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

API 47 - 095 - 02040 County Tyler District Ellsworth
Quad Middlebourne Pad Name Collins Pad Field/Pool Name Middlebourne
Farm name Collins, Earl & Doris Well Number Collins Unit # 1116
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 4371733.2 Easting 507024.4
Landing Point of Curve Northing 4371748 Easting 506607
Bottom Hole Northing 4372854 Easting 505832

Elevation (ft) 740' 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, an Cimbar - weighting and filler material.

Date permit issued 1/13/2012 Date drilling commenced 2/20/2013 Date drilling ceased 8/17/2013
Date completion activities began 10/3/2013 Date completion activities ceased 11/14/2013
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 - 250' Open mine(s) (Y/N) depths N
Salt water depth(s) ft @ 1,000' Void(s) encountered (Y/N) N
Coal depth(s) ft 900' - 1,200' Cavern(s) encountered (Y/N) N
Is coal being mined in area (Y/N) N

Corrected copy

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Reviewed by:

WR-35
Rev. 8/23/13

API 47-095 - 02040 Farm name Collins, Earl & Doris Well number Collins Unit # 1116

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"	421'	New	H-40 48 lb.	none	yes - circ. 25 bbls.
Coal							
Intermediate 1	12 3/8"	9 5/8"	2042'	New	J-55 36 lb.	N/A	yes - circ. 15 bbls.
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	11,378'	New	P-110 20 lb.	none	yes - circ. 60 bbls.
Tubing	4 3/4"	2 7/8"	6,017'	New	J-55 6.5 lb.	none	not cemented
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	175	15.6	1.18	206.5	surface	12
Surface	Class A	370	15.6	1,21	448	surface	12
Coal							
Intermediate 1	Class A	665	15.2	1,26	838	surface	12
Intermediate 2							
Intermediate 3							
Production	50/50 PNE & Class H	971 / 1219	13.5 / 15.2	1,44 / 1.63	3,385	surface	12+
Tubing							

Drillers TD (ft) TMD = 11,403' TVD = 6,042' Loggers TD (ft) Not Logged to Total Depth
 Deepest formation penetrated Marcellus Shale Plug back to (ft) N/A
 Plug back procedure N/A

Kick off depth (ft) @ 4,800'

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" - Two 2nd & 10th joints
9 5/8" - Five 1 every 10 joints
5 1/2" - Sixty-Two 52 Spiral Centralizers from Toe to KOP, 10 Bow Centralizers from KOP to 250'

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

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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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	SEE	ENCLOSED	SPREAD	SHEET	

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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	ENCLOSED	SPREAD	SHEET			

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus Shale</u>	<u>6,042'</u>	<u>TVD</u>	<u>11,404'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

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GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3,150 psi Bottom Hole 5438 psi DURATION OF TEST 288 hrs

OPEN FLOW Gas 8,000 mcfpd Oil 360 bpd NGL _____ bpd Water 312 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 ₂ S, ETC)
	<u>0</u>		<u>0</u>		(* No Open Hole Logs run on Collins # 1116) Pilot Hole: Spencer # 1112 (P # 47-095-02033)
<u>Collins # 1116</u>					<i>See Attached</i>
<u>Tully</u>	<u>6003'</u>	<u>6014'</u>	<u>6602'</u>	<u>6680'</u>	<u>Limestone</u>
<u>Marcellus</u>	<u>6014'</u>	<u>Not Drilled</u>	<u>6680'</u>	<u>11,404'</u>	<u>Organic Shale Show Gas</u>

Please insert additional pages as applicable.

Drilling Contractor Warren Drilling (Top Hole - Alpha Hunter)
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

02/06/2015

95.02040

Shale, siltstone, tr. organic sh. 4536' – 5412' Base Lower Huron @ 4650', volcanic ash @ 4861'

95.02040

Spencer Unit # 1112 – Permit # 47-095-02033 (Pilot Well for **Collins # 1116, 1117, 1118 & 1119**)

WR-35 Pg. 4 Geology Attachment

<u>FORMATION / LITHOLOGY</u>	<u>DEPTH</u>	<u>SHOWS / COMMENTS</u>
Siltstone & shale	surface – 898'	
SECOND COW RUN SAND	898' – 923'	
Shale & siltstone	923' – 960'	
SALT SAND (1 st)	960' - 1092'	
Shale	1092' – 1148'	
SALT SAND (2 nd)	1148' – 1183'	
Shale, siltstone, tr. Sandstone	1183' – 1394'	
SALT SAND (3 rd)	1394' – 1427'	
Shale, siltstone	1427' – 1552'	
GREENBRIER LIMESTONE	1552' – 1644'	
Shale	1644' – 1650'	
BIG INJUN SANDSTONE	1650' – 1821'	Show Gas
Shale	1821' - 2012'	
WEIR SAND	2012' – 2108'	
Shale, siltstone	2108' – 2182'	
BEREA SANDSTONE	2182' – 2186'	
shale & siltstone	2186' – 2609'	
GORDON / Fifth SAND	2609' – 2626'	
Shale & siltstone	2626' – 3141'	
WARREN SANDSTONE	3141' – 3189'	
Shale & siltstone	3189' – 4504'	
Riley	4504' – 4536'	

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Shale, siltstone, tr. organic sh.	4536' – 5412'	Base Lower Huron @ 4650', volcanic ash @ 4861'
RHINESTREET (Java Fm.)	5412' – 5727'	Organic shale, Show of Gas
Shale (Middlesex Fm.)	5727' – 5883'	
GENESE0 Formation	5883' – 5990'	Organic shale
TULLY Formation	5990' – 6014'	limestone
MARCELLUS SHALE	6014' – 6068'	Organic shale, Show of Gas
ONONDAGA LIMESTONE	6068' – 6190'	

DRILLER'S T.D. = 6215'

LOGGER'S T.D. = 6190'

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Collins Unit 1116

(Permit # 47-095-02040)

Completion Summary

Total Depth (ft)	Landing Point MD (ft)	TVD (ft)	Effective Lateral Length (ft)	Stages	Perforation Intervals	Footage	Stage Intervals	Footage	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
11,403	6,042	6,042	5,361		Actual Length	Footage	Actual Length	Footage										
				Stage 1	N/A	N/A	N/A	N/A	8,793	76	7,568	6,751	32,500	294,700	100,900	428,100	5,090	Yes
				Stage 2	11,013'-10,829'	184	11,044'-10,799'	245	8,596	67	5,329	6,977	29,500	308,200	100,600	438,300	3,662	Yes
				Stage 3	10,774'-10,584'	190	10,799'-10,550'	249	8,215	77	5,472	6,366	33,400	311,400	100,800	445,600	4,233	Yes
				Stage 4	10,525'-10,339'	186	10,550'-10,309'	241	8,128	79	5,362	6,625	32,000	311,600	100,700	444,300	4,221	Yes
				Stage 5	10,280'-10,094'	186	10,309'-10,064'	245	8,067	82	4,859	6,394	30,500	311,200	100,300	442,000	3,155	Yes
				Stage 6	10,035'-9,849'	186	10,064'-9,819'	245	7,760	75	4,991	6,547	31,300	311,300	100,600	443,200	4,778	Yes
				Stage 7	9,790'-9,604'	186	9,819'-9,574'	245	7,435	77	5,172	6,375	31,000	310,400	99,600	441,000	4,390	Yes
				Stage 8	9,545'-9,359'	186	9,574'-9,329'	245	7,234	78	5,330	6,280	30,300	311,300	100,500	442,100	3,971	Yes
				Stage 9	9,300'-9,114'	186	9,329'-9,084'	245	7,760	73	5,127	6,070	30,400	310,500	99,900	440,800	4,435	Yes
				Stage 10	9,055'-8,869'	186	9,084'-8,839'	245	6,992	80	5,411	6,212	30,400	315,000	99,300	444,700	3,719	Yes
				Stage 11	8,810'-8,624'	186	8,839'-8,594'	245	7,304	79	5,272	6,370	30,700	304,000	100,200	434,900	3,959	Yes
				Stage 12	8,565'-8,379'	186	8,594'-8,349'	245	7,164	78	5,886	6,601	30,000	311,300	112,500	453,800	3,793	Yes
				Stage 13	8,320'-8,134'	186	8,349'-8,104'	245	7,938	78	5,041	6,422	29,000	310,000	100,400	439,400	3,509	Yes
				Stage 14	8,075'-7,889'	186	8,104'-7,856'	248	7,615	80	5,182	6,013	30,500	310,500	99,900	440,900	4,853	Yes
				Stage 15	7,830'-7,644'	186	7,856'-7,618'	238	7,329	80	5,284	5,969	30,100	310,300	100,200	440,600	4,477	Yes
				Stage 16	7,585'-7,399'	186	7,618'-7,369'	249	6,629	79	5,404	6,208	34,000	318,000	100,700	452,700	4,015	Yes
				Stage 17	7,340'-7,156'	184	7,369'-7,124'	245	6,901	79	6,173	6,381	30,700	310,200	98,000	438,900	4,593	Yes
				Stage 18	7,095'-6,909'	186	7,124'-	N/A	7,462	76	5,822	6,165	30,000	310,000	115,000	455,000	4,919	Yes

Total	18		3,162		3,920	137,322	1,393	98,685	114,726	556,300	5,579,900	1,830,100	7,966,300	75,772
Average			186		245	7,629	77	5,483	6,374	30,906	309,994	101,672	442,572	4,210

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CHEMICAL SUMMARY

Middlebourne Quadrangle

Ellsworth District

Tyler County

STAGE #	SURFACTANT (gals.)	BIOCIDE (gals.)	SCALE INHIBITOR (gals.)	FRICTION REDUCER (gals.)	PRO GEL (gals.)	PRO BREAKER (qts.)	7.5% HCL ACID (gals.)
1	365	94	48	285	628	2.5	2,000
2	151	50	25	196	0	0	3,000
2B	340	92	50	345	546	2	2,000
3	323	99	47	324	418	2	2,000
4	325	85	46	331	385	2	2,000
5	308	120	44	207	106	0.5	2,000
6	313	120	41	263	313	1.5	2,000
7	300	118	45	258	415	2	2,000
8	287	110	46	245	575	2	2,000
9	275	117	43	330	706	3	2,000
10	262	108	42	300	225	1	2,000
11	296	115	44	325	330	1.5	2,000
12	290	110	43	306	526	2	2,000
13	317	119	48	305	456	2	2,000
14	285	108	43	300	404	1.5	2,000
15	297	108	45	260	391	1.5	2,000
16	256	90	67	268	351	1.5	2,000
17	247	107	38	242	374	1.5	2,000
18	280	110	38	237	490	2.00	2,000

TOTALS:
 5,517 Gals
 1,980 Gals
 843 Gals
 5,327 Gals
 7,639 Gals
 32 Qts
 39,000 Gals

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