## 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	04781 County ROAN	E	District SMITHFIEL	D		
Quad LOONEYVILLE 7		RR, J.H.	.H. Field/Pool Name CLOVER			
Farm name FISHER, FR			Well Number 112			
Operator (as registered wit	h the OOG) H.G. ENERGY LI	LC				
Address 5260 DuPONT	ROAD City PA	RKERSBURG	State WV	<sub>Zip</sub> <u>26101</u>		
Top Landing Point of Bottom	hole Northing 4,285,049 M Curve Northing	Ea	nd deviation survey asting 474,998 M sting 474,794 M			
Elevation (ft) 1,097'	GL Type of Well	■New □ Existing	Type of Report	⊐Interim BFinal		
Permit Type   Deviate	ed 🗆 Horizontal 🗆 Horizo	ntal 6A 🛛 Vertical	Depth Type	□ Deep 🗿 Shallow		
Type of Operation □ Con	vert 🗆 Deepen 🚇 Drill	□ Plug Back □ Red	rilling 🗆 Rework	□ Stimulate		
Well Type □ Brine Dispo	sal □ CBM □ Gas □ Oil 🖺 Se	econdary Recovery	Solution Mining	age 🗆 Other		
:	B Rotary nole B Air □ Mud BFresh W □ Mud □ Fresh Water B Bri			□ Other		
Date permit issued	6/5/15 Date drilling con		Date anning of	<del></del>		
Date completion activities	began 7/14/15	Date completion ac	ctivities ceased	7/16/15		
Verbal plugging (Y/N)	N Date permission grant	ed	Granted by	<del></del>		
Please note: Operator is re	equired to submit a plugging appli	ication within 5 days of	f verbal permission to plu	RECEIVED Gas None 2 0 2015		
Freshwater depth(s) ft		Open mine(s) (Y/N)	depths	HINDO - A 7/1/5		
Salt water depth(s) ft	A1	Void(s) encountered	d (Y/N) depths	None of Of		
Coal depth(s) ft		Cavern(s) encounter	red (Y/N) depths	- Department of ection		
Is coal being mined in area	a (Y/N)			WV Department of Protection		

API 47- 087	- 04781	Farm n	ame_FISHE	R, FRE	DDIE		We	ell number_1	12	
CASING STRINGS	Hole Size	Casing Size	Depth	Nev Us	w or sed	Grade wt/ft		Basket Depth(s)	Did ce	ment circulate (Y/ N)
Conductor	12 1/4"	11 5/8"	30'	$\neg$	sed		LS		1	Sand In
Surface	8 3/4"	7"	507'	N	lew		LS	64'	_	Y
Coal	-									·
Intermediate I										
Intermediate 2	-									
Intermediate 3			**			-	-		-	
Production	6 1/4"	4 1/2"	2488.9*	N	lew		J-55		-	Y
Tubing			<del></del>						1	
acker type and de	pth set			_						
Comment Details	Circulated Est. 50	sks to surface on 7" sur	face cement jcb. C	irculated E	st. 8 sks ti	o surface on	4 1/2" cement	job.		
CEMENT DATA Conductor	Class/Type of Cement	Numbe of Sack		иггу ррд)		ield ³/sks)	Volume (ft <sup>1</sup> )		nent (MD)	WOC (hrs)
Surface	Reg Neat	130	15	5.6	1	.18	153	Sur	face	8
Coal					_				-	
ntermediate 1										
ntermediate 2	-									
ntermediate 3						.,				
Production	50:50 Pozm	ix 95/125	13.2	/14.2	1.64	1/1.27	156/18	6 1	10'	8
ubing					<del></del>		<del>-</del>			
Orillers TD (ft) Deepest formate Plug back process  Cick off depth	tion penetrated cedure N/A	Big Injun			-	D (ft) <u>257</u> to (ft) <u>N/</u>				
Check all wirel	line logs run	caliper     neutron	<ul><li>☐ density</li><li>☐ resistivi</li></ul>		deviate gamma	ed/directi ray		induction temperature	□son	ic
Well cored	Yes 🛮 No	Conventi	onal Sid	lewall		W	ere cutting	gs collected	■ Yes	□ No
			ENT USED F	OR EA	CH CA	SING S	TRING _			
ZU Centralizers overy 68 fr	rom bottom on 4 1/2°, Con	tralizer placed mid string on 7°								
								,		
WAS WELL C	COMPLETED	AS SHOT HOLE	E □ Yes	a No	DE	ETAILS			ZECE!	VED Gas
WAS WELL C	COMPLETED	OPEN HOLE?	□ Yes 🚇	No	DETA	AILS _		Offic	of O	VED Cas It and Cas 2 0 2015  epartment of nental protect
WERE TRACI	ERS USED 0	Yes A No	TYPE OF	TRACE	ER(S) U	JSED _			<del>Q VIV.</del>	epartment of period of the per
	 							E'	UNICUL	nemo 10/23/20

WR-	35
Rev.	8/23/13

Page 3 of 4

API	47_	087	_	04781
M.	7,-		-	

Farm name FISHER, FREDDIE

\_Well number\_112

## PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	7/14/15	2369'	2377'	32	Big Injun
		<del> </del>			
	1				
			-		
	:				

Please insert additional pages as applicable.

## STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

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)
7/16/15	5	453	830	312	2,500	148	<u> </u>
	!						
							WED
						RECE	is and Gas
		,				1608 Of (	)// or
	i					Duios	5017
						DUA	10
	Date	Date Rate (BPM)	Date Rate (BPM) Pressure (PSI)	Date Rate (BPM) Pressure (PSI) Pressure (PSI)	Date Rate (BPM) Pressure (PSI) Pressure (PSI) ISIP (PSI)	Date   Rate (BPM)   Pressure (PSI)   Pressure (PSI)   SIP (PSI)   Proppant (lbs)	Date Rate (BPM) Pressure (PSI) Pressure (PSI) ISIP (PSI) Proppant (lbs) Water (bbls)

Please insert additional pages as applicable.

WV Department of Environmental Protection

10/23/2015

API 47- 087	_ 04781	Fan	m name FISHEF	R, FREDD	IE	Well number	<sub>r_</sub> 112	
PRODUCING	FORMATIO:	N(S)	<u>DEPTHS</u>					
Big Injun		<del></del>			22501 22201			
Big injuli		·· <del>·</del>	2156'- 2174'	TVD	2358'- 2380'	MD		
-								
				<del></del>				
Please insert ad	lditional page	s as applicable.				-		
GAS TEST	□ Build up	□ Drawdown	□ Open Flow		OIL TEST 🗖	Flow 🗆 Pump	)	
SHUT-IN PRE	SSURE Si	ırface	psi Botto	om Hole	psi	DURATION (	OF TEST	hrs
OPEN FLOW		Oil						
0.220			bpd			GAS MEASU DEStimated	Orifice	□ Pilot
LITHOLOGY/	ТОР	воттом	ТОР	BOTTOM	•			
FORMATION	DEPTH IN F			BOTTOM DEPTH IN I		ROCK TYPE AND	RECORD OUA	NTITYAND
	NAME TVD		MD	MD		LUID (FRESHWAT		
Sand/Shale	0	1668	0	1726		(. ICOIIIIAI	CIMIL, VIL	<u>, ono, 1170, 610)</u>
Sand	1668	1688	1726	1752				
Shale	1688	1697	1752	1762	<u> </u>			
Sand	1697	1806	1762	1902				
Shale	1806	1820	1902	1922				
Sand	1820	1956	1922	2100				
Little Lime	1956	1992	2100	2146				· · · · · · · · · · · · · · · · · · ·
Pencil Cave	1992	2002	2146	2158				
Big Lime	2002	2124	2158	2318	-			
Keener	2124	2156	2318	2358		····		<del></del>
Big Injun	2156	2174	2358	2380		rilled directional S (	SO 3° W a distar	
Shale	2174	2302	2380	2542	-	med directional 5 (	IC.5 VV a distair	108 01 729
TD	2302	2002	2542	2542				
Please insert ad	ditional maga-	a annliachta						
	, -	• •						
Drilling Contra								
Address 11565	State Route 676	· · · · · · · · · · · · · · · · · · ·	City	Vincent	<u> </u>	State OH	Zip <u>45784</u>	<u> </u>
	Weatherfo	am Internationa	ı					
Logging Compa Address 777 No	th River Avenue	aemanula		Weston		State WV	71. 28452	)
Address	I MADI WADIN		City	***************************************		State	Zip <u>26452</u>	
Cementing Con	npany Univer	sal Services						
Address Hall Rd			City	Buckhanno	n	State WV	Zip <u>26201</u>	_
							_ ~	EIVED Gas
Stimulating Co	p	ucers Service C			_		REU	oil and Gas
Address 109 So	uth Graham Stre	eet	City	Zanesville		State OH	Zip 43791	0,, 5
Please insert ad	ditional page:	s as applicable.					Our	6 20 2015
Completed by	Roger Heldm	an, j			Telephone	304-420-1107	UA	e so sairte Bebautuuent ( Bebautuuent (
Signature	Lu	Alkin	Title C	perations Ma	nager	Date 8	/14/15	200artine
<u> </u>	O	· · · · · · · ·	<del></del>				- NA	Santal Plon
Submittal of Hy	draulic Fract	uring Chemica	l Disclosure Info	rmation	Attach copy of	f FRACFOCUS	Registry (Of	<del>Jepartm</del> ent o Department o

87.04781

Prepared for: H G Energy

Dustin Hendershot

304-481-7342



Prepared by:

Producers Service Corp

Daniel L Graham

109 S. Graham St.

Zanesville, OH 43702

**Total Cost** 

740-454-6253

INVOICE #: 18850

WELL NAME: Star #112

COUNTY/STATE: Roane/WV

TOWNSHIP/FIELD: Clover Field

DATE of SERVICE: 7/16/2015

CUSTOMER PO#:

Customer Approval:

Description	Notes	Amount	Units	Unit Cost	1
FLUID PUMP CHARGE 0-3000 PSI MIN CHARGE	4 HRS	1	EA		_
BLENDER CHARGE 0-10 BPM		1	EA		
MILEAGE CHARGE PER UNIT ONE WAY	2 Units @150Miles		MI	H	
IC ACID 15%		250	GAL	+	
PRO HIB II		0.5	GAL	-	
ACID DELİVERY		2	HR	3	
PRO CLA LOK (KCL SUBSTITUTE)		15	GAL	9	
PRO NE-21		5	GAL	3	
PRO GEL 4		150	LB	\$	
BUFFER I		50	LB	\$	
BUFFER II		50	LB	\$	
BIO CLEAR 750		1	LB	S	
AP BREAKER		15	LB	S	
BXL-A		10	GAL	\$ \$	
BXL-10C		10	GAL	\$	
SAND 20/40 OTTAWA		25	CWT	\$	
SAND DELIVERY / TON MILES		100	TMILE	\$	
DATA VAN		1	STAGE		
				_	
· · · · · · · · · · · · · · · · · · ·				-	
				TO	

Office of Oil and Gas

AUG 2 0 2015

WV Department of
Environmental Protection
10/23/2015