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

API <u>47-033-05814H6A</u>	County <u>Harrison</u>		District	Harrison / U	nion
Quad West Milford 7.5'	Pad Name KST5HS	Field/Pool Name Kennedy Storage			
	CDONALD				
Operator (as registered with the C	OOG) CNX Gas Company	LLC			
Address P.O. Box 1248	City Jane I	_ew	State WV Zi	p <u>26378</u>	
As Drilled location NAD 83/ Top Ho  Landing Point of Curv  Bottom Ho	le Northing <u>4.335,86</u> Ve Northing <u>4.335,42</u>	6.51 m Easting	545,525.52 m 545,016.15 m		
Elevation (ft) 1152.59' GL	Type of Well	New □ Existing	Type of Repo	rt 🗆 Interin	n <b>=</b> Final
Permit Type	Horizontal - Horizontal (	SA □ Vertical	Depth Type	□ Deep	■ Shallow
Type of Operation   Convert	□ Deepen ■ Drill □	□ Plug Back □ Re	edrilling 🗆 Rew	ork Bitim	nulate
Well Type ☐ Brine Disposal ☐	CBM ■ Gas ■ Oil □	Secondary Recover	y 🗆 Solution Min	ning 🗆 Stora	ge Other
Type of Completion	□ Multiple Flui	ids Produced 🗆 Bi	rine □ Gas □ NO	GL 🗆 Oil C	Other
Drilled with □ Cable ■ Rota					
Drilled Media Surface hole   Production hole   Air   Mud Type(s) and Additive(s)  WELL HAS NOT BEEN COMP	ud ○ Fresh Water □ Bri				Fresh Water □ Brine
Date Permit Issued 07/25/20	14 Date drilling comm	nenced 12/22/	2014 Date dri	lling ceased	12/24/2014
Date completion activities began					N/A
Verbal plugging (Y/N) N	Date permission g	ranted <u>N/A</u>	G	ranted by	<u>N/A</u>
Please note: Operator is required	to submit a plugging applic	ation within 5 days	of verbal permission	on to plug	
Freshwater depth(s) ft	N/A	Open mine(s) (Y/I	N) depths	N	
Salt water depth(s) ft	N/A	Void(s) encounter	ed (Y/N) depths	N	
Coal depth(s) ft	80'	Cavern(s) encount	ered (Y/N) depths	N	
Is coal being mined in area (Y/N)	N				
<b>A ESS ESS</b>	Pille 120 de manuel appear			Rev	iewed by:
APPRO	OVED				

APPROVED
NAME: Samward (via email 10/11/17)
DATE: 10/14/17

Rev. 8/23/13

# API 47-033-05814H6A Farm name JAMES IVAN MCDONALD CASING Hole Casing

## Well number KST5AHS

CASING STRINGS	Hole Size	Casing Size	Depth	lew or Grade Used wt/ft	Dept	h(s) * Pro	cement Circulat vide details to th	
Conductor	26"	20"	100'	New	N.	Α	Y	
Surface								
Coal		-						
Intermediate 1								
Intermediate 2					:			
Intermediate 3								
Production								
Tubing								
Packer Type a	nd Depth Set	None				*		
Comment Deta	ils							
	-					1100	- A STATE OF THE S	
CEMENT	Class	/Type	Number	Slurry	Yield	Volume	Cement	WOC
DATA	of Ce	• •	of Sacks	wt (ppg)	(ft 3/sks)	(fl3)	Top (MD)	(hrs)
Conductor	Clas	ss A				150	0'	T
Surface					i			
Coal					<u> </u>	***************************************		
Intermediate 1								<del> </del>
Intermediate 2								<del> </del>
Intermediate 3						***************************************		<u> </u>
Production								<b>†</b>
Tubing								<del> </del>
Drillers TD (ft)	100'			Loggers TI	) (ft) <u>7023'</u>			. I
Deepest formation	on penetrated:			Plug back to	(ft)			
Plug back proced	dure:	The state of the s						
Kick Off Depth	(ft)							
Check all wireling	ne logs run	□ caliper □ neutron		iated/directional □ gamma ray □ ten	induction operature So	nic		
Well Cored	Yes U No	□ Convent	ional 🗆 Sidewa	ıll	Were Cuttings	Collected [7	Yes □ No	
DESCRIBE THE Conductor - No o	E CENTRALIZ centralizers us	ZER PLACEMEN ed.	T USED FOR EAC	CH CASING STRIP	1G			
WAS WELL CO	MPLETED A	S SHOT HOLE	□ Yes ■ No	DETAILS		······································		
WAS WELL CO	MPLETED O	PEN HOLE	□ Yes ■ No	DETAILS				
WERE TRACER	RS USE	Yes No	TYPES OF TRAC	ER(S) USED				

API <u>47-033-05814H6A</u>

#### Farm name <u>JAMES IVAN</u> <u>MCDONALD</u>

#### Well number KST5AHS

#### **PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number Of Perforations	Formation(s)
			WELL		
			HAS NOT BEEN		
			COMPLETED.		
			FORMATIONS		
			HAVE NOT BEEN PERFORATED.		and the second s
		1,11,11,11,11			
		1			

Please insert additional pages as applicable.

#### STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date			Max Breakdown Pressure (PSI)		Amount of Proppant (lbs)	
				WELL HAS NOT BEEN			 ***************************************
<b> </b>			OT THE RESIDENCE OF THE PROPERTY OF THE PROPER	COMPLETED.	* *************************************		 
			enter termine elicologic inter car consider relativa.	NO			
				STIMULATION	(AND ALL ALL ALL ALL ALL ALL ALL ALL ALL AL		
				HAS OCCURRED.			
		n arreite - Free car was as a salar and a salar and a salar appearing					
			THE STATE OF THE S				 
<b></b>							
					······································		 
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Please insert additional pages as applicable.

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API <u>47-033-05814H6A</u> Farm nam	ne <u>JAMES IVA</u> <u>MCDONALI</u>		Well num	ber <u>KST5AHS</u>	
PRODUCING FORMATION(S)	DEPTHS				
N/A (Well has not been completed.)		TVD		MD	
No Producing Formation(s)		erer shira manare			
Please insert additional pages as applicable.	and the second s				
GAS TEST    Build up    Drawdown	Open Flow	OIL TE	ST 🗆 Flow	□ Pump	
SHUT-IN PRESSURE Surface N/A	psi Botto	n Hole <u>l</u>	<u>√A</u> psi D	URATION OF TEST_	N/A hrs
OPEN FLOW Gas Oil N/A mcfpd N/A	NGL bpd <u>N/A</u>		/ater J/A bpd	GAS MEASURED I	BY Orifice □ Pilot
LITHOLOGY: TOP FORMATION DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	ТҮРІ	E AND RECORD QUANTITY E OF FLUID BRINE,GAS,H2S, ETC)
				SEE A	TTACHED
Please insert additional pages as applicable.					
Drilling Contractor Noah Horn Address 1070 Sandy Valley Lane					
Logging Company <u>Halliburton</u> Address <u>121 Champion Way, Suite 200</u>		City Cano	nsburg	State PA	Zip 15317
Cementing Company <u>CalFrac</u> Address <u>2001 Summit View Rd</u> Stimulating Company		City Smitl	<u>ıfield</u>	State PA	Zip <u>15478</u>
Stimulating Company  Address  Please insert additional pages as applicable.		City		State	Zip
Completed by CNX Gas WV Operations Co			pletions pletions Manage	Telephone 3 r-Gas WV	04-884-2000 Date <b>9/28/2017</b>

# API <u>47-033-05814H6A</u> Farm name <u>JAMES IVAN MCDONALD</u> Well number <u>KST5AHS</u>

LITHOLOGY / FORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE ROCK TYPE AND RECORD QUANTITY  TYPE OF FLUID			
	TVD	TVD	MD	MD	(FRESHWATER,BRINE,GAS,H2S, ETC)			
FILL	0	80						
SHALE/COAL	80	180						
LIMESTONE/SHALE/SILTSTONE	180	220	* As/Alimprov at 1799 on measured	i ormanication contraction				
SHALE/REDROCK/SILTSTONE	220	360		·	and the second s			
REDROCK/SILTSTONE	360	390		**************************************				
REDROCK/SILTSTONE/COAL	390	430		Of the management of the second				
SHALE/REDROCK/SILTSTONE	430	540			and the second s			
SHL/RR/SILTSTONE/SANDSTONE	540	600		en e				
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	<u> </u>					
LITTLE LIME	1458	1482		and Agreement and an artist of the second	Light Gray			
BIG LIME	1500	1552		Serve and the se	Light Gray/Brown			
BIGINJUN	1600	1671	alik ja epoti, vita i	a depole i al sol so	Light Gray			
GANTZ SAND / GANTZ A	1852	1913		The second secon	Gray			
50/30 FOOT SANDS	1972	2059		(*************************************	Varicolored			
GORDON SAND	2096	2239		man manifes where \$25,5000 to 115.	Med Gray			
SHALE	2240	2359			Dark Gray			
FIFTH SAND	2360	2391	a constant and metallic and a community of the		Med Gray			
BAYARD SAND	2447	2470		perior compressional action of the second of	Med Gray			
SILTSTONE/SHALE	2471	3000		A MARIA MARI	Med/Dark Gray			
SPEECHLEY SAND	3001	3086			Med Gray			
BALLTOWN SAND	3204	3352		man e e i de de glandaria un propriétique d'un	Med Gray			
SILTSTONE/SANDSTONE/SHALE	3353	4375	Citation in the control of the contr	***************************************	Med/Dark Gray			
BENSON SAND	4376	4489			Med/Dark Gray			
ALEXANDER SAND	4699	4740		en Sagarama ing neurong	Med/Dark Gray			
SILTSTONE/SHALE	4741	4951	magisti i amadirina a paga	rang na kabupatèn akam na kabupatèn angan sang	Med/Dark Gray			
RHINESTREET SHALE	4952	6481		COLORS CONTRACTOR CONT	Dark Gray			
MIDDLESEX SHALE	6482	6611		ere and a second control of the second contr	Dark Gray			
WEST RIVER SHALE	6612	6644			Med Gray			
BURKET SHALE	6645	6687		war (jager)	Black			
TULLY LIMESTONE	6688	6745			Light Gray			

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API <u>47-033-05814H6A</u>

### Farm name JAMES IVAN MCDONALD Well number KST5AHS

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)
HAMILTON SHALE	6746	6870		1	Light/Med Gray
MARCELLUS SHALE	6871	6945	Annanie (1981) in conference (1999) in conf		Black
ONONDAGA LIMESTONE	6946	6956	- vones (come medical)		Light Brown
HUNTERSVILLE CHERT	6957	7023	Americania materiale di managere di la companyone di la c		Light/Med Gray
TD PILOT	7023		der mega. Sassefuns errysegus ungamen sa Sig		