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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: 47-017-06003

Farm Name: Kiley, Joseph & Jacqueline Operator Well No: OXFD-1D-HS

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

District: West Union County: DODDRIDGE
Latitude: _____ Feet South of Deg. Min. Sec. 39.24244200
Longitude: _____ Feet South of Deg. Min. Sec. -80.82561700

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	659	659	562 sxs (121 bbls) 45 bbls return
Inspector: Bill Hendershot	9 5/8	2622	2622	870 sxs (216 bbls) 59 bbls return
Date Permit Issued: 4/22/2011	5 1/2	10245	10245	1879 sxs (505 bbls)
Date Well Work Commenced: 6/21/2013				
Date Well Work Completed: 3/22/2014				
Verbal Plugging:				
Date Permission granted on: 6/21/2013				
Rotary Cable Rig X				
Total Vertical Depth (ft): Original Hole - 6,561.8				
Total Measured Depth (ft): 10,264.0				
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) 6808
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 _____ Hours
Static rock Pressure _____ 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

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] 6/3/14
Signature Date
[Signature] 5/16/14
Signature Date

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Were core samples taken? Yes__ No_x_

Were cuttings caught during drilling? Yes_x_ No__

Were Electrical, Mechanical or Geophysical 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)
1/16/2014	1	Marcellus	Slickwater	10,025	10,145	48	5,414	8,284	72.8	3,580	0.98	246,459	3,000	380,980
1/17/2014	2	Marcellus	Slickwater	9,875	9,977	40	5,136	7,133	73.2	4,162	1.07	248,710	3,000	261,637
1/17/2014	3	Marcellus	Slickwater	9,725	9,827	40	5,583	7,695	81.2	5,142	1.22	245,007	3,000	268,154
1/17/2014	4	Marcellus	Slickwater	9,575	9,677	40	5,761	7,131	80.9	4,240	1.08	250,582	3,000	243,592
1/18/2014	5	Marcellus	Slickwater	9,425	9,527	40	5,292	7,283	90.0	4,178	1.07	246,061	3,000	255,620
1/18/2014	6	Marcellus	Slickwater	9,275	9,377	40	5,152	7,149	87.7	3,618	0.98	245,300	3,000	239,662
1/19/2014	7	Marcellus	Slickwater	9,125	9,227	40	5,980	7,194	88.6	3,905	1.03	247,008	3,000	252,440
1/19/2014	8	Marcellus	Slickwater	8,975	9,077	40	6,338	7,401	82.3	4,720	1.15	251,840	3,000	240,815
1/20/2014	9	Marcellus	Slickwater	8,825	8,927	40	5,285	7,541	83.0	3,933	1.03	246,733	3,000	303,773
1/20/2014	10	Marcellus	Slickwater	8,675	8,777	40	5,639	7,221	82.8	5,018	1.20	245,903	3,000	240,699
1/20/2014	11	Marcellus	Slickwater	8,525	8,627	40	6,553	7,349	87.9	4,268	1.08	247,142	3,000	257,698
1/21/2014	12	Marcellus	Slickwater	8,375	8,477	40	5,270	7,420	88.9	4,630	1.14	247,429	3,000	257,180
1/21/2014	13	Marcellus	Slickwater	8,225	8,327	40	5,292	7,495	89.1	4,997	1.19	246,781	3,000	272,675
1/22/2014	14	Marcellus	Slickwater	8,075	8,177	40	5,334	6,958	89.5	3,513	0.97	249,921	3,000	235,219
1/23/2014	15	Marcellus	Slickwater	7,925	8,027	40	5,872	7,291	88.8	4,849	1.17	248,033	3,000	262,180
1/24/2014	16	Marcellus	Slickwater	7,775	7,877	40	5,920	7,315	84.5	4,364	1.10	249,581	3,000	294,907
1/24/2014	17	Marcellus	Slickwater	7,625	7,727	40	5,238	7,246	89.1	4,717	1.15	253,288	3,000	256,000
1/25/2014	18	Marcellus	Slickwater	7,475	7,577	40	5,565	7,166	89.4	4,624	1.13	249,767	3,000	253,903
1/25/2014	19	Marcellus	Slickwater	7,325	7,427	40	6,687	7,017	89.4	4,810	1.16	250,380	3,000	227,729
1/26/2014	20	Marcellus	Slickwater	7,175	7,277	40	7,641	7,478	90.2	4,111	1.06	248,892	3,000	254,148
1/26/2014	21	Marcellus	Slickwater	7,033	7,127	40	6,769	6,798	90.1	3,769	1.00	246,759	3,000	245,161
1/27/2014	22	Marcellus	Slickwater	6,893	6,987	40	7,541	7,240	90.1	3,320	0.94	246,468	3,000	243,203

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Stage #	Plug Type	Plug Depth
1	NA	No Plug
2	Composite Frac Plug	10,000.00
3	Composite Frac Plug	9,850.00
4	Composite Frac Plug	9,700.00
5	Composite Frac Plug	9,556.00
6	Composite Frac Plug	9,400.00
7	Composite Frac Plug	9,257.00
8	Composite Frac Plug	9,100.00
9	Composite Frac Plug	8,950.00
10	Composite Frac Plug	8,800.00
11	Composite Frac Plug	8,650.00
12	Composite Frac Plug	8,500.00
13	Composite Frac Plug	8,350.00
14	Composite Frac Plug	8,200.00
15	Composite Frac Plug	8,050.00
16	Composite Frac Plug	7,900.00
17	Composite Frac Plug	7,750.00
18	Composite Frac Plug	7,600.00
19	Composite Frac Plug	7,450.00
20	Composite Frac Plug	7,300.00
21	Composite Frac Plug	7,150.00
22	Composite Frac Plug	7,010.00
	Kill Plug	6,500.00

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Formations	Top TVD	Base TVD	Top MD	Base MD	Fluid
Sandstone and Shale, Undif.	0	1937	0	1937	
Maxton	1937	1967	1937	1980	
Greenbrier Group	1980	2040	1980	2040	
Big Injun (Grnbr)	2040	2120	2040	2277	
Weir	2277	2308	2277	2515	
Berea Ss	2515	2520	2515	2690	
Fourth	2690	2714	2690	2944	
Bayard	2944	2985	2944	3341	
Speechley	3340	3398	3341	3910	
Balltown A	3904	3930	3910	4120	
Balltown B	4112	4185	4120	4433	
Riley	4422	4443	4433	4969	
Benson	4952	5000	4969	5215	
Alexander	5196	5280	5215	6322	
Cashaqua Sh	6278	6399	6322	6474	
Middlesex Sh	6399	6448	6474	6549	
West River	6448	6524	6549	6703	
Geneseo Sh	6524	6554	6703	6790	
Tully Ls	6554	6573	6790	6863	
Hamilton	6573	6581	6863	6902	
Marcellus	6581	6636	6902	7128	Gas
Cherry Valley	6618	6620	7128	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:	1/16/2014
Job End Date:	1/27/2014
State:	West Virginia
County:	Doddridge
API Number:	47-017-06003-00-00
Operator Name:	Noble Energy, Inc.
Well Name and Number:	OXF 1 D
Longitude:	-80.82561700
Latitude:	39.24244200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,561
Total Base Water Volume (gal):	5,681,443
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
Fresh Water	Operator	Base Fluid					
			Fresh Water	7732-18-5	100.00000	88.51125	Density = 8.330
40/70 White	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	8.15467	
100 MESH	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	2.01736	
HYDROCHLORIC ACID 5-10%	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	10.00000	0.10665	
CALCIUM CHLORIDE - HI-TEST PELLETS	Halliburton	Accelerator					
			Calcium chloride	10043-52-4	96.00000	0.10176	
FR-55	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	54742-47-8	30.00000	0.02186	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00553	
			Acetic acid	64-19-7	80.00000	0.00332	
BE-9W	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	31741-28-8	10.00000	0.00393	

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LP-65	Halliburton	Scale Inhibitor					
			Ammonium chloride	12125-02-9	10.00000	0.00238	
LoSurf-300D	Halliburton	Non-ionic Surfactant					
			Ethanol	54-17-5	60.00000	0.00111	
			Heavy aromatic petroleum naphtha	54742-94-5	30.00000	0.00056	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00009	
			Naphthalene	91-20-3	5.00000	0.00009	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00002	
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
			Methanol	57-56-1	60.00000	0.00056	
			Propargyl alcohol	107-19-7	10.00000	0.00009	
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		1.16375	
		Other Ingredient(s)					
			Propylene glycol	57-55-6		0.02356	
		Other Ingredient(s)					
			Polyacrylamide copolymer	Confidential		0.02186	
		Other Ingredient(s)					
			Organic phosphonate	Confidential		0.01428	
		Other Ingredient(s)					
			Sodium chloride	7647-14-5		0.00894	
		Other Ingredient(s)					
			Strontium chloride	10476-85-4		0.00530	
		Other Ingredient(s)					
			Potassium chloride	7447-40-7		0.00530	
		Other Ingredient(s)					
			Fatty acid tall oil amide	Confidential		0.00364	Denise Tuck, Halliburton 3000 N. Sam Houston Pkwy E., Houston, TX 77032 281-871-6226
		Other Ingredient(s)					
			Ammonium chloride	12125-02-9		0.00364	
		Other Ingredient(s)					
			Alcohols, C12-16, ethoxylated	88551-12-2		0.00364	
		Other Ingredient(s)					
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00073	
		Other Ingredient(s)					
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00073	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.00056	

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	Other Ingredient(s)					
		Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1			0.00027
	Other Ingredient(s)					
		Alcohols, C14-C15, ethoxylated	68951-67-7			0.00027
	Other Ingredient(s)					
		Fatty acids, tall oil	Confidential			0.00027
	Other Ingredient(s)					
		Formaldehyde	50-00-0			0.00024
	Other Ingredient(s)					
		Oxyalkylated phenolic resin	Confidential			0.00019
	Other Ingredient(s)					
		Olefins	Confidential			0.00005
	Other Ingredient(s)					
		Olefins	Confidential			0.00005
	Other Ingredient(s)					
		Olefins	Confidential			0.00001
	Other Ingredient(s)					
		Olefins	Confidential			0.00001

* 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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