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: 5/14/13
API #: 47-103-02737 ✓

Farm name: JOHN RUSH Operator Well No.: 404-2H

LOCATION: Elevation: 1450 Quadrangle: PINE GROVE 7.5'

District: CENTER County: WETZEL

Latitude: 4879 Feet South of 39 Deg. 37 Min. 30 Sec.

Longitude 3604 Feet West of 80 Deg. 37 Min. 30 Sec.

Company: HG ENERGY, LLC

Address: 5260 DUPONT ROAD	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
PARKERSBURG, WV 26101	20" CASING	40'	40'	N/A
Agent: MIKE KIRSCH	94#, H-40			DRILLED IN
Inspector: DEREK HAUGHT				
Date Permit Issued: 02/06/2012	13 3/8" CASING	1390'	1390'	Cement to SURFACE
Date Well Work Commenced: 05/01/2012	54.5#, J-55			1150 SKS
Date Well Work Completed: 12/17/2012				
Verbal Plugging:	9 5/8" CASING	3449.23'	3449.23'	Cement to SURFACE
Date Permission granted on:	40#, J-55			1196 sks
Rotary ☑ Cable ☐ Rig ☑				
Total Vertical Depth (ft): 7514.41'	5 1/2" CASING	13,158'	13,158'	Cement to SURFACE
Total Measured Depth (ft): 13,203'	20#, P-110			2183 sks
Fresh Water Depth (ft.): 190', 490'				
Salt Water Depth (ft.): 1,990'	2 3/8" TUBING	N/A	7646.70'	N/A
Is coal being mined in area (N/Y)? N	4.7# L-80			
Coal Depths (ft.): 985', 1080', 1219'				
Void(s) encountered (N/Y) Depth(s) N				

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

Producing formation Marcellus Pay zone depth (ft) 7,489 TVD

Gas: Initial open flow 11.0M MCF/d Oil: Initial open flow 144 Bbl/d

Final open flow 11.0M MCF/d Final open flow 96 Bbl/d

Time of open flow between initial and final tests 24 Hours

Static rock Pressure 3,300 psig (surface pressure) after 24 Hours

Second producing formation N/A 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.

OCW for Josh Hinton
Signature

7-12-13
Date

08/16/2013

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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 REAL TIME GAMMA RAY LOGS WHILE DRILLING VIA THE MWD TOOLS. ALSO, MUD LOGS

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: Surface:	Top Depth	/	Bottom Depth
BIG LIME	2432'	–	2503
BIG INJUN	2503	–	2724
GORDON STRAY	3288'	–	3319'
GORDON	3319'	–	3340'
TULLY	7546'	–	7592'
HAMILTON	7592	–	7819
MARCELLUS	7819	–	

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Stage	# of Perfs	Total Add (gal)	Total Water (bbl)	Total Sand (lbs)	Total Slurry (bbl)	Pad Vol (bbl)	100 Mesh (lbs)	40/70 Mesh (lbs)	20/40 Mesh (lbs)	BDP (psi)	ISIP (psi)	1 Min SIP (psi)	2 Min SIP (psi)	5 Min SIP (psi)	ATP (psi)	Avg Rate (bbl/min)	PUMP DOWN (bbl)
1	N/A	1,000	8,117	289,700	8,417	1,204	78,700	216,000	-	N/A	3,578	3,139	3,037	2,929	6,902	74	N/A
2	60	1,000	8,117	412,900	8,667	1,240	78,700	299,200	40,000	5,643	4,745	4,061	3,795	3,485	6,897	75	1,358
3	60	1,000	8,377	418,100	8,859	1,229	78,700	299,400	40,000	5,212	4,260	3,898	3,689	3,402	6,755	75	922
4	60	1,000	8,810	396,900	9,317	1,251	78,700	299,300	23,900	5,119	4,123	3,899	3,756	3,545	7,086	74	285
5	60	1,000	8,577	405,000	8,847	1,222	78,700	299,300	32,000	N/A	4,319	3,970	3,808	3,590	6,820	74	268
6	60	1,000	8,280	413,000	8,901	1,319	78,700	299,300	40,000	5,303	4,854	4,298	4,032	3,760	6,967	75	248
7	60	1,000	8,053	397,500	8,678	1,495	78,700	299,300	24,300	5,184	4,384	3,999	3,821	3,577	6,828	79	222
8	60	1,000	8,160	413,000	8,775	1,280	78,700	299,300	40,000	5,261	4,930	4,434	4,173	3,780	6,782	78	208
9	60	1,000	7,996	406,800	8,602	1,252	78,700	310,600	22,500	5,169	4,630	4,321	4,138	N/A	6,608	75	195
10	60	1,000	8,217	409,000	8,860	1,301	78,700	299,300	30,000	5,503	4,686	4,016	3,785	3,478	6,510	74	171
11	60	1,000	7,958	413,000	8,564	1,296	78,700	299,300	40,000	5,508	4,475	4,038	3,810	3,506	6,839	75	183
12	60	1,000	7,471	354,200	8,059	1,909	78,700	280,500	-	5,309	4,066	3,656	3,466	3,256	6,945	73	332
13	60	1,000	8,410	413,000	9,055	1,265	78,700	299,300	40,000	N/A	4,189	3,793	3,568	3,365	6,625	77	157
14	60	1,000	8,197	402,400	8,816	1,322	48,500	299,800	54,600	5,401	4,219	3,816	3,575	3,290	6,586	75	147
15	60	1,000	7,961	389,900	8,548	1,439	48,500	299,300	42,100	5,481	4,538	4,029	3,724	3,455	6,743	75	138
16	60	1,000	9,067	355,100	9,668	1,331	48,500	276,600	30,000	5,384	4,023	3,536	3,421	3,244	6,600	74	122
17	60	1,000	8,782	411,700	9,432	1,342	48,500	272,500	90,700	5,277	4,156	3,562	3,349	3,116	6,190	75	103
18	60	1,000	8,012	353,800	8,575	1,358	52,700	252,000	59,100	5,569	4,449	3,920	3,689	3,403	6,632	75	82
19	60	1,000	7,788	365,800	8,278	1,345	62,200	248,900	54,700	5,971	4,260	3,703	3,518	3,306	6,991	75	72
20	60	1,000	8,275	392,400	8,889	1,360	94,800	248,900	48,700	5,327	4,140	3,659	3,408	3,178	6,248	75	45
21	50	1,000	8,244	406,500	8,817	1,351	77,800	248,900	79,800	4,768	4,016	3,486	3,325	3,176	6,407	82	67
TOTAL / AVG	1,190	21,000	172,616	8,218,700	184,614	27,506	1,489,600	5,946,500	832,600	5,322	4,334	3,868	3,663	3,384	6,688	75	5,312

Perforating Detail

Stage 1

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
N/A	19064	N/A	N/A	N/A	N/A	RDV

Stage 2

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12960	12950-51	12910-11	12870-71	12830-31	12790-91	PD

Stage 3

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12790	12690-91	12650-51	12610-11	12570-71	12530-31	PD

Stage 4

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12470	12490-91	12390-91	12350-51	12310-11	12270-71	PD

Stage 5

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
12210	12170-71	12130-31	12090-91	12050-51	12010-11	PD

Stage 6

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11950	11910-11	11870-71	11830-31	11790-91	11750-51	PD

Stage 7

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11690	11650-51	11610-11	11570-71	11530-31	11490-91	PD

Stage 8

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11430	11390-91	11350-51	11310-11	11270-71	11230-31	PD

Stage 9

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
11170	11126-27	11090-91	11050-51	11010-11	10970-71	PD

Stage 10

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10910	10870-71	10830-31	10790-91	10750-51	10710-11	PD

Stage 11

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10650	10610-11	10570-71	10530-31	10490-91	10449-49	PD

Stage 12

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10390	10350-51	10310-11	10270-71	10230-31	10194-95	PD

Stage 13

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
10130	10090-91	10050-51	10010-11	9970-71	9930-31	PD

Stage 14

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9870	9830-31	9790-91	9750-51	9710-11	9670-71	PD

Stage 15

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9610	9570-71	9528-29	9490-91	9450-51	9410-11	PD

Stage 16

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9344	9308-09	9270-71	9230-31	9190-91	9150-51	PD

Stage 17

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
9089	9050-51	9010-11	8970-71	8930-31	8890-91	PD

Stage 18

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8818	8790-91	8750-51	8710-11	8670-71	8630-31	PD

Stage 19

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8576	8530-31	8490-91	8450-51	8410-11	8370-71	PD

Stage 20

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8314	8270-71	8230-31	8190-91	8150-51	8110-11	PD

Stage 21

Plug Setting Depth	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
8052	8010-8011	7970-7971	7930-7931	7890-7891	7850-7851	PD

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