WR-35
Rev (9-11)

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

Date: 3/21/2014
API: 47-017-06005

Farm Name: Kiley, Joseph & Jacqueline Operator Well No: OXFD-1F-HS (Pilot Hole)

LOCATION: Oxford 1 Elevation: 1,112.77 Quadrangle: OXFORD

District: West Union County: DODDRIDGE
Latitude: _____ Feet South of Deg. Min. Sec. 39.24233500
Longitude: Feet South of Deg. Min. Sec. -80.82565500

Company: CNX Gas Company LLC		Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. Ft.
Address: 200 Evergreene Drive Waynesburg, PA 15370		20	60	60	Cemented In
Agent: Steven Green		13 3/8	681	681	863 sxs (188 bbls) 108 bbls return
Inspector: Bill Hendershot		9 5/8	2570	2570	824 (205 bbls) 45 bbls return
Date Permit Issued: 5/26/2011		5 ½	14776	14776	2488 sxs (615 bbls) – est TOC @ 2370
Date Well Work Commenced:	5/31/2013				
Date Well Work Completed:	3/27/2014				
Verbal Plugging:					
Date Permission granted on:	5/31/2013				
Rotary Cable Rig X					
Total Vertical Depth (ft): ORIGINAL HOLE 6,758.7; ST 01 - 6,594.0					
Total Measured Depth (ft): 14,792.0					
Fresh Water Depth (ft): 30' & 580'					
Salt Water Depth (ft): None					
Is coal being mined in the area (N/Y)? N					
Coal Depths (ft.): None Present					
Void(s) encountered (N/Y) Depth(s): NA					

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6721
Gas: Initial open flow NA MCF/d Oil: Initial open flow NA Bbl/d
Final open flow NA MCF/d Final open flow NA Bbl/d
Time of open flow between initial and final tests NA Hours
Static rock Pressure NA psig (surface pressure) after Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after Hours

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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.

Signature Date 6/20/14

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Were core samples taken? Yes__ No_x_ Were cuttings caught during drilling? Yes_x_ No___

Were Electrical, Mechanical or Geophyisical logs recorded on this well? If yes, please list: Bond Log, Gamma Ray Log

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing or Stimulating: Please See Attached

Plug Back Details Including Plug Type and Depth(s): Please See Attached

Surface:

Formations Encountered: Please See Attached

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Stimulation Summary

Date	Stage #	Formation	Frac Type	Top Perf	Bottom Perf	# of Perfs	BD Press (psi)	ATP (psi)	Avg Rate (bpm)	ISIP (psi)	Frac Gradient	Sand (lbs)	Acid (gals)	Water (gals)
12/15/2013	1	Marcellus	Slickwater	14,423	14,662	48	6,628	8,434	87.4	3,756	1.00	440,525	3,000	395,790
12/16/2013	2	Marcellus	Slickwater	14,175	14,377	40	5,654	7,710	72.9	4,118	1.06	415,053	3,000	409,694
12/17/2013	3	Marcellus	Slickwater	13,925	14,127	40	6,006	8,188	77.3	3,678	0.99	412,750	3,000	370,813
12/18/2013	4	Marcellus	Slickwater	13,675	13,877	40	5,888	7,705	75.1	3,199	0.92	405,713	3,000	362,249
12/18/2013	5	Marcellus	Slickwater	13,373	13,627	40	6,759			3,592	0.98	422,070	3,000	400,375
12/19/2013	6	Marcellus	Slickwater	13,073	13,327	40	5,816	7,765	77.4	2,956	0.88	504,208	3,000	427,819
12/20/2013	7	Marcellus	Slickwater	12,773	13,027	40	5,311	7,431	75.4	4,701	1.15	499,253	3,000	399,227
12/21/2013	8	Marcellus	Slickwater	12,473	12,727	40	7,123	7,968	79.9	2,941	0.88	502,584	3,000	422,884
12/22/2013	9	Marcellus	Slickwater	12,173	12,427	40	6,537	7,471	75.9	3,006	0.89	502,585	3,000	420,603
12/23/2013	10	Marcellus	Slickwater	11,873	12,127	40	6,081	8,107	82.5	4,825	1.17	498,531	3,000	563,785
12/26/2013	11	Marcellus	Slickwater	11,573	11,827	40	5,323	7,423	79.4	4,767	1.16	501,556	3,000	417,753
12/27/2013	12	Marcellus	Slickwater	11,273	11,527	40	5,924	7,526	89.7	3,651	0.99	503,210	3,000	416,313
12/28/2013	13	Marcellus	Slickwater	10,973	11,227	40	5,673	8,258	85.3	4,147	1.07	500,856	3,000	515,138
12/28/2013	14	Marcellus	Slickwater	10,673	10,927	40	5,085	7,858	87.0	4,918	1.18	479,427	3,000	428,636
12/29/2013	15	Marcellus	Slickwater	10,373	10,627	40	5,085	7,910	82.3	5,336	1.24	495,764	3,000	525,765
12/30/2013	16	Marcellus	Slickwater	10,073	10,327	40	5,484	8,113	88.2	4,180	1.07	500,478	3,000	488,666
1/2/2014	17	Marcellus	Slickwater	9,773	10,027	40	4,778	7,038	90.1	2,784	0.86	497,643	3,000	403,549
1/2/2014	18	Marcellus	Slickwater	9,473	9,727	40	5,081	7,302	90.4	3,722	1.00	498,958	3,000	403,623
1/5/2014	19	Marcellus	Slickwater	9,173	9,427	40	6,233	7,495	90.0	3,118	0.91	502,170	3,000	434,754
1/10/2014	20	Marcellus	Slickwater	8,873	9,127	40	6,137	6,998	88.7	3,509	0.97	504,763	3,000	395,489
1/10/2014	21	Marcellus	Slickwater	8,573	8,827	40	5,805	7,554	82.9	3,903	1.03	501,585	3,000	445,761
1/11/2014	22	Marcellus	Slickwater	8,273	8,527	40	5,991	7,187	88.7	3,276	0.93	503,776	3,000	387,647
1/11/2014	23	Marcellus	Slickwater	7,973	8,227	40	5,748	7,422	84.6	4,738	1.15	458,718	3,000	385,083
1/12/2014	24	Marcellus	Slickwater	7,673	7,927	40	6,419	7,289	87.2	4,106	1.06	504,699	3,000	425,993
1/12/2014	25	Marcellus	Slickwater	7,373	7,627	40	5,589	7,353	84.2	3,590	0.98	503,049	3,000	448,305
1/12/2014	26	Marcellus	Slickwater	7,073	7,327	40	5,695	7,113	86.2	4,420	1.10	503,765	3,000	389,430
1/13/2014	27	Marcellus	Slickwater	6,825	7,027	40	6,073	7,105	85.5	2,962	0.88	500,071	3,000	405,363

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Stage #	Plug Type	Plug Depth
1	No plug	No plug
2	Composite Frac Plug	14,400
3	Composite Frac Plug	14,150
4	Composite Frac Plug	13,900
5	Composite Frac Plug	13,650
6	Composite Frac Plug	13,350
7	Composite Frac Plug	13,050
8	Composite Frac Plug	12,750
9	Composite Frac Plug	12,450
10	Composite Frac Plug	12,150
11	Composite Frac Plug	11,850
12	Composite Frac Plug	11,550
13	Composite Frac Plug	11,250
14	Composite Frac Plug	10,950
15	Composite Frac Plug	10,650
16	Composite Frac Plug	10,350
17	Composite Frac Plug	10,050
18	Composite Frac Plug	9,750
19	Composite Frac Plug	9,450
20	Composite Frac Plug	9,150
21	Composite Frac Plug	8,850
22	Composite Frac Plug	8,550
23	Composite Frac Plug	8,250
24	Composite Frac Plug	7,899
25	Composite Frac Plug	7,650
26	Composite Frac Plug	7,350
27	Composite Frac Plug	7,050
	Bridge Plug	6,500

PLUG BACK DETAILS:

SHUT DOWN RIG PUMPS AND TIE SCHLUMBERGER INTO TO DRILL STRING AND PUMP 25 BBL MUD PUSH @ 10PPG, W/ 1 GAL/ BBL B220 FOLLOWED W/310 SX MIXED AT17.5 PPG 0.94 YIELD = 52 BBLS CLASS H CEMENT W/0.4 GAL/SX D-080, 0.02 GAL/SX D-047 & 0.25 GAL/SX D-80, YIELD 0.94 FT3/SX, MIX FLUID 3.458 GAL/SX 3:42MIN @ 50BC, W/4 BBLS MUD PUSH @ 10PPG, DROP FOAM BALL AND DISPLACE WITH 96 BBLS SOBM. POOH 7 STANDS F/6,750' T6,013'. CIRCULATE OUT 2 SURFACE TO SURFACE CIRCULATIONS. WASH DOWN AND TAG TOP OF PLUG #1 @ 6,020'. (SPACER &TRACE OF CEMENT BACK TO SURFACE). SHUT DOWN RIG PUMPS AND TIE SCHLUMBERGER INTO TO DRILL STRING AND PUMP 25 BBL MUD PUSH @ 10PPG, W/ 1 GAL/ BBL B220 FOLLOWED W/310 SX MIXED AT17.5 PPG 0.94 YIELD = 52 BBLS CLASS H CEMENT W/0.4 GAL/SX D-080, 0.02 GAL/SX D-047 & 0.25 GAL/SX D-80, YIELD 0.94 FT3/SX, MIX FLUID 3.458 GAL/SX 3:42MIN @ 50BC, W/4 BBLS MUD PUSH @ 10PPG, DROP FOAM BALL AND DISPLACE WITH 82 BBLS SOBM ESTIMATED TOP OF CEMENT AT 5,300'. POOH 10 STANDS F/6,013' T/ 5,118'. RIG SERVICE. PUMP 1 SURFACE TO SURFACE CIRCULATION PRIOR TO PULLING OUT OF THE HOLE. (NO SIGNS OF CEMENT BACK TO SURFACE). PUMP SLUG AND POOH F/5,118' T/817'

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Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Sandstone and Shale, Undif.	0	1937	0	1938	
Maxton	1937	1967	1938	1981	
Greenbrier Group	1980	2040	1981	2041	
Big Injun (Grnbr)	2040	2120	2041	2278	
Weir	2277	2308	2278	2516	
Berea Ss	2515	2520	2516	2691	
Fourth	2690	2714	2691	2945	
Bayard	2944	2985	2945	3341	
Speechley	3340	3398	3341	3905	
Balltown A	3904	3930	3905	4113	
Balltown B	4112	4185	4113	4423	
Riley	4422	4443	4423	4953	
Benson	4952	5000	4953	5197	
Alexander	5196	5280	5197	6295	
Cashaqua Sh	6278	6399	6295	6442	
Middlesex Sh	6399	6448	6442	6509	
West River	6448	6524	6509	6633	
Geneseo Sh	6524	6554	6633	6695	
Tully Ls	6554	6573	6695	6742	
Hamilton	6573	6581	6742	6768	
Marcellus	6581	6636	6768	6938	Gas
Cherry Valley	6618	6620	6938	not encountered	
Onondaga	6636	6647	not encountered	not encountered	
Huntersville	6647	not encountered	not encountered	not encountered	

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date	12/15/2013
Job End Date	1/13/2014
State	West Virginia
County	Doddridge
API Number	47-017-06005-00-00
Operator Name	Noble Energy, Inc
Well Name and Number	OXF1 F
Longitude	-80.82565500
Latitude	39.24233500
Datum	NAD27
Federal/Tribal Well	NO
True Vertical Depth	6,594
Total Base Water Volume (gal)	11,490,788
Total Base Non Water Volume	0

FracFocus Chemical Disclosure Registry

GROUNDWATER PROTECTION COUNCIL

Oil & Gas

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	87.09127	Density = 8.330
SAND - PREMIUM WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	9.62541	
SAND - COMMON WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	2.44392	
HYDROCHLORIC ACID 5-10%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	10.00000	0.06715	
FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02552	
CALCIUM CHLORIDE	Halliburton	Brine					
			Calcium chloride	10043-52-4	96.00000	0.00979	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00337	
			Acetic acid	64-19-7	60.00000	0.00202	
BE-9W	Halliburton	Biocide					

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			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00393	
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
			Guar gum	9000-30-0	100.00000	0.00287	
LP-65 MC	Halliburton	Scale Inhibitor					
			Ammonium chloride	12125-02-9	10.00000	0.00253	
LoSurf-300D	Halliburton	Non-ionic Surfactant					
			Ethanol	64-17-5	60.00000	0.00068	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.00034	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00006	
			Naphthalene	91-20-3	5.00000	0.00006	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00001	
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
			Methanol	67-56-1	60.00000	0.00033	
			Propargyl alcohol	107-19-7	10.00000	0.00006	
SP BREAKER	Halliburton	Breaker					
			Sodium persulfate	7775-27-1	100.00000	0.00013	
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							
		Other Ingredient(s)					
			Water	7732-18-5		0.77699	
		Other Ingredient(s)					
			Polyacrylamide copolymer	Confidential		0.02552	
		Other Ingredient(s)					
			Propylene glycol	57-55-6		0.02358	
		Other Ingredient(s)					
			Organic phosphonate	Confidential		0.01518	
		Other Ingredient(s)					
			Sodium chloride	7647-14-5		0.00476	
		Other Ingredient(s)					
			Alcohols, C12-16, ethoxylated	68551-12-2		0.00425	
		Other Ingredient(s)					
			Ammonium chloride	12125-02-9		0.00425	
		Other Ingredient(s)					
			Fatty acid tall oil amide	Confidential		0.00425	Denise Tuck, Halliburton 3000 N. Sam Houston Pkwy E., Houston, TX 77032 281-871-6226
		Other Ingredient(s)					
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00085	
		Other Ingredient(s)					
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00085	

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		Other Ingredient(s)					
			Strontium chloride	10476-85-4		0.00051	
		Other Ingredient(s)					
			Potassium chloride	7447-40-7		0.00051	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.00034	
		Other Ingredient(s)					
			Formaldehyde	50-00-0		0.00025	
		Other Ingredient(s)					
			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1		0.00017	
		Other Ingredient(s)					
			Fatty acids, tall oil	Confidential		0.00017	
		Other Ingredient(s)					
			Alcohols, C14-C15, ethoxylated	68951-67-7		0.00017	
		Other Ingredient(s)					
			Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4		0.00014	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.00011	
		Other Ingredient(s)					
			Surfactant mixture	Confidential		0.00003	
		Other Ingredient(s)					
			Surfactant mixture	Confidential		0.00003	
		Other Ingredient(s)					
			Silica gel	112926-00-8		0.00003	
		Other Ingredient(s)					
			Olefins	Confidential		0.00003	
		Other Ingredient(s)					
			Olefins	Confidential		0.00003	
		Other Ingredient(s)					
			Olefins	Confidential		0.00001	
		Other Ingredient(s)					
			Olefins	Confidential		0.00001	
		Other Ingredient(s)					
			Crystalline Silica, Quartz	14808-60-7		0.00000	
		Other Ingredient(s)					
			Sodium sulfate	7757-82-6		0.00000	

* 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)

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