

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

API 47-033-05816H6A County Harrison District Harrison / Union  
Quad West Milford 7.5' Pad Name KST5HS Field/Pool Name Kennedy Storage  
Farm Name JAMES IVAN MCDONALD Well Number KST5CHS  
Operator (as registered with the OOG) CNX Gas Company LLC  
Address P.O. Box 1248 City Jane Lew State WV Zip 26378

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey  
Top Hole Northing 4,335,838.53 m Easting 545,518.12 m  
Landing Point of Curve Northing 4,335,645.06 m Easting 545,423.66 m  
Bottom Hole Northing 4,332,771.74 m Easting 546,438.98 m

Elevation (ft) 1156.96' 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

Drilled 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)  
WELL HAS NOT BEEN COMPELTED.

Date Permit Issued 07/25/2014 Date drilling commenced 12/22/2014 Date drilling ceased 12/24/2014  
Date completion activities began N/A (Completion has not begun.) Date completion activities ceased N/A  
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 N/A Open mine(s) (Y/N) depths N  
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 80' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by: \_\_\_\_\_

**APPROVED**

NAME: Sam Ward (via email)

DATE: 10/16/2017

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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 to the right *
Conductor	26"	20"	100'	New		N/A	Y
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer Type and Depth Set		None					

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	0'	
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 100'

Loggers TD (ft) 7023'

Deepest formation penetrated: \_\_\_\_\_

Plug back to (ft) \_\_\_\_\_

Plug back procedure: \_\_\_\_\_

Kick Off Depth (ft) \_\_\_\_\_

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  
Conductor - No centralizers used.

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USE  Yes  No TYPES OF TRACER(S) USED \_\_\_\_\_



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PRODUCING FORMATION(S)	DEPTHS	TVD	MD
<u>N/A (Well has not been completed.)</u>			
<u>No Producing Formation(s)</u>			

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump  
 SHUT-IN PRESSURE Surface N/A psi Bottom Hole N/A psi DURATION OF TEST N/A hrs  
 OPEN FLOW Gas N/A mcfpd Oil N/A bpd NGL N/A bpd Water N/A bpd GAS MEASURED BY  
 Estimated  Orifice  Pilot

LITHOLOGY / FORMATION	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY TYPE OF FLUID (FRESHWATER, BRINE, GAS, H2S, ETC)
					SEE ATTACHED

Please insert additional pages as applicable.

Drilling Contractor Noah Horn  
 Address 1070 Sandy Valley Lane City Oakwood State VA Zip 24631  
 Logging Company Halliburton  
 Address 121 Champion Way, Suite 200 City Canonsburg State PA Zip 15317  
 Cementing Company CalFrac  
 Address 2001 Summit View Rd City Smithfield State PA Zip 15478  
 Stimulating Company \_\_\_\_\_  
 Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please insert additional pages as applicable.

Completed by CNX Gas WY Operations Company, LLC - Drilling and Completions Telephone 3048842000  
 Signature *Steve Spitzer* Title Steve Spitzer - Completions Manager-Gas WV Date 9/28/2017

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	DEPTH IN FT TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
FILL	0	80			
SHALE/COAL	80	180			
LIMESTONE/SHALE/SILTSTONE	180	220			
SHALE/REDROCK/SILTSTONE	220	360			
REDROCK/SILTSTONE	360	390			
REDROCK/SILTSTONE/COAL	390	430			
SHALE/REDROCK/SILTSTONE	430	540			
SHL/RR/SILTSTONE/SANDSTONE	540	600			
SHALE/REDROCK/SILTSTONE	600	660			
STONE: LIME, SILT, SAND	650	780			
SHL/RR/SILTSTONE/LIMESTONE	780	960			
REDROCK/SANDSTONE	960	1040			
SANDSTONE	1040	1060			
SHL/REDROCK/SILTSTONE/COAL	1060	1080			
SHALE/REDROCK/SILTSTONE	1080	1240			
SHALE/SILTSTONE/SANDSTONE	1240	1440			
SHALE/SILTSTONE/COAL	1440	1458			
LITTLE LIME	1458	1482			Light Gray
BIG LIME	1500	1552			Light Gray/Brown
BIG INJUN	1600	1671			Light Gray
GANTZ SAND / GANTZ A	1852	1913			Gray
50/30 FOOT SANDS	1972	2059			Varicolored
GORDON SAND	2096	2239			Med Gray
SHALE	2240	2359			Dark Gray
FIFTH SAND	2360	2391			Med Gray
BAYARD SAND	2447	2470			Med Gray
SILTSTONE/SHALE	2471	3000			Med/Dark Gray
SPEECHLEY SAND	3001	3086			Med Gray
BALLTOWN SAND	3204	3352			Med Gray
SILTSTONE/SANDSTONE/SHALE	3353	4375			Med/Dark Gray
BENSON SAND	4376	4489			Med/Dark Gray
ALEXANDER SAND	4699	4740			Med/Dark Gray
SILTSTONE/SHALE	4741	4951			Med/Dark Gray
RHINESTREET SHALE	4952	6481			Dark Gray
MIDDLESEX SHALE	6482	6611			Dark Gray
WEST RIVER SHALE	6612	6644			Med Gray
BURKET SHALE	6645	6687			Black
TULLY LIMESTONE	6688	6745			Light Gray

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	DEPTH IN FT TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
HAMILTON SHALE	6746	6870			Light/Med Gray
MARCELLUS SHALE	6871	6945			Black
ONONDAGA LIMESTONE	6946	6956			Light Brown
HUNTERSVILLE CHERT	6957	7023			Light/Med Gray
TD PILOT	7023				