

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: January 23, 2013
API #: 47-103-2642

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Farm name: LS Hoyt Operator Well No.: 402 2H

LOCATION: Elevation: 1428' Quadrangle: Pine Grove 7.5

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District: Grant County: Wetzel
Latitude: _____ Feet South of _____ Deg. _____ Min. _____ Sec.
Longitude _____ Feet West of _____ Deg. _____ Min. _____ Sec.

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Company: HG Energy, LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
5260 Dupont Road Parkersburg, WV 26101	20" Casing	40'	40'	N/A -
Agent: <u>Mike Kirsch</u>	94 #, H-40			Drilled In
Inspector: <u>Derek Haught</u>				
Date Permit Issued: <u>5/26/2011</u>	13 3/8" Casing	1,364'	1,364'	Cement to Surface
Date Well Work Commenced: <u>8/31/2011</u>	54.5 #, J-55			1,172 sacks
Date Well Work Completed: <u>11/22/2012</u>				
Verbal Plugging:	9 5/8" Casing	3,484'	3,484'	Cement to Surface
Date Permission granted on:	40#, J-55			1,067 sacks
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): <u>7,397' 7420'</u>	5 1/2" Casing	13,659'	13659'	Cement to Surface
Total Measured Depth (ft): <u>13,686'</u>	20#, P-110			1,430 sacks
Fresh Water Depth (ft.): <u>160', 440'</u>				
Salt Water Depth (ft.): <u>1,940'</u>	2 3/8" Tubing	N/A	7,504'	N/A
Is coal being mined in area (N/Y)? <u>N</u>	4.7#, L-80			
Coal Depths (ft.): <u>936', 1,033', 1,172'</u>				
Void(s) encountered (N/Y) Depth(s) <u>NA</u>				

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

Producing formation Marcellus Pay zone depth (ft) 7,397'
Gas: Initial open flow 10,500 MCF/d Oil: Initial open flow 192 Bbl/d
Final open flow 9,800 MCF/d Final open flow 144 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 NA 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.

Diane White
Signature

2-27-13
Date

09/27/2013

103-02642

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 _____
Yes, Realtime Gamma Ray Log while drilling, via MWD Tool. 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---

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

Formations Encountered: _____ Top Depth _____ / _____ Bottom Depth
Surface:

TVD Tops	Bottom
Big Lime - 2420	2490
Big Injun - 2490	2712
Gordon Stray - 3276	3307
Gordton - 3307	3328
Tully - 7307	7331
Hamilton - 7331	7402
Marcellus - 7402	7454 7
	7420

09/27/2013

103-02642

Stage	# of Tests	Total Acid (gal)	Total Water (bbl)	Total Sand (lb)	Total Slurry (bbl)	Prod Vol (gal)	100 Mesh (lbs)	30/60 Mesh (lbs)	40/70 Mesh RCS (lbs)	BDP (gal)	SPR (gal)	5 Min SPR (gal)	10 Min SPR (gal)	15 Min SPR (gal)	ATP (gal)	Avg Rate (bbl/min)	PUMP DOWN (bbl)
1	60	1,000	7,885	316,200	8,697	1,656	73,700	242,500	-	N/A	3,433	3,942	3,204	3,074	7,052	79	542
2	60	1,000	9,369	355,600	9,385	1,480	73,700	281,900	-	5,402	4,122	3,942	3,612	3,074	7,251	77	542
3	60	1,000	7,824	393,600	8,263	1,497	73,700	299,700	20,200	5,942	4,980	4,989	4,315	3,912	7,081	72	449
4	60	1,000	7,690	373,400	8,127	1,484	73,700	299,700	20,200	5,596	4,837	4,616	4,391	3,963	6,918	72	449
5	60	1,000	7,674	393,600	8,098	1,527	73,700	299,700	20,200	5,525	4,687	4,687	4,047	3,626	7,139	74	446
6	60	1,000	7,775	393,600	8,128	1,521	73,700	299,700	20,200	5,287	4,975	4,287	4,018	3,638	6,908	75	381
7	60	1,000	7,912	393,600	8,228	1,539	73,700	299,700	20,200	5,333	5,091	4,917	4,284	3,949	7,085	74	389
8	60	1,000	7,985	393,600	8,374	1,558	73,700	299,700	20,200	5,028	5,223	5,103	4,947	4,522	6,732	79	325
9	60	1,000	7,664	393,600	8,093	1,511	73,700	300,000	20,300	5,081	4,502	4,083	3,902	3,676	6,977	77	288
10	60	1,000	7,664	393,600	8,116	1,511	73,700	300,000	20,300	4,812	4,502	4,083	3,902	3,676	6,977	77	288
11	60	1,000	7,595	394,200	7,970	1,511	74,000	300,000	20,300	5,264	4,775	4,286	4,067	3,626	6,918	76	266
12	60	1,000	7,595	394,200	7,970	1,511	74,000	300,000	20,300	4,812	4,515	4,088	3,886	3,576	6,708	82	244
13	60	1,000	7,895	393,900	7,934	1,511	73,700	300,000	20,200	4,575	4,642	3,776	3,587	3,376	6,708	82	244
14	60	1,000	7,695	393,900	7,695	1,576	73,700	300,000	20,200	4,785	4,393	3,947	3,630	3,280	6,579	83	178
15	60	1,000	7,584	393,600	7,897	1,511	73,700	299,700	20,200	4,865	4,040	3,749	3,527	3,280	6,579	85	149
16	60	1,000	7,697	393,600	7,897	1,516	73,700	299,700	20,200	4,758	4,235	3,872	3,707	3,527	6,356	83	149
17	60	1,000	7,888	393,600	8,137	1,516	73,700	299,700	20,200	4,749	4,241	3,886	3,710	3,507	6,387	84	131
18	60	1,000	7,446	393,600	7,556	1,511	73,700	299,700	20,200	4,892	4,347	3,921	3,756	3,561	6,471	86	114
19	60	1,000	7,268	393,600	7,268	1,511	73,700	299,700	20,200	5,304	4,111	3,797	3,661	3,489	6,569	85	99
20	60	1,000	7,481	393,600	7,208	1,511	73,700	325,800	21,100	4,838	4,088	3,662	3,536	3,396	6,246	76	58
21	60	1,000	7,659	420,000	8,088	1,550	73,100	329,000	21,100	5,186	4,008	3,688	3,518	3,249	6,261	84	58
22	60	1,000	7,680	423,200	8,153	1,650	73,100	329,000	21,100	5,079	4,453	4,092	3,919	3,654	6,740	79	5,597
TOTAL / AVG	1,280	22,000	189,206	8,581,400	178,548	33,656	1,620,800	6,575,300	385,300	5,079	4,453	4,092	3,919	3,654	6,740	79	5,597

Performing Details

Stage	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
Stage 1	13659	N/A	N/A	N/A	N/A	RDV
Plug Setting Depth	13490-92	13440-42	13390-92	13340-42	13300-92	Perf Method
Stage 2	13786	13725-17	13662-64	13515-17	13405-67	Perf Method
Plug Setting Depth	12940-42	12890-92	12840-42	12794-96	12752-54	Perf Method
Stage 3	12716	12665-67	12615-17	12565-67	12515-17	Perf Method
Plug Setting Depth	12441	12390-92	12340-42	12290-92	12240-42	Perf Method
Stage 4	12170	12115-17	12065-67	12015-17	11965-67	Perf Method
Plug Setting Depth	11891	11840-42	11790-92	11738-40	11690-92	Perf Method
Stage 5	11604	11565-67	11515-17	11465-67	11415-17	Perf Method
Plug Setting Depth	11334	11290-92	11242-44	11190-92	11140-42	Perf Method
Stage 6	11050	11015-17	10965-67	10915-17	10865-67	Perf Method
Plug Setting Depth	10791	10740-42	10689-91	10640-42	10590-92	Perf Method
Stage 7	10516	10465-67	10415-17	10365-67	10315-17	Perf Method
Plug Setting Depth	10232	10180-90	10140-42	10090-92	10040-42	Perf Method
Stage 8	9965	9915-17	9865-67	9815-17	9765-67	Perf Method
Plug Setting Depth	9791	9740-42	9690-92	9640-42	9590-92	Perf Method

Stage	1st Cluster	2nd Cluster	3rd Cluster	4th Cluster	5th Cluster	Perf Method
Stage 9	9686	9640-42	9590-92	9542-44	9490-92	Perf Method
Plug Setting Depth	9416	9365-67	9310-42	9265-67	9215-17	Perf Method
Stage 10	9140	9090-92	9040-42	8990-92	8938-40	Perf Method
Plug Setting Depth	8866	8812-14	8765-67	8715-17	8665-67	Perf Method
Stage 11	8591	8540-42	8490-92	8440-42	8390-92	Perf Method
Plug Setting Depth	8320	8265-67	8215-17	8165-67	8115-17	Perf Method
Stage 12	8041	7990-92	7940-42	7888-90	7840-42	Perf Method

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