Various vectors provide a mechanism through which AIS may enter a water body. This BMP addresses potential AIS invasion.

---

<sup>1</sup> Vectors are the modes of transmission, and pathways are routes taken.

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## **Prevention**

The most effective method of preventing the unintentional introduction of non-native species is to identify the pathways by which they are introduced and to develop environmentally sound methods to interdict introductions. Water intake structures and water transportation equipment have been identified as potential pathways in the oil and gas industry.

## **Define Vulnerable Receiving Environment**

The receiving environment is that in which the activity takes place. This is taken to include any transit environments. It is important that all locations within the project site or operation area—not just the final destination – are considered. Areas outside the destination may include vehicles or infrastructure en route to the project or operation area.

Invasion of aquatic habitats by non-indigenous species via vehicles and/or machinery en route to the well location is not a concern within project areas as no stream crossings are located along the access road to the proposed well site and no in-stream work is required.

## **Awareness**

Raising awareness of AIS among “on the ground” personnel (including oil and gas company staff and external contractors and service providers) has two main functions. Firstly, it increases the knowledge of AIS, which can help prevent their potential transmission, and secondly, it increases vigilance in detecting any infestations at an early stage – the only point at which eradication of an infestation is likely to be effective. Key species should be highlighted and personnel made aware of AIS (that are both visible and easily recognized) where the species have been a cause of concern. Where key AIS are not visible (eg. spores, fungi) ensure that the pathway and methods for preventing transmission are highlighted.

## **Existing or New AIS Infestation**

Projects and operations are likely to be operating in environments where at least some AIS are already present. Measures should be taken to contain and prevent local transfer of the AIS. Where it is necessary or desirable to use infested areas, movement through the area should be limited as much as possible. Activities should be implemented to restrict AIS pathways.

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PREVENTION PLAN**

**CONSOL  
ENERGY**

Monitoring should be undertaken to record any spread of infestation. If expansion of the population is recorded, investigation of the pathways responsible is encouraged.

**Engineering Controls at Intake Assembly**

Water intake shall include check valves, backflow preventers, or other alternatives designed to prevent a pathway of backflow water from water transportation equipment to the water source.

**Cleaning/Drying of Equipment**

The following procedures to prevent vectors and pathways should be performed in the withdrawal assembly, which should be relocated to another body of water:

1. The assembly should be dismantled into individual components.
2. All vegetation, mud, silt, sediment, and/or other debris shall be physically removed from each individual component.
3. Allow all individual components to remain continually dry and in the original waterbody's flood plain for a minimum of 5 days.

It is recommended that no biocides, algacides, or other chemicals be used to clean the assembly or its individual components at or near the water source without appropriate cautionary measures.

**Early Detection and Rapid Response**

Even the best prevention efforts cannot stop all introductions. Early detection of incipient invasions and quick coordinated responses will be used to eradicate or contain invasive species before they become too widespread. West Virginia Department of Environmental Protection (WV DEP) will be notified if initial evidence of an invasion is suspected. A professional biologist will assess the watershed for the suspected invasive species and provide a proper plan of eradication or containment.

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**References:**

Pennsylvania Fish and Boat Commission – Clean Your Gear.  
[www.fish.state.pa.us/cleanyourgear.htm](http://www.fish.state.pa.us/cleanyourgear.htm)

Sea Grants Invasive Species Inventory – [www.pserie.psu.edu/seagrant/ais/](http://www.pserie.psu.edu/seagrant/ais/)

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## Entrainment and Impingement Prevention Plan

The proposed withdrawal and intake will be made tamper-resistant and semi-permanent. The system shall consist of an onshore structural support, a submerged intake device, associated piping, an intake filter, quick-connect couplings and a jet pump. The intake device will be constructed with a Johnson Screens® intake screen or a similar product with maximum openings of 1/4 inch. The intake screen length and diameter will be sized accordingly to provide sufficient open area to maintain an intake velocity less than 0.5 feet per second. Using the Johnson Hi-Flow Screen, the opening area for an 8" diameter screen is 444 square inches. Assuming a maximum pumping rate of 1470 gallons per minute (gpm), a one 16" x 15" screen section will be more than adequate to maintain the design intake velocity with a margin of safety. The final screen length and diameter will be determined based on site conditions, pump selection and approved withdrawal volume.

The intake device will be connected to a jet pump using aluminum and/or corrugated plastic quick-connect piping and couplings. The intake piping will have a pressure rating of at least 150 pounds per square inch. The final piping diameter and length will be determined based upon the site conditions, pump selection and approved withdrawal volume. To secure the intake device the intake device will be placed on the bed of the stream. The intake will be designed to extend into a deeper portion of the stream. Submergence will detour low specific gravity items from entering. The cam-lock quick-connect couplings will be locked when not in use to prevent connection and unauthorized water withdrawal.

The selected jet pump will be either electric or diesel powered and capable of flow rates of 1470 gallons per minute (gpm). A flow limiting valve and/or orifice plate will be used to restrict the instantaneous flow rate. Final product selection and site design, including pump type, pipe sizing and anchoring will be determined based on site conditions and the permitted withdrawal volume but shall adhere to the requirements mentioned above.

The velocity of the strainer is 1.6 ft<sup>3</sup>/sec and the velocity of the basin is .315 ft<sup>3</sup>/sec compared to currents both are relatively low. The screen opening and intake velocity for water at the screens surface will prevent fish from being entrained or impinged on the screen. The intake screen size and dimensions were influenced by different swimming abilities of various species and age classes of fish present at the water withdrawal site. The watercourse will not be blocked to the passage of fish.

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The intake screen will be periodically monitored during operations to ensure that the screening has not collapsed to below the minimum distance between the water intake and screen surface, that there are no openings in the mesh or gaps between the mesh and frame of intake structure greater than 2.4 mm and that the screen has not become blocked by debris.

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1-03291

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**W.VA. CODE §22-6A - WELL WORK PERMIT APPLICATION**

1) Well Operator: CNX Gas Company, LLC.

	601	06	545
	Operator ID	County	District
	Barbour	Pleasant	Philippi
	Operator ID	County	District

2) Operator's Well Number: PHL10FHS Well Pad Name: PHL10HS

3 Elevation, current ground: 1619' Elevation, proposed post-construction: 1603'

4) Well Type: (a) Gas  Oil   
 Other \_\_\_\_\_  
 (b) If Gas: Shallow  Deep \_\_\_\_\_  
 Horizontal  \_\_\_\_\_

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Formation - Marcellus, Depth - 7850', Thickness - 90', Pressure - 4000#

7) Proposed Total Vertical Depth: 7850'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 16200'

10) Approximate Fresh Water Strata Depths: 305', 575'

11) Method to Determine Fresh Water Depth: offset wells

12) Approximate Saltwater Depths: 1800'

13) Approximate Coal Seam Depths: 355', 425', 575'

14) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

15) Does land contain coal seams tributary or adjacent to, active mine? No

16) Describe proposed well work: Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 16200'. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement.

17) Describe fracturing/stimulating methods in detail:  
The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 17.0 Acres

19) Area to be disturbed for well pad only, less access road (acres): 14.0 Acres

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 DEC 17 2012  
 WV Department of  
 Environmental Protection



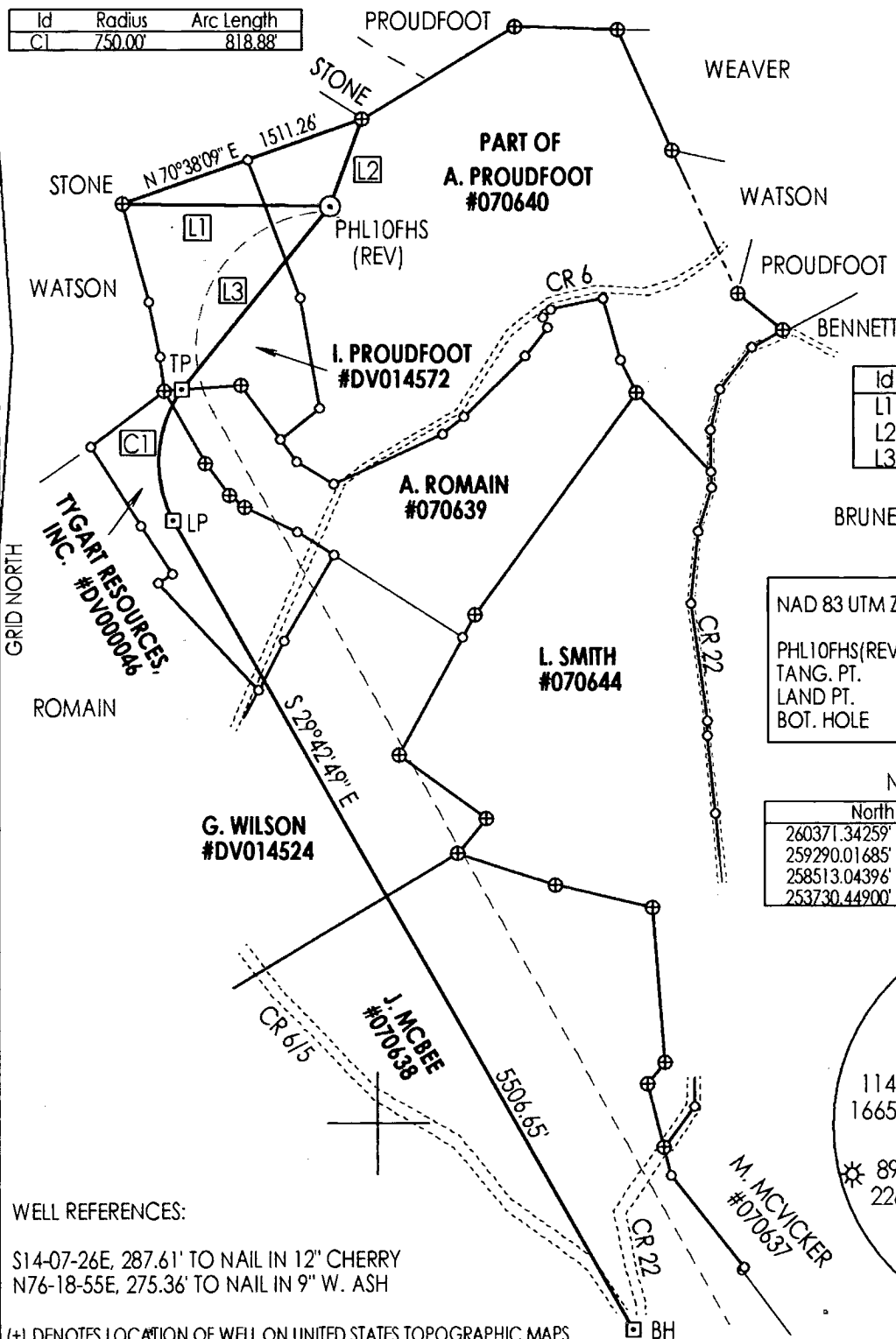
Id	Radius	Arc Length
C1	750.00'	818.88'

LATITUDE 39-15-00

SCALED COOR.:

10,415' WEST  
13,290' SOUTH

LONGITUDE 80-00-08



Id	Bearing	Distance
L1	N 89°21'25" W	1233.77'
L2	N 20°27'22" E	549.59'
L3	S 39°12'02" W	1395.37'

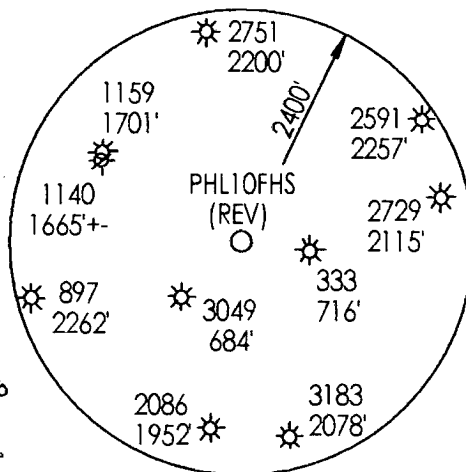
BRUNER LOTS

NAD 83 UTM ZONE 17 COOR. IN METERS:

PHL10FHS(REV)	= 4,340,935.93 m	583,166.68 m
TANG. PT.	= 4,340,602.01 m	582,903.45 m
LAND PT.	= 4,340,365.02 m	582,891.13 m
BOT. HOLE	= 4,338,921.74 m	583,746.92 m

NAD 27 WV NORTH SPC

North	East	Description
260371.34259'	1847883.82354'	PHL10FHS(REV)
259290.01685'	1847001.89833'	TANG. PT.
258513.04396'	1846948.53545'	LANDING PT.
253730.44900'	1849677.99200'	BOTTOM HOLE



WELL REFERENCES:

S14-07-26E, 287.61' TO NAIL IN 12" CHERRY  
N76-18-55E, 275.36' TO NAIL IN 9" W. ASH

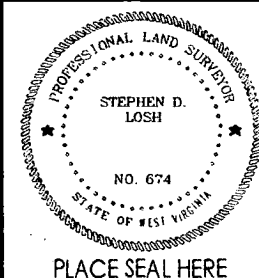
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: \_\_\_\_\_  
DRAWING NUMBER: CNXPHL10FHSRI.PCS  
SCALE: 1" = 1000'  
MINIMUM DEGREE OF ACCURACY: \_\_\_\_\_ SUBMETER  
PROVEN SOURCE OF ELEVATION: DGPS SURVEY  
RTK SYSTEM

I, THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED)

STEPHEN D. LOSH, P.S. #674



PLACE SEAL HERE

FORM WW-6

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
#10 McJUNKIN ROAD  
NITRO, WV 25143-2506

LAND SURVEYING SERVICES  
21 CEDAR LANE, BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 842-5762

DATE: APRIL 11, 2014

OPERATORS WELL NO.: PHL10FHS (REV)  
API WELL NO. (LATERAL EXTENSION)

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  CBM   
(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

47 - 001 03291  
STATE COUNTY PERMIT

LOCATION: ELEVATION 1618.50' (493.32 m) WATERSHED TAYLOR DRAIN

DISTRICT PLEASANT COUNTY BARBOUR

QUADRANGLE PHILIPPI LEASE NUMBER SEE ABOVE

SURFACE OWNER MARY LOU WATSON ACREAGE 103.00 (15-30)

OIL & GAS ROYALTY OWNER A. PROUDFOOT, ET. AL. UNIT LEASE ACREAGE 1024.16

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL

TARGET FORMATION MARCELLUS PLUG & ABANDON  CLEAN OUT & REPLUG   
ESTIMATED DEPTH TVD 7850' / TMD 16562'

WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT JEREMY JONES

ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

COUNTY NAME

PERMIT

Id	Radius	Arc Length
C1	750.00'	818.88'

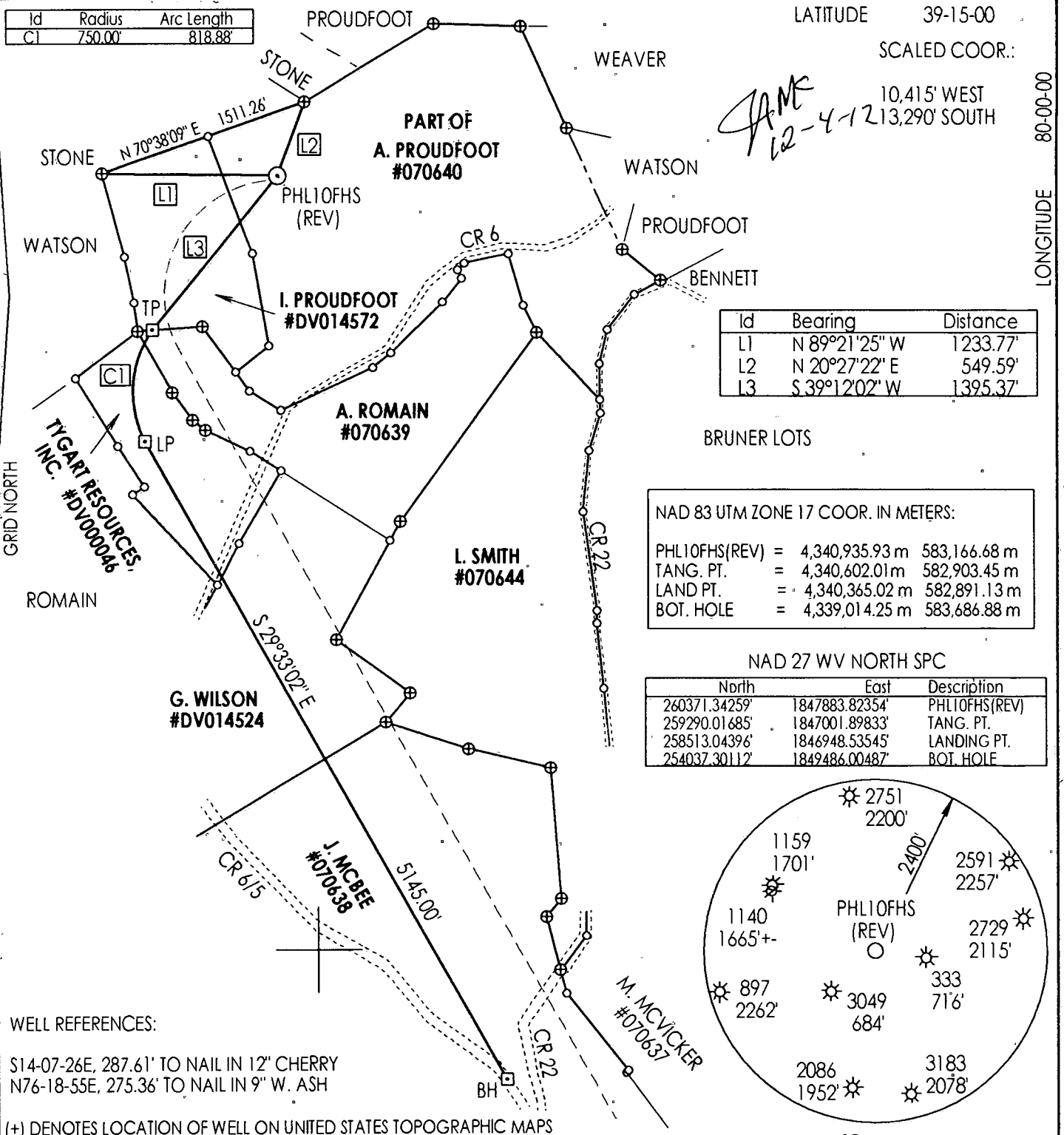
LATITUDE 39-15-00

SCALED COOR.:

10,415' WEST  
13,290' SOUTH

LONGITUDE 80-00-00

*JANE*  
12-4-12



Id	Bearing	Distance
L1	N 89°21'25" W	1233.77'
L2	N 20°27'22" E	549.59'
L3	S 39°12'02" W	1395.37'

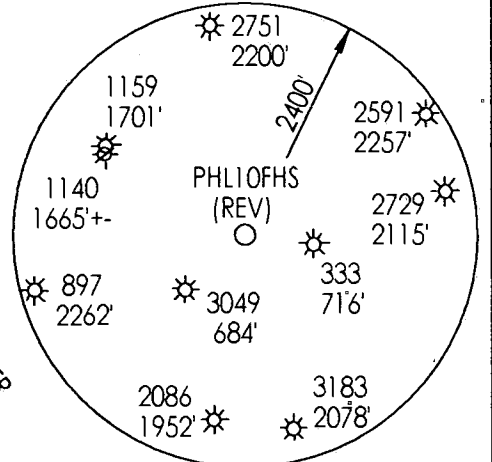
BRUNER LOTS

NAD 83 UTM ZONE 17 COOR. IN METERS:

PHL1OFHS(REV)	=	4,340,935.93 m	583,166.68 m
TANG. PT.	=	4,340,602.01 m	582,903.45 m
LAND PT.	=	4,340,365.02 m	582,891.13 m
BOT. HOLE	=	4,339,014.25 m	583,686.88 m

NAD 27 WV NORTH SPC

North	East	Description
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258513.04396'	1846948.53545'	LANDING PT.
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WELL REFERENCES:

S14-07-26E, 287.61' TO NAIL IN 12" CHERRY  
N76-18-55E, 275.36' TO NAIL IN 9" W. ASH

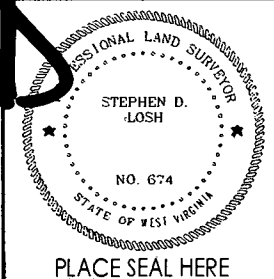
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER: \_\_\_\_\_  
DRAWING NUMBER: CNXPHL1OFHS.PCS  
SCALE: 1" = 1000'  
MINIMUM DEGREE OF ACCURACY: SUBMETER  
PROVEN SOURCE OF ELEVATION: DGPS SURVEY  
RTK SYSTEM

I THE UNDERSIGNED, HEREBY STATE THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.

(SIGNED)

STEPHEN D. LOSH, P.S. #674



PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DIVISION OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS  
#10 McJUNKIN ROAD  
NITRD, WV 25143-2506

LAND SURVEYING SERVICES  
21 CEDAR LANE, BRIDGEPORT, WV 26330  
PHONE: 304-842-2018 OR 842-5762

DATE: AUGUST 16, 2012

OPERATORS WELL NO.: PHL1OFHS (REV)

API WELL NO. 47-001-03291 H6A

STATE WV COUNTY BARBOUR PERMIT SEE ABOVE

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  CBM   
(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
LOCATION: ELEVATION 1618.50' (493.32 m) WATERSHED TAYLOR DRAIN  
DISTRICT PLEASANT COUNTY BARBOUR  
QUADRANGLE PHILIPPI LEASE NUMBER SEE ABOVE

SURFACE OWNER MARY LOU WATSON ACREAGE 103.00 (15-30)  
OIL & GAS ROYALTY OWNER A. PROUDFOOT, ET. AL. UNIT LEASE ACREAGE 1024.16

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE (SPECIFY) HORIZONTAL

TARGET FORMATION MARCELLUS PLUG & ABANDON  CLEAN OUT & REPLUG   
ESTIMATED DEPTH TVD 7850' / TMD 16200'

WELL OPERATOR CNX GAS COMPANY LLC DESIGNATED AGENT KENT WRIGHT

ADDRESS P. O. BOX 1248 JANE LEW, WV 26378 ADDRESS P. O. BOX 1248 JANE LEW, WV 26378

COUNTY NAME  
PERMIT

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**W.V.A. CODE §22-6A - WELL WORK PERMIT APPLICATION**

1) Well Operator: CNX Gas Company, LLC. 494495754 Barbour Pleasant Philippi  
Operator ID County District Quadrangle

2) Operator's Well Number: PHL10FHS Well Pad Name: PHL10HS

3 Elevation, current ground: 1619' Elevation, proposed post-construction: 1603'

4) Well Type: (a) Gas  Oil   
Other \_\_\_\_\_

(b) If Gas: Shallow  Deep \_\_\_\_\_  
Horizontal  \_\_\_\_\_

**VOID**

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):  
Formation - Marcellus, Depth - 7850', Thickness - 90', Pressure - 4000#

7) Proposed Total Vertical Depth: 7850'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 16200'

10) Approximate Fresh Water Strata Depths: 305', 575'

11) Method to Determine Fresh Water Depth: offset wells

12) Approximate Saltwater Depths: 1800'

13) Approximate Coal Seam Depths: 355', 425', 575'

14) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

15) Does land contain coal seams tributary or adjacent to, active mine? Yes, adjacent to mine with ICG/Arch Coal permission

16) Describe proposed well work: Drill and stimulate new horizontal Marcellus well. Well to be drilled to a TMD of 16200'. Well to be drilled to a TVD of 7850', formation at TVD - Marcellus. If an unexpected void is encountered, plan will be to set casing at a minimum of 30' past void and cement to surface with approved Class A type cement.

17) Describe fracturing/stimulating methods in detail:  
The stimulation will be multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 17.0 Acres

19) Area to be disturbed for well pad only, less access road (acres): 14.0 Acres

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20)

CASING AND TUBING PROGRAM

**VOID**

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	20"	N	L.S.	81.3#	40'	40'	Sand In
Fresh Water	13 3/8"	N	J-55	54.5#	625'	625'	CTS w/ Approved Class A Type Cement
Coal							
Intermediate	9 5/8"	N	J-55	36#	2000'	2000'	CTS w/ Approved Class A Type Cement
Production	5 1/2"	N	P-110	20#	16200'	16200'	2400 cu. ft. W/ 50/50 POZ Lead & Class A Tail
Tubing	2 3/8"	N	J-55	4.7#	7790'	7790'	
Liners							

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20"	26"	0.438	2110	Class A Type	1.18
Fresh Water	13 3/8"	17 1/2"	0.380	2730	Class A Type	1.39
Coal						
Intermediate	9 5/8"	12 3/8"	0.352	3520	Class A Type	1.18
Production	5 1/2"	8 3/4" & 8 1/2"	0.361	12640	Class A Type	1.26
Tubing	2 3/8"	8 3/4" & 8 1/2"	0.190	7700	-----	-----
Liners						

PACKERS

Kind:	None		
Sizes:	None		
Depths Set:	None		

*JAMC*  
10-1-12

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21) Describe centralizer placement 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 joints (free floating) through the lateral and the curve.  
 (Note: cementing the 5 1/2" casing completely in open hole lateral and curve.)

22) Describe all cement additives associated with each cement type. Conductor - 2% CaCl2. Fresh Water/Coal - 2% CaCl2. Intermediate - 2% CaCl2. Production: 2.6% Cement extender, 0.7% Fluid Loss Additive 0.5% High Temperature Retarder, 0.2% Friction Reducer.

*WOW*

23) Proposed borehole conditioning procedures. Conductor - The hole is drilled w/ air and casing is ran in air. Apart from insuring the hole is clean via air circulation at TD there are no other conditioning procedures. Fresh Water/Coal - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom the casing shoe will be cleared with fresh water and gel prior to cementing. Intermediate - The hole is drilled w/ air and casing is ran in air. Once casing is on bottom the casing shoe will be cleared with fresh water and gel prior to cementing. (Note: Drilling soap may be utilized if the hole gets wet/damp during the drilling of all air holes with the exception of the conductor). Production - The hole is drilled with synthetic oil base mud and once at TD the hole is circulated at a drilling pump rate until the hole is clean. Once casing is ran the hole is circulated for a minimum of one hole volume prior to pumping cement.

\*Note: Attach additional sheets as needed.

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