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

API <u>47-033-05816H6A</u> County <u>Ha</u>	arrison	District <u>Ha</u>	rrison / Union
Quad West Milford 7.5' Pad Name KS	ST5HS	Field/Pool Name Ke	nnedy Storage
Farm Name JAMES IVAN MCDONALD	in the minutes of the second s	Well Number KST5C	HS
Operator (as registered with the OOG) CNX Gas	Company LLC		
Address P.O. Box 1248 Cit	ty Jane Lew	State WV Zip	26378
As Drilled location NAD 83/UTM Atta	ach an as-drilled plat, profile	view, and deviation sur	vey
Top Hole Northing	g 4,335,838.53 m Easting	545,518.12 m	non.
Landing Point of Curve Northing	g 4,335,645.06 m Easting	3 545,423.66 m	
Bottom Hole Northing	g 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 ■ H	Horizontal 6A □ Vertical	Depth Type	□ Deep ■ Shallow
Type of Operation □ Convert □ Deepen	■ Drill □ Plug Back □ R	edrilling 🗆 Rework	■ Stimulate
Well Type □ Brine Disposal □ CBM ■ Gas	Oil G Secondary Recove	ry 🗆 Solution Mining	g □ Storage Other
Type of Completion □ Single □ Multiple	Fluids Produced DB	rine □ Gas □ NGL	□ Oil Other
Drilled with   Cable Rotary			
Diffice with a cubic Rotary			
Drilled Media Surface hole □ Air □ Mud □	Fresh Water Intern	mediate hole 🗇 Air 🔻	□ Mud □ Fresh Water □ Brine
Production hole $\Box$ Air $\Box$ Mud $\Box$ Fresh Wa	nter 🛭 Brine		
Mud Type(s) and Additive(s)			
WELL HAS NOT BEEN COMPELTED.			
	entre de la compactica del la compactica de la compactica de la compactica de la compactica	THE PERSON NAMED IN THE PE	
Date Permit Issued 07/25/2014 Date dri	illing commenced 12/22/	2014 Date drillin	g ceased 12/24/2014
Date completion activities began N/A (Completion h			
Verbal plugging (Y/N) N Date pe			
Please note: Operator is required to submit a plug	ging application within 5 days	s of verbal permission t	to plug
		·	.>
Freshwater depth(s) ft N/A	Open mine(s) (Y/	N) depths N	
Salt water depth(s) ft N/A	Void(s) encounte	red (Y/N) depths N	
Coal depth(s) ft 80'	Cavern(s) encoun	tered (Y/N) depths N	
Is coal being mined in area (Y/N) N		vincen.	
			Reviewed by:
ADDDANE			

APPROVED

NAME: Sam ward (via email)

DATE: 10/12/2017

Rev. 8/23/13

## API 47-033-05816H6A Farm name JAMES IVAN **MCDONALD**

## Well number KST5CHS

CASING	Hole	Casing		New or	Grade	Bas		cement Circulate	
STRINGS	Size	Size	Depth	Used	wt/ft	Dept		vide details to th	e right
Conductor	26"	20"	100'	New		N'	^	Y	
Surface									
Coal									
Intermediate 1									
Intermediate 2	······································				www.				
Intermediate 3				_					
Production						······································			
Tubing									
Packer Type and	d Depth Set	None			******				
CENTENIT									
CEMENT DATA	Class/ of Ce	• •	Number of Sacks		Slurry wt (ppg)	Yield ( ft 3/sks)	Volume (ft 3)	Cement Top (MD)	WOO (hrs)
Conductor	Clas				*** (PPB)	(11 2/3113)	150	0'	(1113
Surface							*****		<del> </del>
Coal	<del></del>	Million In Police In the India of Management of State of							<del> </del>
Intermediate 1							****	***************************************	<u> </u>
Intermediate 2								***************************************	† <b>-</b>
Intermediate 3		and the debutterable of the telephone description of the telephone and the telephone							<del> </del>
Production									
Tubing			institutus ja pilaistitus jähen on sääpäinen käänen on saasalusen on sa		11 Table 1 1 Table 1 1 Table 1				<del>                                     </del>
rillers TD (ft)	100'				Loggers TD	(ft) 7023'			•
eepest formation	n penetrated:				Plug back to	(ft)			
lug back proced	ure:				en manus a annua annua annua.				
ick Off Depth (I	t)								
heck all wireline	e logs run	□ caliper □ neutron	☐ density ☐ ☐ resistivity			induction	nic		
/ell Cored □ Y	'es ⊔ No	© Conven	tional 🗆 Sid	dewall		Were Cuttings	Collected =	Yes □ No	
ESCRIBE THE onductor - No co	CENTRALIZ	ZER PLACEMEN	NT USED FOR	EACH CA	SING STRIN	G			
		S SHOT HOLE						· Anguarramental and an analysis and an annual and annual and an annual an	

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

WERE TRACERS USE □ Yes ■ No TYPES OF TRACER(S) USED

Rev. 8/23/13

API 47-033-05816H6A Farm name JAMES IVAN MCDONALD

## Well number KST5CHS

#### **PERFORATION RECORD**

Stage		Perforated from	Perforated to	Number Of	
No.	Perforation date	MD ft.	MD ft.	Perforations	Formation(s)
				İ	
			WELL		
			HAS NOT BEEN		
			COMPLETED.		
			FORMATIONS		
			HAVE NOT BEEN		The state of the s
			PERFORATED.		· · · · · · · · · · · · · · · · · · ·
			***************************************		
MP1120 HELEC AND HILL OF STREET					
			440	<del> </del>	

Please insert additional pages as applicable.

#### STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Date	-	Max Breakdown Pressure (PSI)	ISIP (PSI)		Amount of Water (bbls)	
			 WELL				
			HAS NOT BEEN		1 TOTAL TOTAL		
			 COMPLETED.				
			 NO	entre entre entre entre en en en en entre en			
			STIMULATION				***************************************
			HAS OCCURRED.				-
	and the same of th						
			, , , , , , , , , , , , , , , , , , , ,				

Please insert additional pages as applicable.

API <u>47-033-05816H6A</u> Farm nai	ne <u>JAMES IVAN</u> <u>MCDONALD</u>	-	Well numb	er <u>KST5CHS</u>	
PRODUCING FORMATION(S)	DEPTHS				
N/A (Well has not been completed.)		TVD		MD	
No Producing Formation(s)					
				···	
Please insert additional pages as applicable	•				
GAS TEST	n □ Open Flow	OIL TE	ST Flow	□ Pump	
SHUT-IN PRESSURE Surface N/A				JRATION OF TEST	N/A hrs
OPEN FLOW Gas Oil	NGL	114	ater	GAS MEASURED E	
N/A mcfpd N/A	bpd N/A		I/A bpd		Orifice   Pilot
LITHOLOGY ' TOP FORMATION DEPTH IN FIT	BOTTOM DEPTH IN FT C	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	TYPE	E AND RECORD QUANTITY OF FLUID BRINE,GAS,H2S, ETC)
· · · · · · · · · · · · · · · · · · ·		<b></b>			······································
				· · · · · · · · · · · · · · · · · · ·	
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1		C. Marie Co. Co. Co.	Configuration of the Configura	C POR TO A CORP. TO SECURE A SECURITION OF THE S	The second secon
			- 1914 Mile de de comment de 1911 - 1911 - Adaptio		The state of the s
Please insert additional pages as applicable.				The second section of the second section of the second section of the second section s	
Drilling Contractor Noah Horn					
Address 1070 Sandy Valley Lane		City Oakv	vood	State VA	Zip 24631
Logging Company <u>Halliburton</u>					The state of the s
Address 121 Champion Way, Suite 200		City Cano	nsburg	State PA	Zip 15317
Cementing Company <u>CalFrac</u>					
Address 2001 Summit View Rd					Zip <u>15478</u>
Stimulating Company					
Address		City		State	Zip
Please insert additional pages as applicable.					
Completed by CNV Goo WV Oneses	Commence LLC D 2	line and Co		<b>T</b> 1 1 -	0.400.40000
Completed by CNX Gas WY Operations C			•	Telephone 3 r-Gas WV	048842000 Date <u>9/28/2017</u>
		COIII	p		- Harley

# API 47-033-05816H6A Farm name JAMES IVAN MCDONALD Well number KST5CHS

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)
<b>FIL</b>		80			
SHALE/COAL	80	180			
LIMESTONE/SHALE/SILTSTONE	180	220		Kationaria	
SHALE/REDROCK/SILTSTONE	220	360			
REDROCK/SILTSTONE	360	390		Indiana in the second s	CONTROL OF MANAGEMENT OF THE STATE OF THE ST
REDROCK/SILTSTONE/COAL	390	430			
SHALE/REDROCK/SILTSTONE	430	540	denis, vita i viva en esca de la companya de la co		
SHL/RR/SILTSTONE/SANDSTONE	540	600	List Liver was a second of the	la e	**************************************
SHALE/REDROCK/SILTSTONE	600	660			The second secon
STONE: LIME, SILT, SAND	650	780	The second second		
SHL/RR/SILTSTONE/LIMESTONE	780	960		And the state of t	VII.
REDROCK/SANDSTONE	960	1040		************************************	
SANDSTONE	1040	1060			
SHL/REDROCK/SILTSTONE/COAL	1060	1080		mesicking main and	
SHALE/REDROCK/SILTSTONE	1080	1240		di di ambata	
SHALE/SILTSTONE/SANDSTONE	1240	1440		borantes caper tours in Capable	
SHALE/SILTSTONE/COAL	1440	1458			
LITTLE LIME	1458	1482	A Transport of the Control of the Co		Light Gray
BIG LIME	1500	1552	militario de la completa	part reference in terms in the contract of	Light Gray/Brown
BIG INJUN	1600	1671			Light Gray
GANTZ SAND / GANTZ A	1852	1913			Gray
50/30 FOOT SANDS	1972	2059		ampéra de adecementa en recuestra constitución.	Varicolored
GORDON SAND.	2096	2239			Med Gray
SHALE	2240	2359			Dark Gray
FIFTH SAND	2360	2391	The second second		Med Gray
BAYARD SAND	2447	2470	in the state of th	overline i generali	Med Gray
SILTSTONE/SHALE	2471	3000		Decimental control of annual of	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	ne discontinuiti	and the results of the	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		arterosa antido probabilidad	Med Gray
BURKET SHALE	6645	6687		Trong and a second seco	Black
TULLY LIMESTONE	6688	6745			Light Gray

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HAMILTON SHALE	6746	6870			Light/Med Gray
MARCELLUS SHALE	6871	6945	In the contract of the second	#1 #47 #4 C #1000000 # C00000	Black
ONONDAGA LIMESTONE	6946	6956		a install	Light Brown
HUNTERSVILLE CHERT	6957	7023	to a consequence and the same	<u> </u>	Light/Med Gray
TD PILOT	7023				