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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 <u>47</u> - 087	_ 04/54	County ROANE		Distri	ct SMITHFI	FFR		
Quad LOONEYVILLE	E 7.5'	Pad Name FERR	RELL, C.B.	Field/	Pool Name	CLOVER		
Farm name MAY, TIM	OTHY D.				Number 11			
Operator (as registered v	with the OOG)	H.G. ENERGY LLC	0					
Address 5260 DuPON	NT ROAD	City PAF	RKERSBURG	S	tate WV	Zip	26101	
Landing Point Botto Elevation (ft) 1,110' Permit Type Devi	of Curve Nom Hole N GL iated □ Ho ionvert □ De	Attach an as-drille forthing 4,285,443 M orthing orthing 4,285,234 M Type of Well I rizontal Horizontal Gas Oil Sec	■New □ Existing tal 6A □ Verti	Easting 47 Easting 47 g 7 cal Redrilling	75,638 M 75,776 M Type of Repor Depth Type □ Rework	□ Deep	■ Sh	allow
Type of Completion ■ Drilled with □ Cable	■ Rotary				IGL ■ Oil			Brine
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit	■ Rotary e hole ■ Air □ Mud □	□ Mud ■Fresh Wat	ter Intermed					Brine
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit N/A	■ Rotary e hole ■ Air □ Mud □ tive(s)	□ Mud ■Fresh Wat Fresh Water ■ Brine Date drilling comn	ter Intermed	diate hole	■ Air □ Mu	id ■ Fresh	Water 🗆	Brine
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit N/A Date permit issued	■ Rotary e hole ■ Air □ Mud □ tive(s)	□ Mud ■Fresh Wat Fresh Water ■ Brine Date drilling comn	ter Intermed	diate hole	■ Air □ Mu	id ■ Fresh	Water NA	
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit N/A Date permit issued Date completion activiti	■ Rotary e hole ■ Air □ Mud □ tive(s) 7/10/18 tes began	□ Mud ■Fresh Wat Fresh Water ■ Brine Date drilling comn	ter Intermed	diate hole A	■ Air □ Mu Date drilling ceased	ad ■ Fresh g ceased	Water NA	Brine Brine
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit N/A Date permit issued Date completion activiti	■ Rotary e hole ■ Air □ Mud □ tive(s) 7/10/18 tes began	□ Mud ■Fresh Wat Fresh Water ■ Brine Date drilling comm 7/23/18	ter Intermed	diate hole A	■ Air □ Mu Date drilling ceased	ad ■ Fresh g ceased	Water NA	CEIVED TOII and (
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Type of Completion Drilled with Cable Drilling Media Surface Production hole Air Mud Type(s) and Addit N/A Date permit issued Date completion activiti Verbal plugging (Y/N) Please note: Operator is	■ Rotary e hole ■ Air □ Mud □ tive(s) 7/10/18 es began	Date drilling comm	nencedN Date completio	A Grant of verbal	Date drilling ceasedranted bypermission to	g ceased	NA Office o	CEIVED of Oil and (
Type of Completion ■ Drilled with □ Cable Drilling Media Surfac Production hole ■ Air Mud Type(s) and Addit N/A Date permit issued Date completion activiti Verbal plugging (Y/N) Please note: Operator is	Rotary e hole Air Mud iive(s) 7/10/18 fes began N D s required to sub	Date drilling comm 7/23/18 ate permission grantec	nenced N. Date completion ation within 5 day Open mine(s) (Y	A Grant of verbal (V/N) depths	Date drilling ceased	g ceased	NA NA Office of AUG WW De Environme	CEIVED of Oil and (
Type of Completion Drilled with Cable Drilling Media Surfac Production hole Air Mud Type(s) and Addit N/A Date permit issued Date completion activiti Verbal plugging (Y/N) Please note: Operator is Freshwater depth(s) ft Salt water depth(s) ft Coal depth(s) ft	Rotary e hole Air Mud iive(s) 7/10/18 fes began N D s required to sub	Date drilling comm 7/23/18 ate permission granted omit a plugging applications	nencedN Date completio	A Grant of verbal (Y/N) depths ered (Y/N)	Date drilling ceased permission to depths	g ceased	NA NA Office of AUG WW De Environme	CEIVED of Oil and (

API 47, 087 04754 Farm name MAY, TIMOTHY D. Well number 110	WR-35										Page 2 of 4
CASING Hole Casing New or Used Wyft Depth Depth Wyft Depth Provide details bet Provided details bet Provide details bet Provided de	Rev. 8/23/13	04754		RAA'	V TIMOT	TA D				110	
STRINGS Size Size Depth Used wt/h Depth(s) *Provide details belt Conductor 12 1/4" 11 5/8" 30" Used L.S Sand In Sand In Surface 8 3/4" 7" 506" New L.S 64" Y	API 47- 087		Farm n	ame_IVIA	Y, TIMOT	חוט.		We	ll number_	110	
Surface			•	Depti							d cement circulate (Y/ N) Provide details below*
Coal Intermediate 1 Intermediate 2 Intermediate 3 Production 6 1/4" 4 1/2" 2631.35' New J-55 V Tubing Packer type and depth set Comment Details Circulated Est. 25 sks to surface on 7" surface commit job. Circulated Est. 20 sks to surface on 4 1/2" cement job. CEMENT Class/Type Number of Sacks wt (ppg) (ft /)sks) (ft /) Top (MD) (fts) Conductor Conductor Reg Neat 130 15.6 1.18 153 Surface 8 Coal Intermediate 1 Intermediate 1 Intermediate 2 Intermediate 2 Intermediate 3 Production 50:50 Pozmik 120/125 13.2/14.2 1.64/1.27 197/186 50' 8 Drillers TD (ft) 2860' Loggers TD (ft) 2653' Pozmation penetrated 8ig from Plug back to (ft) NA Plug back procedure NA Kick off depth (ft) 800' Check all wireline logs run				T		1		LS			Sand In
Intermediate 2 Intermediate 3	Surface	8 3/4"	7"	506'	' '	Vew		LS	64'		Υ
Intermediate 2 Intermediate 3 Production 6 1/4" 4 1/2" 2631.35' New J-55 Y Tubing Packer type and depth set Comment Details Circulated Eat. 25 also to surface on 7" surface cament job. Circulated Eat. 20 also to surface on 4 1/2" cament job. CEMENT Class/Type Number Sturry Yield Volume Cement WOC DATA of Cement of Sacks wt (ppg) (ft. 7/sks) (ft. 2) Top (MD) (ft.) Conductor Surface Reg Neat 130 15.6 1.18 153 Surface 8 Intermediate 1 Intermediate 2 Intermediate 2 Intermediate 2 Intermediate 3 Production 50:50 Pozmix 120/125 13.2/14.2 1.84/1.27 197/186 50' 8 Tubing Loggers TD (ft) 2653 Derillers TD (ft) 2650' Loggers TD (ft) 2653 Derillers TD (ft) 3650' Loggers TD (ft) 2653 Plug back to (ft) N/A Plug back procedure N/A Kick off depth (ft) 600' Check all wireline logs run Conventional Sidewall Were cuttings collected Yes No Conventional Sidewall Were cuttings collected Yes No Reconficiency placed mist string on 7' AUG SCHOMIZER PLACEMENT USED FOR EACH CASING STRING AUG STRING STRING STRING AUG STRING S	Coal								·-		
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Deepest formation penetrated Big Injun Plug back to (ft) N/A Plug back procedure N/A Kick off depth (ft) 600' Check all wireline logs run	Drillers TD (ft	j) 2660'			Lo	ggers T	D (ft) 26	53'			
Plug back procedure N/A			Big Injun								
Check all wireline logs run caliper density deviated/directional induction neutron resistivity gamma ray demperature sonic	•	-						_			<u></u>
Check all wireline logs run											
Check all wireline logs run caliper density deviated/directional induction neutron resistivity gamma ray demperature Isonic	Vials off donth	(0) 600'									
Well cored	Kick oil depin	1 (11) 000				-					
Well cored	Check all wire	eline loos run	■ caliner	■ den	sity =	deviate	ed/direct	ional 🗂	induction		
Well cored □ Yes ■ No Conventional Sidewall Were cuttings collected ■ Yes □ No RECE Office of O	Chook all who	onne rogo run	-		-				temperati	ıre 🗆	sonic
DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 20 Centralizers every 88 from bottom on 4 1/2*, Centralizer placed mid string on 7* AUG WV Depar Environmenta			<u></u>		,	0	•		•		
DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 20 Centralizers every 88 from bottom on 4 1/2*, Centralizer placed mid string on 7* WW Depart Environmenta	Well cored	⊐ Yes ■ No	Convent	ional	Sidewall		W	ere cutting	gs colle c te	d ■ Ye	S No RECEIVED
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WV Depar Environmenta					ED FOR EA	ACH CA	ASING S	TRING _	·		AUG 1 20
- And Anniental	20 Centralizers every 66	nom bollon on 4 1/2 , Cen	uaize: piaceu niio sunig un	<u> </u>							
- And Anniental											WV Departmen
WAS WELL COMPLETED AS SHOT HOLE □ Yes ■ No DETAILS											Pro:
WAS WELL CUMPLETED AS SHOT HOLE IN 188 18 NO DETAILS	WAONETT	COMBI PTP	A C CHAT HAT	E - 37	og a Nic	חד	тлис				
	WAS WELL	COMPLETED	AS SHOT HOL	Æ □Y0	es = No	DE	CIAILS				
											<u> </u>

WERE TRACERS USED □ Yes ■ No TYPE OF TRACER(S) USED _____

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741 47 Turn nume wen number	API 47- 087 - 04754	Farm name_MAY, TIMOTHY D.	Well number_ 110
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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7/23/18	2406'	2416'	60	Big Injun
	11-11-1				- 3 ,
-			-		
				<u> -</u>	
			-		
				-	
-					
	· · · · · · · -				
	<u> </u>	J		<u> </u>	

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)
1	7/27/18	2.8	1157	NA	684	0	12	2000 gals
			~-					15% HCL
			·					
			-					
								BECCO
	-							Office of Oil and Gas
								AUG 1 2018
								A00 1 2018
								_ W Department of
					· · · · · ·			WV Department of Environmental Protection
	1							

Please insert additional pages as applicable.

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Rev. 8/23/13					
API 47- 087	_ 04754	Farm	name MAY, TI	MOTHY D.	Well number 110
PRODUCING	FORMATION(<u>S)</u> _	<u>DEPTHS</u>		
Big Injun			2122'- 2150'	TVD 23	182'- 2422' MD
Big Injun			2122-2130	_ TVD	82'- 2422' MD
					
Please insert ad	lditional pages a	s applicable.			
GAS TEST	□ Build up □	Drawdown	□ Open Flow	OI	L TEST □ Flow □ Pump
SHUT-IN PRE	SSURE Surf	ace	_psi Botto	m Hole	psi DURATION OF TEST hrs
OPEN FLOW					Tater GAS MEASURED BY bpd □ Estimated □ Orifice □ Pilot
LITHOLOGY/	TOP	воттом	TOP	воттом	
FORMATION	DEPTH IN FT				DESCRIBE ROCK TYPE AND RECORD QUANTITYAND
- 5.4.2.11.011	NAME TVD	TVD	MD	MD	TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
Sand/Shale	0	1402	0	1432	1112 31 1252 (1125111(1126) 51012, 510, 510, 1126, 210)
Sand	1402	1618	1432	1692	
Shale	1618	1656	1692	1738	
Sand	1656	1824	1738	1738	
Shale	1824	1842	1954	1954	
Sand	1842	1976	1977	2168	
Little Lime	1976	2036	2168	2236	
Pencil Cave	2032	2036	2236	2240	
Big Lime	2036	2104	2240	2356	
Keener	2104	2122	2356	2382	
Big Injun	2122	2150	2382	2422	Drilled directional S 39° E a distance of 797'
Shale	2150	2333	2422	2660	
TD	2333		2660		
Please insert ad	 ditional pages a	s applicable.	1		
Drilling Contra	actor Decker Dril	ling			
Address 11565	State Route 676		City	Vincent	State OH Zip 45784
Logging Comp	any Weatherford	International			
Address 777 No	orth River Avenue		City	Weston	State WV Zip 26452 RECEIVED
Composition - C-	mpany Universa	Services			Office RECEIVED Office of Oil and (
Address Hall Ro			City	Buckhannon	State W Zip 26201 AMG 1 201
Stimulating Co	y	ers Service Co	rp.		W.: EnvirW: Department
	outh Graham Street		City	Zanesville	State OH Zip 43701 Environmental Protection
Please insert ac	lditional pages a	s applicable.			
Completed by	Roger Heldmar	1			Telephone 304-420-1107
	The Klein		Title O	perations Manag	ger Date 8/1/18
Signature	/n Dela	h-	Title O	perations Manaç	

Submittal of Hydraulic Fracturing Chemical Disclosure Information

Attach copy of FRACFOCUS Registry