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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 - 02042 County Tyler District Ellsworth
Quad Middlebourne Pad Name Collins Pad Field/Pool Name Middlebourne
Farm name Collins, Earl & Doris Well Number Collins Unit # 1118
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 4371740.3 Easting 507034.3
Landing Point of Curve Northing 4372031 Easting 507004
Bottom Hole Northing 4373382 Easting 506058

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 1/31/2012 Date drilling commenced 3/3/2013 Date drilling ceased 8/2/2013
Date completion activities began 10/4/2013 Date completion activities ceased 11/13/2013
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) depths N
Coal depth(s) ft 900' - 1,200' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by: _____

Correction page

API 47- 095 - 02042 Farm name Collins, Earl & Doris Well number Collins Unit # 1118

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"	110'	New	A53B 90 lb.	none	yes
Surface	17 1/2"	13 3/8"	422'	New	H-40 48 lb.	none	yes
Coal							
Intermediate 1	12 1/4"	9 5/8"	2086'	New	J-55 36 lb.	N/A	yes - circ. 10 bbls.
Intermediate 2							
Intermediate 3							
Production	8 3/4"	5 1/2"	12,005'	New	P-110 20 lb.	none	yes - circ. 28 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	135	15.6	1.18	159	surface	12+
Surface	Class A	350	15.6	1.21	424	surface	10
Coal							
Intermediate 1	Class A	670	15.2	1.26	844	surface	12
Intermediate 2							
Intermediate 3							
Production	50/50 PNE & Class H	1,374 / 978	13.5 / 15.2	1.44 / 1.63	3,573	surface	12+
Tubing							

Drillers TD (ft) TMD = 12,023' TVD = 6,056' Loggers TD (ft) Not Logged to Total Depth and no open hole logs

Deepest formation penetrated Marcellus Shale Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) @ 5,350

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" - Eighty-five - 73 Spiral Centralizers from Toe to KOP, 12 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	ENCLOSED	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	ENCLOSED	SPREAD	SHEET			

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>Marcellus Shale</u>	<u>6,056'</u>	<u>TVD</u>	<u>12,023'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3,100 psi Bottom Hole 5450 psi DURATION OF TEST 384

OPEN FLOW Gas 6,000 mcfpd Oil 360 bpd NGL _____ bpd Water 480 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	
	<u>0</u>		<u>0</u>		(* No Open Hole Logs run on Collins # 1118) Pilot Hole: Spencer # 1112 (P # 47-095-02033)
<u>Collins # 1118</u>					<u>See Attached</u>
<u>Tully</u>	<u>6013'</u>	<u>6028'</u>	<u>6330'</u>	<u>6393'</u>	<u>Limestone</u>
<u>Marcellus</u>	<u>6028'</u>	<u>Not Drilled</u>	<u>6393'</u>	<u>12,023'</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

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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'	
GENESEO 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 1118

(Permit # 47-095-02042)

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
12,023	6,056	6,056	5,967		Actual Length	Footage	Actual Length	Footage										
				Stage 1	11,864'-11,696'	168	11,916'-11,664'	252	8,017	81	5,655	6,772	31,000	309,900	101,600	442,500	3,386	Yes
				Stage 2	11,633'-11,442'	191	11,664'-11,412'	252	8,183	81	6,140	6,584	30,500	311,000	102,700	444,200	3,866	Yes
				Stage 3	11,378'-11,190'	188	11,412'-11,160'	252	8,347	76	5,413	6,354	32,000	310,200	100,600	442,800	3,823	Yes
				Stage 4	11,127'-10,938'	189	11,160'-10,908'	252	8,062	75	5,527	6,370	30,800	310,900	101,100	442,800	4,124	Yes
				Stage 5	10,878'-10,686'	192	10,908'-10,656'	252	8,004	81	5,812	6,456	30,300	310,900	100,000	441,200	4,064	Yes
				Stage 6	10,626'-10,434'	192	10,656'-10,404'	252	8,001	75	5,986	6,499	31,000	311,000	101,700	443,700	3,938	Yes
				Stage 7	10,374'-10,182'	192	10,404'-10,152'	252	10,166	81	5,873	6,655	30,500	309,100	101,000	440,600	3,353	Yes
				Stage 8	10,119'-9,930'	189	10,152'-9,900'	252	8,009	79	5,883	6,730	30,500	283,800	100,400	414,700	3,752	Yes
				Stage 9	9,870'-9,678'	192	9,900'-9,648'	252	7,713	69	6,163	6,940	29,000	309,900	22,200	361,100	4,727	No
				Stage 10	9,618'-9,426'	192	9,648'-9,396'	252	7,184	78	5,330	6,481	30,200	305,800	109,400	445,400	3,947	Yes
				Stage 11	9,366'-9,174'	192	9,396'-9,144'	252	6,863	77	5,400	6,508	30,500	310,000	96,100	436,600	4,051	Yes
				Stage 12	9,114'-8,922'	192	9,144'-8,892'	252	7,137	79	5,598	6,401	30,500	309,600	99,800	439,900	3,628	Yes
				Stage 13	8,862'-8,670'	192	8,892'-8,640'	252	7,107	80	5,810	6,140	30,800	307,100	99,100	437,000	3,541	Yes
				Stage 14	8,610'-8,418'	192	8,640'-8,388'	252	7,133	81	5,297	6,168	30,000	310,300	100,300	440,600	5,204	Yes
				Stage 15	8,358'-8,166'	192	8,388'-8,136'	252	7,077	79	5,409	6,010	30,000	311,000	101,500	442,500	4,879	Yes
				Stage 16	8,106'-7,914'	192	8,136'-7,884'	252	7,029	78	5,906	6,189	30,500	315,400	99,000	445,800	3,769	Yes
				Stage 17	7,854'-7,662'	192	7,884'-7,627'	257	7,274	81	6,038	6,229	30,000	319,800	99,600	449,400	3,517	Yes
				Stage 18	7,602'-7,410'	192	7,627'-7,380'	247	7,143	80	5,622	6,206	29,500	309,900	103,300	442,700	4,478	Yes
				Stage 19	7,350'-7,158'	192	7,380'-7,126'	254	6,815	80	5,382	6,066	30,300	298,600	100,400	429,300	4,728	Yes
				Stage 20	7,098'-6,906'	192	7,126'-6,876'	250	7,017	79	5,455	6,088	30,500	309,600	99,600	439,700	4,253	Yes
				Stage 21	6,741'-6,654'	87	6,876'-	N/A	6,668	78	5,501	6,270	31,000	310,400	99,800	441,200	3,956	Yes

Total	21		3,892		5,040	158,949	1,648	119,200	134,116	639,400	6,484,200	2,039,200	9,163,700	84,984
Average			185		252	7,569	78	5,676	6,386	30,448	308,771	97,105	436,367	4,047

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Collins 1118H (P# 47-095-02042) Tyler County Ellsworth District Middlebourne Quadrangle WV Department of Environmental Protection

STAGE #	SURFACTANT (gals.)	BIOCIDE (gals.)	SCALE INHIBITOR (gals.)	FRICTION REDUCER (gals.)	PRO GEL (gals.)	PRO BREAKER (qts.)	7.5% HCL ACID (gals.)
1	333	87	38	237	325	1.5	2,000
2	264	87	38	277	412	2	2,000
3	308	84	39	305	470	2	2,000
4	310	90	40	291	366	1.5	2,000
5	292	96	42	220	316	1.5	2,000
6	305	98	47	212	269	1	2,000
7	377	139	57	278	105	0.5	2,000
8	313	120	42	185	90	0.5	2,000
9	290	114	41	212	66	0.5	2,000
10	270	110	38	297	433	1.5	2,000
11	285	108	42	275	421	2	2,000
12	278	105	47	235	528	2	2,000
13	270	107	42	300	288	1	2,000
14	287	110	41	220	690	2.5	2,000
15	287	112	39	285	401	1.5	2,000
16	282	107	41	300	445	1.5	2,000
17	300	115	41	291	106	1	2,000
18	280	108	41	275	632	2.5	2,000
19	262	100	37	253	496	2	2,000
20	280	105	37	237	439	1.5	2,000
21	243	92	30	220	365	1.5	2,000
TOTALS:	6,116	2,194	860	5,405	7,663	31.5	42,000
21 Stages	Gals	Gals	Gals	Gals	Gals	Qts	Gals

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