

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

API 47-001-03310H6A County Barbour District Pleasant
Quad Philippi Pad Name PHL29HS Field/Pool Name Philippi
Farm Name PHILIPPI DEVELOPMENT, INC. Well Number PHL29BHS
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 4,339,571.79 m Easting 581,616.06 m
Landing Point of Curve Northing 4,339,668.93 m Easting 582,240.11 m
Bottom Hole Northing 4,337,911.61 m Easting 584,142.79 m

Elevation (ft) 1406' 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 10/08/2013 Date drilling commenced 02/23/2014 Date drilling ceased 05/28/2014
Date completion activities began 08/25/2014 Date completion activities ceased 10/14/2014
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 plug.

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Freshwater depth(s) ft 474' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft None Reported Void(s) encountered (Y/N) depths N
Coal depth(s) ft 474', 595' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) Y

Reviewed by:

Batton, Daniel

JK 6/24/15
WS 6/25/15

API 47-001-03310H6A

Farm name PHILIPPI DEVELOPMENT, INC.

Well number PHL29BHS

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	24"	20"	80'	N	J-55 94# / 80'	N/A	Y
Surface	17 1/2"	13 3/8"	698.8'	N	J-55 54.5# / 698.8'	N/A	Y
Coal	-	-	-	-	-	-	-
Intermediate 1	12 1/4"	9 5/8"	2020.9'	N	J-55 36# / 2020.9'	N/A	Y
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	8 3/4"	5 1/2"	16894'	N	P-110 20# / 16894'	N/A	N
Tubing	5 1/2"	2 3/8"	8048'	N	L-80 4.7# / 8048'	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	77	15.6	1.18	90.5	Surface	24
Surface	Class A	590	15.6	1.18	696	Surface	8
Coal	-	-	-	-	-	-	-
Intermediate 1	Class A	679	15.6	1.18	801	Surface	8
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	Class A (Lead) / Class A (Tail)	907 / 2219	14.2 / 14.8	1.26	3939	1700'	8
Tubing	-	-	-	-	-	-	-

Drillers TD (ft) 7692'

Loggers TD (ft) 7729'

Deepest formation penetrated: Marcellus

Plug back to (ft) N/A

Plug back procedure: N/A

Kick Off Depth (ft) 3504'

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 later on 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

WAS WELL COMPLETED OPEN HOLE Yes No

DETAILS _____

WERE TRACERS USE Yes No

TYPES OF TRACER(S) USED _____

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DEVELOPMENT, INC.

Well number PHL29BHS

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
1.0	8/25/2014	16869	16799	48	Marcellus
2.0	8/26/2014	16775	16653	40	Marcellus
2B.0	8/30/2014	16668	16650	64	Marcellus
3.0	9/14/2014	16625	16504	40	Marcellus
4.0	9/15/2014	16476	16355	40	Marcellus
5.0	9/16/2014	16327	16198	40	Marcellus
6.0	9/17/2014	16178	16057	40	Marcellus
7.0	9/18/2014	16029	15908	40	Marcellus
8.0	9/19/2014	15880	15759	40	Marcellus
9.0	9/20/2014	15731	15610	40	Marcellus
10.0	9/21/2014	15582	15461	40	Marcellus
11.0	9/21/2014	15433	15312	40	Marcellus
12.0	9/22/2014	15284	15163	40	Marcellus
13.0	9/24/2014	15135	15014	40	Marcellus
14.0	9/25/2014	14986	14865	40	Marcellus
15.0	9/25/2014	14837	14716	40	Marcellus
16.0	9/26/2014	14688	14567	40	Marcellus
17.0	9/26/2014	14539	14418	40	Marcellus
18.0	9/27/2014	14390	14269	40	Marcellus
19.0	9/27/2014	14241	14120	40	Marcellus
20.0	9/28/2014	14092	13971	40	Marcellus
21.0	9/28/2014	13943	13822	40	Marcellus
22.0	9/28/2014	13794	13673	40	Marcellus
23.0	9/29/2014	13645	13524	40	Marcellus
24.0	9/29/2014	13496	13375	40	Marcellus
25.0	9/30/2014	13347	13226	40	Marcellus
26.0	10/1/2014	13198	13077	40	Marcellus
27.0	10/1/2014	13049	12928	40	Marcellus
28.0	10/1/2014	12888	12779	40	Marcellus
29.0	10/2/2014	12751	12630	40	Marcellus
30.0	10/2/2014	12602	12481	40	Marcellus
31.0	10/3/2014	12453	12332	40	Marcellus
32.0	10/3/2014	12304	12185	40	Marcellus
33.0	10/4/2014	12155	12034	40	Marcellus
34.0	10/4/2014	12006	11891	40	Marcellus
35.0	10/4/2014	11857	11736	40	Marcellus
36.0	10/4/2014	11708	11581	40	Marcellus
37.0	10/5/2014	11559	11438	40	Marcellus

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
38.0	10/5/2014	11410	11289	40	Marcellus
39.0	10/6/2014	11261	11140	40	Marcellus
40.0	10/6/2014	11112	10991	40	Marcellus
41.0	10/6/2014	10963	10842	40	Marcellus
42.0	10/7/2014	10814	10693	40	Marcellus
43.0	10/7/2014	10665	10544	40	Marcellus
44.0	10/8/2014	10516	10395	40	Marcellus
45.0	10/8/2014	10367	10246	40	Marcellus
46.0	10/8/2014	10218	10097	40	Marcellus
47.0	10/9/2014	10069	9948	40	Marcellus
48.0	10/9/2014	9920	9799	40	Marcellus
49.0	10/10/2014	9771	9650	40	Marcellus
50.0	10/10/2014	9622	9501	40	Marcellus
51.0	10/10/2014	9473	9356	40	Marcellus
52.0	10/11/2014	9324	9203	40	Marcellus
53.0	10/11/2014	9175	9054	40	Marcellus
54.0	10/11/2014	9026	8905	40	Marcellus
55.0	10/12/2014	8877	8756	40	Marcellus
56.0	10/12/2014	8728	8607	40	Marcellus
57.0	10/13/2014	8182	0	40	Marcellus
57.0	10/13/2014	8579	8454	40	Marcellus
58.0	10/13/2014	8430	8309	40	Marcellus
59.0	10/14/2014	8281	8160	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)
1.0	8/25/2014	67.4	8296	9018	4475	224879	9134	4452
2.0	8/26/2014	56.05	8480	9020	4780	181679	9844	4453
28.0	8/30/2014	50.58	8534	8829	5050	141112	7746	3747
3.0	9/14/2014	78.97	8223	8556	5180	287612	7244	3711
4.0	9/15/2014	85.49	8282	8581	5404	364742	7825	3731
5.0	9/16/2014	85.16	8227	8633	5571	322907	7151	3715
6.0	9/17/2014	75.33	8189	8796	5868	326944	7320	3418
7.0	9/18/2014	78.6	8129	8345	5803	331712	7716	3597
8.0	9/19/2014	78.6	8072	8919	5682	330837	9017	3680
9.0	9/20/2014	95.26	8332	8568	5712	325429	6924	3789
10.0	9/21/2014	87.08	8437	8918	5873	327397	7590	3715
11.0	9/21/2014	75.23	8232	8691	5939	327999	7963	3706
12.0	9/22/2014	72.78	8317	8856	5826	337775	8259	3793
13.0	9/24/2014	82.6	8608	8290	5901	327528	7984	3768
14.0	9/25/2014	74.9	8191	8536	5599	326518	7499	3761
15.0	9/25/2014	73.8	8308	8545	5668	326292	8041	3865
16.0	9/26/2014	82.9	8437	8818	5615	328990	7348	3698
17.0	9/26/2014	80.1	8386	8950	5973	277418	7524	3659
18.0	9/27/2014	75.8	8334	8997	6098	325541	9052	3939
19.0	9/27/2014	85	8188	8552	5939	375797	8339	3776
20.0	9/28/2014	81.4	8312	8901	5935	325804	8169	3731
21.0	9/28/2014	84.7	8503	8827	5611	330085	7073	3637
22.0	9/28/2014	78.6	8595	8884	5806	324642	6678	3608
23.0	9/29/2014	74.2	8411	9015	5620	322035	8205	3829
24.0	9/29/2014	80.9	8491	9009	5566	323061	8648	3830
25.0	9/30/2014	85.01	8660	8964	5842	324300	7268	3683
26.0	10/1/2014	80.6	8405	8868	5970	329990	9388	3856
27.0	10/1/2014	78	8144	8947	5707	318427	7191	3726
28.0	10/1/2014	81.6	8399	9088	5992	303934	7561	3732
29.0	10/2/2014	86.18	8331	8927	5505	338017	7242	3665
30.0	10/2/2014	76.7	8589	8905	6158	333870	9146	4174
31.0	10/3/2014	71.56	8041	9063	6127	326946	7621	3817
32.0	10/3/2014	86.1	8320	8773	6121	327550	7444	3808
33.0	10/4/2014	89.6	8196	8831	6120	327395	7489	3723
34.0	10/4/2014	91.54	8208	9015	5736	325617	6689	3657
35.0	10/4/2014	87.75	8293	8938	5864	324176	6950	3672
36.0	10/4/2014	81.4	8260	8911	5525	325303	8897	3890
37.0	10/5/2014	89.9	8052	8947	5557	329360	6835	3666

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DEVELOPMENT, INC.Well number PHL29BHS

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)
38.0	10/5/2014	89.97	7887	8081	5797	324768	7834	3732
39.0	10/6/2014	89.3	7678	91.43	5568	328563	7318	3642
40.0	10/6/2014	94.9	7831	8050	5641	321500	7562	3712
41.0	10/6/2014	88.68	7837	9047	5257	324024	6666	3621
42.0	10/7/2014	89.69	7605	8017	5654	328661	6989	3710
43.0	10/7/2014	85.08	7895	8840	5847	328371	7406	3667
44.0	10/8/2014	94.3	7526	7851	6262	325821	6852	3634
45.0	10/8/2014	81.3	8025	9047	5369	289214	7703	3732
46.0	10/8/2014	87.45	7983	8892	6151	365754	7393	3684
47.0	10/9/2014	86.2	8261	8684	6173	328569	6723	3659
48.0	10/9/2014	64	7662	8661	5520	329547	6465	3617
49.0	10/10/2014	78.86	8124	8796	5529	325601	6295	3569
50.0	10/10/2014	78.1	8053	8668	5929	330255	6528	3663
51.0	10/10/2014	69.7	7543	8289	5696	323618	7237	3736
52.0	10/11/2014	92.3	8017	8643	6161	325403	6567	3647
53.0	10/11/2014	96.5	8052	8364	5065	322873	6889	3658
54.0	10/11/2014	84.69	8076	8455	6238	322983	6636	3594
55.0	10/12/2014	88.48	7986	8505	5145	327065	7813	3703
56.0	10/12/2014	94.1	8020	8333	6110	329196	6519	3552
57.0	10/13/2014	88.7	7816	8707	5469	325262	6494	3555
58.0	10/13/2014	87.15	8067	8920	5580	324463	6303	3573
59.0	10/14/2014	95	7868	8166	5132	327705	7204	3668

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API 47-001-03310H6A Farm name PHILIPPI DEVELOPMENT, INC. Well number PHL29BHS

PRODUCING FORMATION(S)	DEPTHS	TVD	MD
MARCELLUS	7729'		

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 795 psi Bottom Hole 4815 psi DURATION OF TEST 189 hrs
 OPEN FLOW Gas 13420 mcfpd Oil 0 bpd NGL 0 bpd Water 1914 bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY / FORMATION	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER,BRINE,GAS,H2S, ETC)
					SEE ATTACHED

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI
 Address 207 Carlton Dr City Eighty Four State PA Zip 15330
 Logging Company Horizon
 Address 7136 South Yale, Suite 414 City Tulsa State OK Zip 74136-6378
 Cementing Company CalFrac
 Address 2001 Summit View Rd City Smithfield State PA Zip 15478
 Stimulating Company Halliburton
 Address 121 Champion Way, Suite 110 City Canonsburg State PA Zip 15317-5817

Please insert additional pages as applicable.

Completed by CNX Gas WV Operations Company, LLC - Drilling and Completions Telephone 304-884-2000
 Signature Steve Spittler Title Steve Spittler - Completions Manager-Gas WV Date 5/28/15

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry

API 47-001-03310H6A Farm name PHILIPPI DEVELOPMENT, INC. Well number PHL29BHS

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	92			
SAND	92	180			
SHALE	180	190			
SANDY SHALE	190	260			
SAND	260	397			
SHALE	397	509			
SHALE/SAND	509	638			
SHALE	638	1080			
SANDSTONE	1080	1230			
SHALE	1230	1270			
LIME	1270	1450			
SHALE	1450	1520			
BASE BIG INJUN	1520	2182			
FOURTH SAND	2182	2275			
FIFTH SAND	2275	2714			
WARREN MARKER	2714	2737			
WARREN	2737	2982			
SPEECHLEY	2982	3198			
BALLTOWN	3198	3896			
RILEY	3896	4012			
FAULT	4012	4257			
BENSON	4257	4491			
FIRST ELK	4491	4632			
SECOND ELK	4632	4880			
THIRD ELK	4880	5018			
FAULT	5018	5044			
THIRD ELK	5044	5264			
FOURTH ELK	5264	5606			
RHINESTREET	5606	5741			
HAVERTY	5741	6161			
FOX	6161	6620			
SYCAMORE GRIT	6620	6821			
CASHAQUA	6821	7025			
"FRIB"	7025	7152			
MIDDLESEX	7152	7279			
WEST RIVER	7279	7482			
BURKETT	7482	7515			
TULLY	7515	7568			

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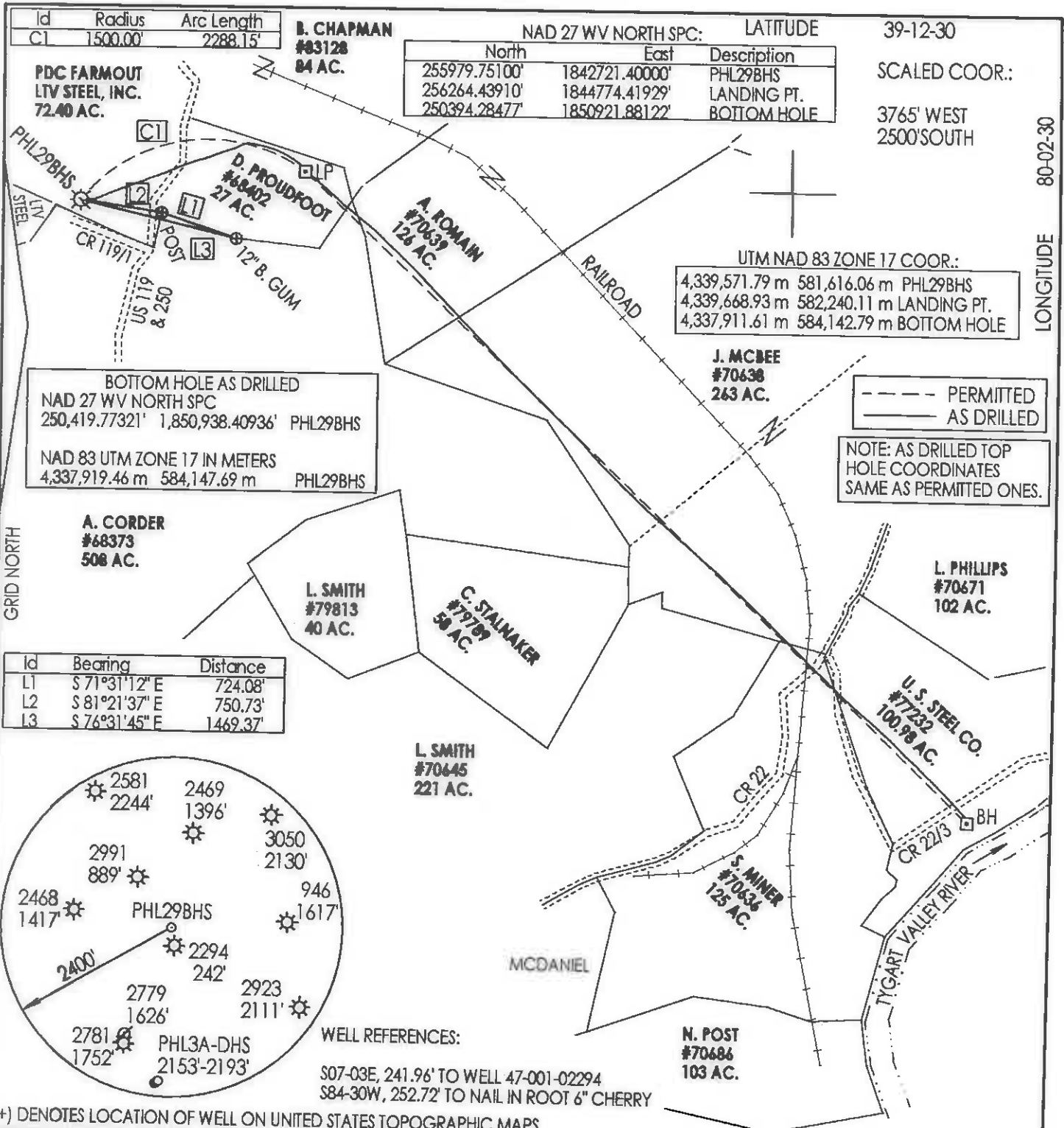
API 47-001-03310H6A

Farm name PHILIPPI DEVELOPMENT, INC.

Well number PHL29BHS

LITHOLOGY / FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER, BRINE, GAS, H2S, ETC)
	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	DEPTH IN FT	
	TVD	TVD	MD	MD	
HAMILTON	7568	7729			
MARCELLUS	7729				

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Id	Radius	Arc Length
C1	1500.00'	2288.15'

B. CHAPMAN
#83128
84 AC.

NAD 27 WV NORTH SPC:		LATITUDE
North	East	Description
255979.75100'	1842721.40000'	PHL29BHS
256264.43910'	1844774.41929'	LANDING PT.
250394.28477'	1850921.88122'	BOTTOM HOLE

39-12-30
SCALED COOR.:
3765' WEST
2500'SOUTH

UTM NAD 83 ZONE 17 COOR.:		
4,339,571.79 m	581,616.06 m	PHL29BHS
4,339,668.93 m	582,240.11 m	LANDING PT.
4,337,911.61 m	584,142.79 m	BOTTOM HOLE

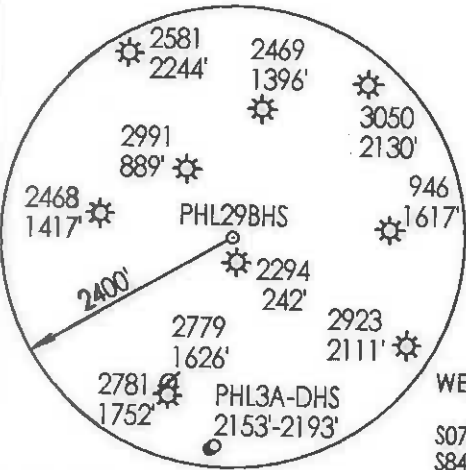
BOTTOM HOLE AS DRILLED
NAD 27 WV NORTH SPC
250,419.77321' 1,850,938.40936' PHL29BHS

NAD 83 UTM ZONE 17 IN METERS
4,337,919.46 m 584,147.69 m PHL29BHS

--- PERMITTED
— AS DRILLED

NOTE: AS DRILLED TOP HOLE COORDINATES SAME AS PERMITTED ONES.

Id	Bearing	Distance
L1	S 71°31'12" E	724.08'
L2	S 81°21'37" E	750.73'
L3	S 76°31'45" E	1469.37'



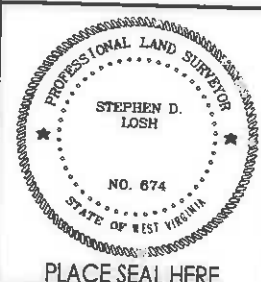
WELL REFERENCES:
S07-03E, 241.96' TO WELL 47-001-02294
S84-30W, 252.72' TO NAIL IN ROOT 6" CHERRY

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

FILE NUMBER: _____
DRAWING NUMBER: CNXPHL29BHSRIAD.PCS
SCALE: 1" = 1300'
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: MARCH 05, 2015
OPERATORS WELL NO.: PHL29BHS
API WELL NO. (AS DRILLED) 47-001-03310
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS LIQUID INJECTION ___ WASTE DISPOSAL ___ CBM ___
(IF "GAS") PRODUCTION STORAGE ___ DEEP ___ SHALLOW
LOCATION: ELEVATION 1406.00' WATERSHED FOXGRAPE RUN
DISTRICT PLEASANT COUNTY BARBOUR
QUADRANGLE PHILIPPI LEASE NUMBER SEE ABOVE

SURFACE OWNER PHILIPPI DEVELOPMENT, INC. ACREAGE 2385.55 (20-23)
OIL & GAS ROYALTY OWNER A. CORDER, ET. AL. LEASE ACREAGE 1728.38

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 = 7718.38' TMD = 16956'

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

COUNTY NAME PERMIT

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	8/25/2014
Job End Date	10/14/2014
State	West Virginia
County	Barbour
API Number	47-001-03310-00-00
Operator Name	CONSOL Energy Inc.
Well Name and Number	PHL 29B
Longitude	-80.05497900
Latitude	39.20148200
Datum	NAD27
Federal/Tribal Well	NO
True Vertical Depth	7,718
Total Base Water Volume (gal)	19,496,282
Total Base Non Water Volume	0



Received
Office of Oil & Gas
JUN 01 2015

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
Fresh Water	Operator	Base Fluid	Fresh Water	7732-18-5	100.00000	88.49254	Density = 8.330
Common White 10 Mesh Sand, FR-50D, FR-66, HYDROCHLORIC ACID 5-10%, LGC-36 UC, LP-65 MC, MC MX 8-2544, MC 437-5, permVis VFR-10, Premium White 40/70 Mesh Sand, SP Breaker, OptiKleen-WF	Halliburton, MultiChem	Additive, Breaker, Concentrate, Friction Reducer, Liquid Gel Concentrate, Live Culture - Nitrate Reducing Bacteria, Proppant, Scale Inhibitor, Solvent	Crystalline silica, quartz	14808-60-7	100.00000	10.42792	
			Water	7732-18-5	100.00000	0.94809	
			Hydrochloric acid	7647-01-0	10.00000	0.08363	
			Calcium nitrate	10124-37-5	80.00000	0.05309	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.03377	
			Polyacrylate	Confidential	30.00000	0.03304	
			Inorganic salt	Confidential	30.00000	0.03304	
			Organic phosphonate	Confidential	80.00000	0.01489	

		Ammonium chloride	12125-02-9	10.00000	0.01358	
		Alcohols, C12-16, ethoxylated	68551-12-2	10.00000	0.01114	
		9-Octadecenamide, n,n-bis-2 (hydroxy-ethyl)-(Z)	93-83-4	5.00000	0.00551	
		Fatty acid ester	Confidential	5.00000	0.00551	Denise Tuck, Halliburton 3000 N. Sam Houston Pkwy E., Houston, TX 77032 281-871-6226
		Naphtha, hydrotreated heavy	64742-48-9	60.00000	0.00400	
		Guar gum	9000-30-0	60.00000	0.00400	
		Polyacrylamide copolymer	Confidential	30.00000	0.00074	
		Nutrient Mixture	NA	5.00000	0.00053	
		Sodium chloride	7647-14-5	100.00000	0.00051	
		Quaternary ammonium compounds, bis(hydrogenated tallow alkyl) dimethyl, salts with pentonite	68953-56-2	5.00000	0.00033	
		Formaldehyde	50-00-0	1.00000	0.00024	
		Acrylamide acrylate copolymer	9003-06-8	60.00000	0.00023	
		Fatty acid tall oil amide	Confidential	5.00000	0.00012	
		Sodium persulfate	7775-27-1	100.00000	0.00009	
		Fatty alcohol polyglycol ether surfactant	9043-30-5	1.00000	0.00007	
		Sodium perborate tetrahydrate	10486-00-7	100.00000	0.00006	
		Sorbitan monooleate polyoxyethylene derivative	9005-65-6	1.00000	0.00003	
		Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00003	
		Sodium sulfate	7757-82-6	0.10000	0.00000	
		Acrylonitrile	107-13-1	0.10000	0.00000	

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)