

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: 5/22/13
API #: 47-103-02716

Farm name: John Rush Operator Well No.: 404-1H
LOCATION: Elevation: 1450' Quadrangle: PINE GROVE 7.5'
District: CENTER County: WETZEL
Latitude: 4891 Feet South of 39 Deg. 37 Min. 30 Sec.
Longitude: 3610 Feet West of 80 Deg. 37 Min. 30 Sec.

Company: HG ENERGY, LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>5260 DUPONT ROAD</u>				
<u>PARKERSBURG, WV 26101</u>	<u>20" CASING</u>	<u>40'</u>	<u>40'</u>	<u>N/A</u>
Agent: <u>MIKE KIRSCH</u>	<u>94# H-40</u>			<u>DRILLED IN</u>
Inspector: <u>DEREK HAUGHT</u>				
Date Permit Issued: <u>01/26/2012</u>	<u>13 3/8" CASING</u>	<u>1413.24</u>	<u>1413.24</u>	<u>1152 SACKS</u>
Date Well Work Commenced: <u>5/1/12</u>	<u>54.5" J-55</u>			<u>CEMENT TO SURFACE</u>
Date Well Work Completed: <u>12/19/2012</u>				
Verbal Plugging:	<u>95/8" CASING</u>	<u>3447'</u>	<u>3447'</u>	<u>1285 SACKS</u>
Date Permission granted on:	<u>40" J-55</u>			<u>CEMENT TO SURFACE</u>
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): <u>7493.27</u>	<u>5 1/2" CASING</u>	<u>13180'</u>	<u>13180'</u>	<u>2174 SACKS</u>
Total Measured Depth (ft): <u>13222</u>	<u>20" P-110</u>			<u>CEMENT TO SURFACE</u>
Fresh Water Depth (ft.): <u>190', 490'</u>				
Salt Water Depth (ft.): <u>1990'</u>	<u>2 3/8" TUBING</u>	<u>7503.01</u>	<u>7503.01</u>	<u>N/A</u>
Is coal being mined in area (N/Y)? <u>N</u>	<u>47# L-80</u>			
Coal Depths (ft.): <u>985', 1080', 1219'</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

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

Producing formation Marcellus Pay zone depth (ft) 7,490'
Gas: Initial open flow 12.6 MMCF/d Oil: Initial open flow 144 Bbl/d
Final open flow 11.5 MMCF/d Final open flow 144 Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 3,100 psig (surface pressure) after 24 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.

DCW for Josh Hinton
Signature

7/12/13
Date

08/16/2013

Were core samples taken? Yes _____ No _____ Were cuttings caught during drilling? Yes _____ No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list _____

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:

— SEE ATTACHED SUMMARY SHEET —

Plug Back Details Including Plug Type and Depth(s):

Formations Encountered: Top Depth / Bottom Depth
Surface:

Formations Encountered:	Top Depth	/	Bottom Depth
BIG LIME	2432	-	2503
BIG INJUN	2503	-	2724
GORDON STRAY	3288	-	3319
GORDON	3319	-	3340
TULLY	7927	-	7991
HAMILTON	7991	-	8272
MARCELLUS	8272	-	8272 NOT REACHED

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103-02716

John Bush 6049-21
FRAC SUMMARY
47-149-42715

Stage	# of Perfs	Total Acid (gal)	Total Water (gal)	Total Sand (gal)	Total Sherry (gal)	Prod Vol (bbl)	100 Mesh (bbl)	40/70 Mesh (bbl)	20/40 Mesh	ESP (psi)	1.5Mw ESP (psi)	3.1Mw ESP (psi)	8.5Mw ESP (psi)	ATP (psi)	Avg Rate (bbl/mh)	Pump Counts (bbl)
1	60	1,000	6,197	8,890	1,298	78,200	299,000	20,200	20,200	N/A	1,607	1,607	1,607	6.74	76	N/A
2	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	76	894
3	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
4	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
5	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
6	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
7	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
8	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
9	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
10	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
11	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
12	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
13	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
14	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
15	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
16	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
17	60	1,000	7,841	10,730	1,602	85,700	276,000	17,600	17,600	4,871	1,862	1,862	1,862	6.74	77	894
TOTAL / AVE	690	37,800	133,021	162,845	20,402	1,529,700	276,000	20,200	20,200	20,200	20,200	20,200	20,200	6.74	76	8,133

Perforating Detail

Step	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	6th Cluster	7th Cluster	8th Cluster	9th Cluster	10th Cluster	Perf Method
Step 1	1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	PD
Step 2	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 3	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 4	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 5	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 6	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 7	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 8	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 9	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 10	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 11	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 12	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 13	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 14	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 15	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 16	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD
Step 17	1000	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	1000-01	PD

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