

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

API 47 - 103 - 02930 County WETZEL District CENTER  
Quad LITTLETON 7.5' Pad Name JOLLIFFE UNIT 1 Field/Pool Name MARCELLUS SHALE  
Farm name JOE JOLLIFFE Well Number JOE JOLLIFFE UNIT 1 4H  
Operator (as registered with the OOG) STATOIL USA ONSHORE PROPERTIES INC.  
Address 6300 Bridge Point Pky, Suite 500 City Austin State TX Zip 78730

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 419,538 Easting 1,671,180  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 415,459 Easting 1,675,607

Elevation (ft) 1336' 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

Drilling 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)  
Surface - Drill Water; Intermediate - KCl/Polymer; Production - CyberDrill

Date permit issued 11/05/2013 Date drilling commenced 09/29/2014 Date drilling ceased 10/18/2014  
Date completion activities began 02/05/2015 Date completion activities ceased 02/25/2015  
Verbal plugging (Y/N) N/A Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 130' - 320' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 2150' - Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft 755' - Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) N

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Farm name JOE JOLLIFFE

Well number JOE JOLLIFFE UNIT | 4H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24	20	120'	NEW			
Surface	17 1/2	13 3/8	668'	NEW	J-55; 54.5#		Yes - 11.5bbls
Coal							
Intermediate 1	12 1/4	9 5/8	2657'	NEW	J-55; 36#		N
Intermediate 2							
Intermediate 3							
Production	8 3/4	5.5	13,514'	NEW	J-55; P-110; 20#		Yes - 4 bbls
Tubing	4 5/8	2 3/8	7345'	NEW	L-80; 4.7#		N/A
Packer type and depth set		VersaSet Packer set at 7340'					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor							
Surface	Class A	250	15.8	2.31	578 = 103 bbls	SURFACE	19.5 hrs
Coal							
Intermediate 1	Class A	440	15.8	2.31	1016 = 181bbls	2653'	34.5 hrs
Intermediate 2							
Intermediate 3							
Production	Class A	2345	15	1.29	3025 = 538.77 bbls	1275'	days
Tubing							

Drillers TD (ft) 13,530'      Loggers TD (ft) 13,485'

Deepest formation penetrated Marcellus      Plug back to (ft) N/A

Plug back procedure \_\_\_\_\_

Kick off depth (ft) 6,826'

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 \_\_\_\_\_

Surface: 1 Centralizer with stop collar 10 ft above floatshoe. One single bow every joint to 100ft below surface.

Intermediate: 1 centralizer with stop collar 10 ft above float shoe. 1 centralizer with stop collar 10 ft above float collar. 1 centralizer every joint for the first 15 joints. One centralizer every 3 joints to 100 ft below surface.

Production: 1 centralizer w/ stop collar 10ft above shoe. 1 centralizer 10ft above float collar. 1 centralizer every joint (floating) until KOP. 1 centralizer every 3 joints (floating) until 200ft inside intermediate shoe. 1 centralizer 50ft below mandrel hanger.

WAS WELL COMPLETED AS SHOT HOLE     Yes     No      DETAILS \_\_\_\_\_

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WAS WELL COMPLETED OPEN HOLE?     Yes     No      DETAILS \_\_\_\_\_

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WERE TRACERS USED     Yes     No      TYPE OF TRACER(S) USED \_\_\_\_\_

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	02/05/15	13232	13052	48	Marcellus
2	02/12/15	12932	12752	48	Marcellus
3	02/12/15	12632	12542	48	Marcellus
4	02/14/15	12332	12152	48	Marcellus
5	02/14/15	12032	11852	48	Marcellus
6	02/15/15	11732	11552	48	Marcellus
7	02/16/15	11432	11252	48	Marcellus
8	02/17/15	11132	10952	48	Marcellus
9	02/18/15	10832	10652	48	Marcellus
10	02/18/15	10532	10352	48	Marcellus
11	02/19/15	10232	10052	48	Marcellus
12	02/20/15	9932	9752	48	Marcellus
13	02/20/15	9632	9452	48	Marcellus
14	02/21/15	9332	9152	48	Marcellus
15	02/22/15	9032	8852	48	Marcellus
16	02/22/15	8732	8552	48	Marcellus

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	02/05/15	85.3	8015	9608		132400	5281	
2	02/12/15	84.3	7607	8230	5083	441800	8250	
3	02/12/15	82.1	7882	8865	6562	441800	9689	
4	02/14/15	85	7680	8102	6222	441800	7827	
5	02/14/15	85	7879	8203	5798	441800	7873	
6	02/15/15	80	8065	8620	5986	441800	10151	
7	02/16/15	85	8058	8496	5727	441800	7899	
8	02/17/15	85	8037	8386	5841	441800	7873	
9	02/18/15	85	8037	8526	5021	441800	8834	
10	02/18/15	86.5	7899	8136	4849	441800	7756	
11	02/19/15	86.5	7663	8032	5826	441800	8673	
12	02/20/15	80	7891	8679	5937	441800	7778	
13	02/20/15	85.5	7641	7985	4753	441800	7585	
14	02/21/15	84	7600	8004	4999	441800	7515	
15	02/22/15	83	8013	8109	4878	441800	7533	
16	02/22/15	85.6	7618	7873	4511	441800	7587	

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus (shut in; not yet producing)	7477'-7508'	TVD 7712' - 13312' MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3385 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 4900 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water 0 bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	0		0		
Gordon	3145	3199	3154	3209	
Warren	3836	3867	3850	3882	
Alexander	5828	5876	5845	5880	
Middlesex	7185	7225	7207	7250	Gas
Geneseo	7305	7327	7343	7372	Gas
Tully	7327	7351	7372	7405	
Hamilton	7351	7452	7405	7592	
Marcellus	7452		7592		Gas

Please insert additional pages as applicable.

Drilling Contractor ORION DRILLING  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Logging Company HALLIBURTON  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Cementing Company HALLIBURTON  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Stimulating Company Producer's Service Corp  
Address 109 S. Graham Street City Zanesville State OH Zip 43701

Please insert additional pages as applicable.

Completed by Bekki Winfree Telephone 713-240-9015 **APR 06 2016**  
Signature *Bekki Winfree* Title Sr. Regulatory Advisor Date 03/31/16

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry  
Office of Oil and Gas  
Department of Environmental Protection  
**04/08/2016**



March 31, 2016

West Virginia Department of Environmental Protection  
Office of Oil and Gas  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304

Reference: Joe Jolliffe Unit 1 4H, API 47-103-02930  
WR-36 – Initial Gas-Oil Ratio  
WR-35 – Updated for Production

Gentlemen:

Statoil USA Onshore Properties Inc. herein submits the WR-35 Initial Gas-Oil Ratio and updated WR-35 for Joe Jolliffe Unit 1 4H (API No. 47-103-02930). The well was turned on directly to production on 6/24/15; however, it was only recently discovered that the corresponding paperwork had not been filed.

Should you have any questions or require additional information please contact the undersigned at 713-240-9015 or [bekw@statoil.com](mailto:bekw@statoil.com).

Sincerely,

A handwritten signature in blue ink, appearing to read "Bekki Winfree".

Bekki Winfree  
Sr. Regulatory Advisor – Marcellus Asset

Enclosure

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