

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

API 47 - 051 - 01689 County Marshall District Cameron  
Quad Glen Easton Pad Name Van Aston MSH Field/Pool Name \_\_\_\_\_  
Farm name Van Aston MSH 206H Well Number 839104  
Operator (as registered with the OOG) Chesapeake Appalachia, L.L.C.  
Address P.O. Box 18496 City Oklahoma City State OK Zip 73154-0496

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top hole Northing 4410947.1 Easting 529909.0  
Landing Point of Curve Northing \_\_\_\_\_ Easting \_\_\_\_\_  
Bottom Hole Northing 4408360.9 Easting 530205.4

Elevation (ft) 1,152 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)  
SOBM

Date permit issued 12/20/13 Date drilling commenced 12/20/13 Date drilling ceased 2/10/14  
Date completion activities began 11/19/2014 Date completion activities ceased 12/3/2014  
Verbal plugging (Y/N) N 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 342' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 1200' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 770' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

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Reviewed by:

APR 04 2016

*AX WS 04/24/16*

API 47-051 - 01689 Farm name Van Aston MSH 206H Well number 839104

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	26"	20"	122'	New	K-55 94#		Y
Surface	17 1/2"	13 3/8"	841'	New	J-55 54.5#		Y
Coal							
Intermediate 1	12 1/4"	9 5/8"	2,238'	New	J-55 40#		Y
Intermediate 2							
Intermediate 3							
Production	8 3/4" / 8 1/2"	5 1/2"	15,221'	New	P-110 20#		Y
Tubing		2 3/8"	7,191.6'	New	P-110 4.7		
Packer type and depth set							

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	Class A	200	15.60	1.18	236	Surface	8
Surface	Class A	735	15.60	1.20	882	Surface	8
Coal							
Intermediate 1	Class A	790	15.60	1.19	940.1	Surface	8
Intermediate 2							
Intermediate 3							
Production	Class H	1,146 / 1,970	15.60	1.17 / 1.18	3665.42	734'	8
Tubing							

Drillers TD (ft) 15235' Loggers TD (ft) 16235'  
 Deepest formation penetrated Marcellus Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 6,348'

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 / Coal - Run centralizers in the middle and top of the first joint, top of the third joint and every 4th joint to surface.  
 Production - Run 1st centralizer 3' from Shoe, 2nd at top of the first joint and then one every 3rd joint to TOC.

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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API 47-051-01689 Farm name Van Aston MSH 206H Well number \_\_\_\_\_

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>N/A</u>	<u>TVD</u>	<u>MD</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

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Please insert additional pages as applicable.

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GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

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

OPEN FLOW Gas \_\_\_\_\_ mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ 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)
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	0		0		
LS/SH	0	7700	0	770	Limestone with shale
Pittsburgh Coal	770	790	770	790	Pittsburgh Coal
LS	790	1060	790	1060	Limestone
LS/Sh	1060	1500	1060	1500	Limestone and shale
Sh/SS	1500	1650	1500	1650	Shale and stone
Big Lime	1650	1820	1650	1820	Sandstone
Big Injun	1820	2085	1820	2085	Big Injun Sandstone
Sh	2085	6422	2085	6816	Shale
Geneseo	6422	6431	6816	6835	Geneseo Shale
Tully	6431	6458	6835	6901	Tully Limestone
Hamilton	6458	6552	6901	7397	Hamilton Shale
Marcellus	6552	TD	7397	TD	Marcellus Shale
TD		6559		7464	TD

Please insert additional pages as applicable.

Drilling Contractor Nomac Drilling  
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

Logging Company Nomac Drilling  
Address 171 Locust Ave Extension City Mt. Morris State PA Zip 15349

Cementing Company Schlumberger  
Address 1080 U.S. 33 City Weston State WV Zip 26452

Stimulating Company US Well Services, LLC  
Address 770 South Post Oak Lane, Suite 405 City Houston State TX Zip 77056

Please insert additional pages as applicable.

Completed by Jessica Greathouse Telephone 304-353-5240  
Signature [Signature] Title Manager - Regulatory Operations Date 3-30-2016

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry



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## Drilling Services

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## EOW Summary

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**CHESAPEAKE ENERGY**

WELL: VAN ASTON MSH 206H

MARSHALL COUNTY, WV

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Prepared by: DEV KUMAR

Submitted: FEBRUARY 12, 2014

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**Weatherford International Ltd.**  
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[www.weatherford.com](http://www.weatherford.com)



<b>Company:</b> Chesapeake Operating, Inc <b>Lease / Well:</b> Van Ashton MSH 206H <b>County/Parish:</b> Marshall County <b>State:</b> WV <b>Date:</b> 1/29/2014 <b>API#:</b> 47-5101689 <b>Dir. Company:</b> WEATHERFORD <b>Latitude:</b> NA <b>Longitude:</b> NA	<b>Operator:</b> Chris Gross <b>Job Number:</b> SVPA-140031 <b>Gyro Serial #:</b> SRG 118 <b>Proposed Direction:</b> 157 <b>Mag. Declination:</b> 8.64 WEST GRID NORTH <b>Rig/RKB:</b> Nomac #337 24' ft. <b>Tie-in Company:</b> NA <b>X:</b> NA <b>Y:</b> NA
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**FIELD USE ONLY, DEFINITIVE SURVEY WILL COME FROM MS SURVEY OFFICES**

TIE-IN Survey					
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Coordinates (+N/-S) (+E/-W)	
0.00	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report								
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S) (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction

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0.00	0.00	0.00	0.00	0.00	0.00

Digital Multi-Shot Survey Report									
Measured Depth (ft.)	Inclination	Azimuth Bearing	Vertical Depth	Vertical Section	Coordinates (+N/-S)	Coordinates (+E/-W)	Dog-Leg / 100 ft.	Closure Distance	Closure Direction
100.00	0.37	103.69	100.00	0.19	-0.08	0.31	0.37	0.32	103.69
200.00	0.36	111.95	200.00	0.61	-0.27	0.92	0.05	0.96	106.39
300.00	0.28	141.32	300.00	1.06	-0.58	1.36	0.18	1.48	113.00
400.00	0.20	292.68	400.00	1.18	-0.70	1.35	0.47	1.53	117.39
500.00	0.13	3.48	499.99	0.95	-0.52	1.20	0.20	1.31	113.48
600.00	0.04	112.58	599.99	0.87	-0.42	1.24	0.15	1.31	108.78
670.00	0.23	235.80	669.99	0.92	-0.51	1.15	0.36	1.25	113.99

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## PERFORATION RECORD ATTACHMENT

Well Name and Number: Van Aston MSH 206H

API No. 47-051-01689

Stage	PERFORATION RECORD				STIMULATION RECORD							
	Date	Interval Perforated		Total Number Of Shots				Fluid		Propping Agent		Average Injection Rate
		From	To		Date	Interval Treated	Type	Amount	Type	Amount		
1	11/19/2014	14,857	15058	30	11/19/2014	14,857	15058	SLK Wtr	9569	Sand	402785	70
2	11/20/2014	14,612	14809	30	11/20/2014	14,612	14809	SLK Wtr	7720	Sand	403547	76
3	11/20/2014	14,367	14564	30	11/20/2014	14,367	14564	SLK Wtr	9120	Sand	400580	76
4	11/20/2014	14,122	14319	30	11/20/2014	14,122	14319	SLK Wtr	8629	Sand	399869	68
5	11/21/2014	13,877	14074	30	11/21/2014	13,877	14074	SLK Wtr	7415	Sand	400580	79
6	11/21/2014	13,632	13829	30	11/21/2014	13,632	13829	SLK Wtr	7499	Sand	400530	78
7	11/21/2014	13,387	13584	30	11/21/2014	13,387	13584	SLK Wtr	7811	Sand	399145	71
8	11/21/2014	13,142	13339	30	11/21/2014	13,142	13339	SLK Wtr	7671	Sand	400555	77
9	11/22/2014	12,897	13094	30	11/22/2014	12,897	13094	SLK Wtr	7381	Sand	400940	80
10	11/23/2014	12,652	12849	30	11/23/2014	12,652	12849	SLK Wtr	7466	Sand	402602	78
11	11/24/2014	12,407	12604	30	11/24/2014	12,407	12604	SLK Wtr	7494	Sand	400860	77
12	11/24/2014	12,162	12359	30	11/24/2014	12,162	12359	SLK Wtr	7401	Sand	400740	78
13	11/25/2014	11,917	12114	30	11/25/2014	11,917	12114	SLK Wtr	7280	Sand	400515	79
14	11/25/2014	11,672	11869	30	11/25/2014	11,672	11869	SLK Wtr	8726	Sand	400605	80
15	11/29/2014	11,427	11624	30	11/29/2014	11,427	11624	SLK Wtr	7452	Sand	400610	79
16	11/29/2014	11,182	11379	30	11/29/2014	11,182	11379	SLK Wtr	7186	Sand	403473	81
17	11/29/2014	10,937	11134	30	11/29/2014	10,937	11134	SLK Wtr	7186	Sand	403675	77
18	11/29/2014	10,692	10889	30	11/29/2014	10,692	10889	SLK Wtr	7107	Sand	400670	76
19	11/30/2014	10,447	10644	30	11/30/2014	10,447	10644	SLK Wtr	7146	Sand	400585	79
20	11/30/2014	10,202	10399	30	11/30/2014	10,202	10399	SLK Wtr	7948	Sand	400804	72
21	11/30/2014	9,957	10154	30	11/30/2014	9,957	10154	SLK Wtr	7193	Sand	401775	76
22	11/30/2014	9,712	9909	30	11/30/2014	9,712	9909	SLK Wtr	7402	Sand	407066	78
23	12/1/2014	9,467	9664	30	12/1/2014	9,467	9664	SLK Wtr	8637	Sand	393516	75
24	12/1/2014	9,222	9419	30	12/1/2014	9,222	9419	SLK Wtr	7207	Sand	401056	78
25	12/2/2014	8,977	9174	30	12/2/2014	8,977	9174	SLK Wtr	7203	Sand	408141	78.8
26	12/2/2014	8,732	8929	30	12/2/2014	8,732	8929	SLK Wtr	7189	Sand	403386	79.3
27	12/2/2014	8,487	8684	30	12/2/2014	8,487	8684	SLK Wtr	7154	Sand	403503	82
28	12/3/2014	8,242	8439	30	12/3/2014	8,242	8439	SLK Wtr	6679	Sand	404294	83
29	12/3/2014	7,997	8194	30	12/3/2014	7,997	8194	SLK Wtr	7039	Sand	397877	80.2

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30	12/3/2014	7752	7949	30	12/3/2014	7752	7949	SLK Wtr	7049	Sand	408669	77.8
31	12/3/2014	7507	7704	30	12/3/2014	7507	7704	SLK Wtr	7191	Sand	406780	83

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