

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

API 47 - 103 - 02782 County Wetzel District Grant
Quad Pine Grove Pad Name WVDNR Pad 6 Field/Pool Name Jacksonburg
Farm name West Virginia Conservation Commission Well Number WVDNR # 1208
Operator (as registered with the OOG) Triad Hunter, LLC
Address 777 Post Oak Blvd. Suite 910 City Houston State Texas Zip 77056

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4372891.5 Easting 529425.6
Landing Point of Curve Northing 4373027.3 Easting 529285.9
Bottom Hole Northing 4374054.8 Easting 528694.1

Elevation (ft) 1450' 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)
Synthetic Base Mud; HT Light Mineral Oil, Synvert TWA & LWA - thinner and wetting agents, Synvert L-1
primary emulsifier, and Cimbar - weighting and filler material

Date permit issued 8/28/2012 Date drilling commenced 7/28/2013 Date drilling ceased 10/16/2013
Date completion activities began 4/3/2014 Date completion activities ceased 4/16/2014
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft surface - 400' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,750' - 2,750' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,600' - 1,900' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by:
JL 6/25/15
WS 7/01/15

API 47- 103 - 02782

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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"	100'	New	A53B - 90 lb.	none	yes
Surface	17 1/2"	13 3/8"	1307'	New	J-55 54.5 lb.	1 - 4th jt.	yes - circ. 19 bbls.
Coal							
Intermediate 1	12 1/4"	9 5/8"	3,370'	New	J-55 36 lb.	1 - 11th jt.	yes - circ. 15 bbls.
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	11,723'	New	P-110 20 lb.	none	yes - circ. 45 bbls.
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Class A	150	15.6	1.18	177	surface	Days
Surface	Class A	1,013	15.6	1.20	1,215.5	surface	12
Coal							
Intermediate 1	50/50 PNE-1	1,111	15.6	1.23	1,366.5	surface	12
Intermediate 2							
Intermediate 3							
Production	50/50 PNE-1 & Class H	1,533 / 713	13.5 / 15.2	1.45 / 1.64	2,223 / 1,164.5	surface	Days
Tubing							

Drillers TD (ft) TMD = 11,744' TVD = 7,500'

Loggers TD (ft) * No Open Hole Logs

Deepest formation penetrated Marcellus Shale

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) @ 6,700'

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 _____

- 13 3/8" (4) - 1 every 5th joint
- 9 5/8" (8) - 1 every 10th joint
- 5 1/2" (55) - 40 spiral centralizers from Toe to KOP, and 15 bow centralizers from KOP to 250'

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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)
	SEE	SPREAD	SHEET		

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)
		SEE	SPREAD	SHEET				

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus Shale	7,500'	TVD 11,744' MD

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GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,775 psi Bottom Hole 6,750 psi DURATION OF TEST 336 hrs

OPEN FLOW Gas 5,000 mcfpd Oil 24 bpd NGL bpd Water 360 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		** No Open Hole Logs **
					PILOT HOLE: Mills Wetzel # 31 H-1 (P # 47-103-02339)
WVDNR # 1208					
Tully	7,390'	7,474'	7,460'	7,635'	Limestone
Marcellus	7,474'	Not Drilled	7,635'	11,744'	Organic Shale Show Gas

Please insert additional pages as applicable.

Drilling Contractor Warren Drilling Company (Top Hole: U.S. Energy)
Address P.O. Box 103 City Dexter City State Oh. Zip 45727

Logging Company Horizontal Wireline Services
Address 381 Colonial Manor City Irwin State Pa. Zip 15642

Cementing Company Baker Hughes
Address 2228 Phillippi Pike City Clarksburg State WV Zip 26301

Stimulating Company Producers Service Corporation
Address 109 S. Graham Street City Zanesville State Oh. Zip 43701

Please insert additional pages as applicable.

Completed by Ben Smeltzer Telephone (740) 760-0570
Signature *Ben Smeltzer* Title Geologist Date 11/18/2014

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

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WVDNR # 1208 (PH 47-10302782) CHEMICAL SUMMARY

Stage #	LINEAR GEL (gals.)	FRICTION REDUCER (gals.)	BIOCIDE (gals.)	SCALE INHIBITOR (gals.)	SURFACTANT (gals.)	BREAKER (qts.)	7.50% HCL ACID (gals.)
1	140	335	115	46	347	0.5	2000
2	696	360	170	56	446	2.5	2000
3	516	340	178	43	362	2	2000
4	355	355	174	46	360	1.5	2000
5	333	370	177	46	385	1.5	2000
6	597	345	175	43	360	2.5	2000
7	344	372	172	40	350	1.5	2000
8	327	380	170	43	348	1.5	2000
9	315	360	159	29	344	1.5	2000
10	176	213	80	26	195	0.5	2000
11	291	390	179	35	379	1.5	2000
12	757	499	173	53	474	2.5	3000
13	561	382	145	42	370	2.5	2000
14	545	370	138	34	360	2	2000
15	616	416	140	48	380	2	4000
16	360	313	140	38	345	1.5	2000
17	720	403	154	54	408	3	2000
18	540	390	137	42	381	2	2000
19	580	392	132	45	386	2.5	2000
20	376	372	133	38	372	1.5	2000
TOTAL:	9,145	7,357	3,041	847	7,352	36.5	43,000

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Completions Summary

WVDNR 1208

API	Total Depth (ft)	Landing Point MD (ft)	Landing Point Angle (Degrees)	Effective Lateral Length (ft)	TVD (ft)	Tubing Depth (ft)	Tubing Size (OD)	Tubing Angle (Degrees)	Casing Depth (ft)	Casing Size (OD)
47-103-02782	11,723	7,828	90	3,895	7,501				11,723	5 1/2

Stages	Perforation Intervals		Stage Intervals		Total Volume (bbl)	Average Rate (bpm)	Formation Break (PSI)	Average Pressure (PSI)	80/100 Mesh Pumped (Lb)	40/70 Mesh Pumped (Lb)	20/40 Mesh Pumped (Lb)	Total Sand Pumped (Lb)	ISIP (PSI)	Completed per design	Notes on Frac
	Actual Length	Footage	Actual Length	Footage											
Stage 1	11,610'-11,457'	153	11,630'-11,439'	191	8,456	75	5,330	6,758	45,000	319,200	99,700	463,900	4,012	Yes	
Stage 2	11,416'-11,264'	152	11,439'-11,243'	196	10,373	67	5,630	6,897	45,100	320,200	100,300	465,600	4,444	Yes	
Stage 3	11,218'-11,068'	150	11,243'-11,047'	169	8,936	71	5,995	6,869	30,500	320,300	114,700	465,500	4,808	Yes	
Stage 4	11,022'-10,872'	150	11,074'-10,851'	223	5,290	71	5,855	7,264	4,550	314,600	105,600	465,700	5,231	Yes	
Stage 5	10,826'-10,676'	150	10,851'-10,655'	196	9,074	72	5,910	6,812	45,000	320,100	99,700	464,800	4,388	Yes	
Stage 6	10,635'-10,480'	155	10,655'-10,459'	196	8,480	72	5,944	7,014	45,500	320,600	100,300	466,400	3,738	Yes	
Stage 7	10,434'-10,284'	150	10,459'-10,263'	196	8,837	77	6,069	6,786	45,100	319,200	100,100	464,400	4,372	Yes	
Stage 8	10,238'-10,088'	150	10,263'-10,067'	196	8,214	77	5,773	6,964	44,900	317,200	102,400	464,500	5,108	Yes	
Stage 9	10,042'-9,892'	150	10,067'-9,871'	196	8,249	76	5,671	6,591	45,100	321,600	100,800	467,500	5,048	Yes	
Stage 10	9,846'-9,696'	153	9,871'-9,675'	196	4,408	61	5,904	8,448	4,900	0	0	4,900	5,425	No	
Stage 11	9,650'-9,500'	150	9,675'-9,479'	196	8,202	80	6,047	6,631	45,200	319,900	99,800	464,900	4,359	Yes	
Stage 12	9,454'-9,304'	150	9,479'-9,283'	196	11,131	62	5,665	7,570	44,900	121,500	0	166,400	5,641	No	
Stage 13	9,258'-9,114'	144	9,283'-9,093'	190	8,791	76	5,664	7,192	44,000	319,900	93,100	457,000	5,486	Yes	
Stage 14	9,062'-8,910'	152	9,093'-8,891'	202	9,003	78	5,524	6,979	46,000	320,100	99,900	466,000	4,659	Yes	
Stage 15	8,866'-8,716'	150	8,891'-8,700'	191	9,834	76	5,396	7,038	45,300	319,700	86,500	451,500	6,073	Yes	
Stage 16	8,677'-8,513'	164	8,700'-8,494'	206	8,640	78	5,326	6,561	45,100	319,600	99,900	464,600	4,860	Yes	
Stage 17	8,474'-8,324'	150	8,494'-8,303'	191	10,022	70	5,972	9,717	45,100	320,100	100,600	465,800	5,601	Yes	
Stage 18	8,278'-8,130'	148	8,303'-8,107'	196	9,162	67	5,818	6,635	37,500	320,600	100,000	458,100	4,693	Yes	
Stage 19	8,089'-7,932'	157	8,107'-7,907'	200	9,122	67	6,159	6,603	44,400	320,800	100,000	465,200	4,656	Yes	
Stage 20	7,886'-7,736'	150	7,907'-	N/A	9,044	68	5,692	6,317	44,800	320,800	100,300	465,900	4,661	Yes	

Total	20		3,028		3,723	173,268	1,441	115,344	141,646	797,950	5,876,000	1,803,700	8,518,600	97,263	
Average			151		196	8,663	72	5,767	7,082	39,898	293,800	90,185	425,930	4,863	


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