

Page 1 of 4

State of West Virginia

IFC 2 1 2015

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

Office of Oil and God WV Dept. of Environmental (1995)

_____ District DUVAL County LINCOLN 47 . 043 . 03472 Field/Pool Name GRIFFITHSVILLE Ouad GRIFFITHSVILLE 7.5' Pad Name EPHRAIM GRIFFITH Farm name BENDER, JASON, ET UX Well Number 215 H.G. ENERGY LLC Operator (as registered with the OOG) City PARKERSBURG Address 5260 DuPONT ROAD Zip 26101 As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey Northing 4,230,886 M Easting 416,768 M Top hole Landing Point of Curve Northing Easting **Bottom Hole** Northing Easting Elevation (ft) 887' 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 BGas □ NGL BOil Fluids Produced

Brine □ Other Drilled with □ Cable ■ Rotary Drilling 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) N/A 9/9/14 Date drilling commenced 11/13/14 Date drilling ceased Date permit issued 12/1/14 Date completion activities ceased Date completion activities began N Date permission granted _____ Granted by Verbal plugging (Y/N) Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug None Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths 1070' Salt water depth(s) ft Void(s) encountered (Y/N) depths ____ 445'- 450' Coal depth(s) ft Cavern(s) encountered (Y/N) depths Is coal being mined in area (Y/N)_____

WERE TRACERS USED □ Yes ■ No

Rev. 8/23/13 Farm name_BENDER, JASON, ET UX Well number_215 API 47- 043 -03472 Did cement circulate (Y/N) **CASING** Casing New or Grade Basket Hole * Provide details below* wt/ft Depth(s) **STRINGS** Size Depth Used Size Conductor 17 1/2" 13 3/8" 30' New LS Sand In Surface Υ 9 5/8" 547 New LS 84' 12 1/4" Coal 8 7/8" 1688 LS 7" New Intermediate 1 Intermediate 2 Intermediate 3 Production 6 1/4" 4 1/2" 4098.15 New J-55 Ν Tubing Packer type and depth set Comment Details Circulated Est. 95 sks to surface on 9 5/6" casing. Circulated Est. 10 sks to surface on 7" casing. CEMENT WOC Number Class/Type Yield Volume Cement Slurry DATA of Cement of Sacks wt (ppg) (ft³/sks) (ft^2) Top (MD) (hrs) Conductor Surface Reg Neat 230 15.6 1.18 271 Surface 8 Coal Intermediate 1 Reg Neat 315 15.6 1.18 372 Surface Intermediate 2 Intermediate 3 Production 50:50 Pozmix/Unitropic 14.2/14.4 1950 75/90 1.27/1.62 95/146 Tubing Drillers TD (ft) 4115' Loggers TD (ft) 4112' Deepest formation penetrated Devonian Shale Plug back to (ft) N/A Plug back procedure N/A DEC 2 1 2015 Kick off depth (ft) N/A Office of Oil and Gas Check all wireline logs run acaliper = density deviated/directional ■ induction Կハハロー Immental Protection ■ neutron **■** resistivity 🖪 gamma ray **■** temperature **E**sonic Well cored □ Yes ■ No Conventional Sidewall Were cuttings collected ■ Yes □ No DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING 20 Centralizers overy 84 from bottom on 4 1/2", Centralizer placed mid string on 7" & 9 5/8" WAS WELL COMPLETED AS SHOT HOLE □ Yes 📱 No DETAILS WAS WELL COMPLETED OPEN HOLE? □ Yes 🛔 No DETAILS

TYPE OF TRACER(S) USED

API 47- 043 - 03472

Farm name BENDER, JASON, ET UX

Well number 215

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	12/18/14	3525'	3873'	20	Devonian Shale
2	2/9/15	2865'	3472'	23	Devonian Shale
3	3/31/15	2367'	2375'	48	Berea
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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	2/9/15	40	1802	2271	1309	59,200	300	542,932 scf
2	2/9/15	40	2168	2192	1563	59,700	233	621,525 scf
3_	6/4/15	4.2	936	1940	922	ł	44	
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Please insert additional pages as applicable.

RODUCING	FORMATION(<u>(S)</u>	<u>DEPTHS</u>								
3erea			2363'- 2382'	TVD		MD					
Devonian Shale			2382'- 4115'	_ 14D _		MID					
Devornan Snak		 -	2302-4113			_					
lease insert ac	lditional pages	as applicable.									
AS TEST	□ Build up	□ Drawdown	□ Open Flow	O	IL TEST 🗆 1	Flow	□ Pump	1			
HUT-IN PRE	SSURE Sur	face	_psi Botto	om Hole	psi	DURA	TION (OF TES	ST	ł	ırs
PEN FLOW		Oil fpd	NGL bpd	bpd	/ater bpd	GAS I	MEASU mated	JRED 1 # Ori	BY fice	🗆 Pilot	
ITHOLOGY/ ORMATION	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	TOP DEPTH IN FT	BOTTOM DEPTH IN FT	DESCRIBE I	ROCK TY	PE AND	RECOR	D QUAN	ITITYAN	√ D
	NAME TVD	TVD	MD	MD	TYPE OF FL	UID (FRI	SHWAT	ER, BR	NE, OIL	, GAS, H	2S, ETC)
Sand/Shale	0	445	0								
ittsburgh Coal	445	450									
Sand/Shale	450	1690									
Big Lime	1690	1854	<u> </u>								
Big Injun	1854	1946			<u> </u>				_		
Shale	1946	2342							<u>) </u>		ا ومساور در از روان از از
Coffee Shale	2342	2363						- 1	الا الاستاد الم		W Test
Berea	2363	2382	<u> </u>		ļ						
evonian Shale	2382	4115			<u> </u>				DEC	_2_1_	2015
TD	4115	_			ļ						
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rilling Contra	Ctor Decker Dril	ling		\F		_	011		45704		
ddress	State Route 676		City	Vincent		_ State	OH	Zip	45784		
ngging Comp	any Weatherford	International									
ddress 777 No.	rth River Avenue		City	Weston		State	WV	7in	26452		
<u></u>						_ 50		— շւր			
	npany Universal	Services									
idress 14 Sew	er Plant Rd	·	City	Buckhannon		_ State	WV	Zip	26201		
imulatina Car	npany Produc	ers Service Con	o.								
imuiaulig Col Idress 109 Soi	npany 110000 uth Graham Street	2.3 23.7100 001	City	Zanesville		Stata	ОН	7:_	43701		
-	ditional pages a		Спу			_ State		Z ıp			
- /	Reger L. Heldm	an ,			Telephone	304 420	1107				
gnature	1/- /-	TRIAL.	Title Or	erations Manag	er		Date 12	2/16/15			



Field Ticket - (This is not an invoice) Project No. Customer No. Customer Task No. #N/A **HG** Energy Formation AFE / PO No. Lower Huron Shale #N/A Operator Name Job Type Description Job Type #N/A 2 Stage Foam Frac Donald Tiziani Frac Weight New/Used From To Casing District 45 Buckhannon Tubing Bid Number 14306 Left Location Arrived on Location Well Name and No 8:10 Date Open Hole Time Griffith 215 Date No. of Shots Perforations Well Type County: Lincoln No. of Shots Perforations Township: Gas No of Shots State API# Perforations Max PSI Allowed Drilling Contractor 4000 Depth WV Item **Net Amount** Quantity Description Unit of Product Discount Price/Unit Amount Measure Code Unit Mileage Charge Trucks and Vans (Except Bulk Units), Per Unit Mile Mi 500.000 800000 50,000 Mi 800010 Crew & Light Duty Vehicle Mileage Charge, Per Unit Mile 4.000 800051 Transport Delivery Charge (4 Hr Minimum), Per Hr Hrs 1.000 Ea 802601 Energized Minimum Pump Charge, 1st 4 Hrs Energized Minimum Computerized Blending Charge Ea 1.000 803715 1.000 Ea Frac Ball Dropping Head 805520 1.000 Treatment Van, (WINFRAC Data Monitoring or Similar) Job 810010 0.500 Gal 820035 Unihib G Qts 1.000 LEB 10X - Lquid Enzyme Breaker 320505 1.000 Cla Chek LP, Permanent Clay Stabilizer Gal 820935 21.000 Gal 821815 Unifoam, Foamer for Water and Acid Lb 50.000 822225 Unigel 5F 1.000 Gal Iron Control - A (EC6673A) 822565 2.000 Gal 822936 NE-90G Gal 500.000 825030 15% HCl Acid, Area 1 3.000 Hrs Nitrogen Transport Charge, Per Hour 840050 4.000 840201 N2 Pump, 6,001-10,000 scf/min, 0-5,000 psi, 1st 2 Hrs Ea 264.260 CSCF 840620 Nitrogen, Per 100 scf, Area 1 250.000 Lb 873010 Calcium Chloride (Cement Additive) Unit of Quantity Mileage Calculation Section Measure Unit Mileage Charge Trucks and Vans (Except Bulk Units), Per Unit Mile Mi 800000 UNITS DEC 2 1 2015 TM Proppant and Bulk Delivery Charges, Per Ton Mile Loaded Total Miles TM Office of Oil and Gas Cement Delivery Charge 860050 To WV Dept. of Environmental Protection Loaded Total Miles Comments: Customer Representative: CUSTOMER AUTHORIZED AGENT SIGNATURE UWS Authorized Agent: Date:

Prepared for: HG Energy				Prepared by: Producers Serv Chris Bryan	vice Corp	
Dustin Hendershot	DEADUCEDE			109 S. Graham St.		
304-481-7342	SERVICE CORP.	Producers Service Corp.				
INVOICE #: 18470				740-454-6253		
WELL NAME: E. Griffith #215						
STATE & COUNTY: Lincoln, WV		Э.				
TOWNSHIP/FIELD: Griffithville						
DATE of SERVICE: 6/4/2015						
CUSTOMER PO#						
Description	Notes	Amount	Units	Unit Cost	Total Cost	
ACID PUMP CHARGE 1000-2000 PSI		1	EA			
MILEAGE CHARGE PER UNIT ONE WAY		200				
C ACID 15%		500				
PRO HIB II		1				
PRO CLA FIRM LP		0.5				
PRO PEN PRO NE-1		0.5				
PRO SOL		5				
DATA VAN			STAGE			
				Enne		
				Rece	iveu	
Customer Approval:			÷	^_	2015	

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Office of Oil and Gas WV Dept. of Environmental Protection