

PM

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

API 47-103-02894 County Wetzel District Magnolia
Quad New Martinsville Pad Name ZMBG Field/Pool Name Mary
Farm name Zumpetta, Lawrence et al Well Number #3H
Operator (as registered with the OOG) Stone Energy Corporation
Address 1300 Fort Pierpont Dr. - Suite 201 City Morgantown State WV Zip 26508

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,387,944 Easting 515,391
Landing Point of Curve Northing 4,388,137 Easting 515,049
Bottom Hole Northing 4,389,576 Easting 514,231

Elevation (ft) 1,341 GL 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 Fluids Produced Brine Gas NGL Oil 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)
Saturated salt mud which includes Caustic Soda, Barite, Lime, New-Drill, Perma-Lose HT, Xan-Plex D, X-Cide 102, Soda Ash, and Sodium Chloride

Date permit issued 7/1/2013 Date drilling commenced 9/15/2013 Date drilling ceased 5/19/2014
Date completion activities began 8/5/2014 Date completion activities ceased 2/7/2015
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 100 Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Reported Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,152 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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Reviewed by:
JR
10/16/2015

API 47- 103 - 02894 Farm name Zumpetta, Lawrence et al Well number #3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	90'	New	LS		N - GTS
Surface	17.5"	13.375"	1,284'	New	J55	123' & 198'	Y - CTS
Coal	17.5"	13.375"	1,284'	New	J55	123' & 198'	Y - CTS
Intermediate 1	12.25"	9.625"	2,566'	New	J55		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	12,806'	New	P110		N - TOC @ 2,573'
Tubing	N/A	2.375"	7,210'	New	N80		N/A
Packer type and depth set							

Comment Details Circulated 45 bbls cement to surface on 13.375" casing string. Circulated 25 bbls cement to surface on the 9.625" casing string.
TOC on 5.5" after running CBL @ 2,573'. Note: only two bow spring centralizers were run on the 13.375" casing string due to heaving Red Beds.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Type 1	34	15.6	1.18	40	Surface	24.0
Surface	Class "A"	980	15.6	1.19	1,166	Surface	8.0
Coal	Class "A"	980	15.6	1.19	1,166	Surface	8.0
Intermediate 1	Lead-10% Salt Tail-Class "A"	Lead-680 Tail-250	Lead-15.6 Tail-15.6	Lead-1.24 Tail-1.21	Lead-843 Tail-303	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-Tuned Spacer Tail-Vari Cem	Lead-178 Tail-2,390	Lead-14.5 Tail-15.2	Lead-2.37 Tail-1.20	Lead-422 Tail-2,868	2,573	7.0
Tubing							

Drillers TD (ft) 12,807 MD / 6,637 TVD Loggers TD (ft) N/A
Deepest formation penetrated Marcellus Shale Plug back to (ft) _____
Plug back procedure _____

Kick off depth (ft) 5,713 MD / 5,692' TVD

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Surface casing had bow spring centralizers placed on joints 28 and 30. Intermediate casing had bow spring centralizers placed on joints 2, 4, 7, 10, 13, 16, 19, 22, 25, 28, 31, 34, 37, 40, 43, 46, 49, 52, 55 and 58.
Production casing had rigid spiral centralizers placed on every fourth joint beginning with joint 1 to joint 165. Ran a total of 42 rigid spiral centralizers. Ran bow spring centralizers from joint 172 to joint 262 on every third joint. A total of 32 bow spring centralizers were run.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

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

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API 47- 103 - 02894

Farm name Zumpetta, Lawrence et al

Well number #3H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	8/13/14	12,610	12,755	72	Marcellus Shale
2	10/10/14	12,400	12,545	72	Marcellus Shale
3	10/11/14	12,200	12,328	72	Marcellus Shale
4	10/12/14	12,000	12,135	72	Marcellus Shale
5	10/13/14	11,800	11,930	72	Marcellus Shale
6	10/14/14	11,610	11,745	72	Marcellus Shale
7	10/15/14	11,410	11,553	72	Marcellus Shale
8	10/16/14	11,198	11,355	72	Marcellus Shale
9	10/18/14	10,980	11,135	72	Marcellus Shale
10	10/19/14	10,780	10,925	72	Marcellus Shale
11	10/20/14	10,565	10,725	72	Marcellus Shale
12	10/21/14	10,365	10,510	72	Marcellus Shale
13	10/22/14	10,160	10,310	72	Marcellus Shale
14	10/23/14	9,950	10,105	72	Marcellus Shale
15	10/24/14	9,760	9,900	72	Marcellus Shale
16	10/25/14	9,550	9,705	72	Marcellus Shale

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	10/10/14	84.7	7,475	5,506	4,966	327,720	4,864	
2	10/11/14	80.7	7,514	5,804	5,154	365,720	5,060	
3	10/12/14	85.4	7,294	5,334	5,123	357,600	5,041	
4	10/13/14	84.1	7,210	5,274	4,887	361,660	5,024	
5	10/14/14	82.7	7,343	5,526	4,767	359,000	4,930	
6	10/15/14	81.7	7,063	5,361	5,184	360,380	5,074	
7	10/16/14	82.4	7,257	5,259	4,797	364,157	5,025	
8	10/18/14	80.6	6,800	5,140	5,154	364,720	5,003	
9	10/19/14	80.7	6,777	5,166	4,693	361,060	4,919	
10	10/20/14	80.5	6,765	5,387	4,618	363,660	5,005	
11	10/21/14	80.3	6,939	5,556	5,154	368,820	4,967	
12	10/22/14	80.5	6,861	6,101	4,827	368,660	4,969	
13	10/23/14	80.5	6,911	5,663	4,887	367,340	5,013	
14	10/24/14	78.8	7,154	5,428	5,005	364,080	5,060	
15	10/25/14	80.5	6,938	5,822	4,945	360,700	4,964	
16	10/26/14	80.5	6,815	5,868	4,392	359,000	4,998	

Please insert additional pages as applicable.

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	10/26/14	9,344	9,488	72	Marcellus Shale
18	10/27/14	9,135	9,285	72	Marcellus Shale
19	10/28/14	8,930	9,080	72	Marcellus Shale
20	10/29/14	8,720	8,875	72	Marcellus Shale
21	10/30/14	8,520	8,667	72	Marcellus Shale
22	10/31/14	8,315	8,467	72	Marcellus Shale
23	11/1/14	8,110	8,260	72	Marcellus Shale
24	11/1/14	7,910	8,055	72	Marcellus Shale
25	11/2/14	7,700	7,855	72	Marcellus Shale
26	11/2/14	7,495	7,640	72	Marcellus Shale
27	11/3/14	7,300	7,440	72	Marcellus Shale

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)
17	10/27/14	80.4	6,757	5,512	5,035	366,440	4,918	
18	10/28/14	78.1	6,991	5,824	5,154	358,700	4,909	
19	10/29/14	80.2	6,585	5,493	5,244	360,540	4,956	
20	10/30/14	80.6	6,587	6,117	4,857	357,700	4,856	
21	10/31/14	79.2	6,702	5,844	4,262	367,580	5,247	
22	11/1/14	80.0	6,408	5,721	4,887	365,160	5,068	
23	11/1/14	80.1	6,423	5,685	4,985	367,220	5,032	
24	11/2/14	80.1	6,410	5,815	5,214	367,180	4,969	
25	11/2/14	79.5	6,372	5,405	4,945	367,980	4,862	
26	11/3/14	78.5	6,564	6,044	4,797	365,280	4,919	
27	11/4/14	80.0	6,370	5,230	5,035	356,920	4,849	

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus Shale</u>	<u>6,773' to 6,640'</u> TVD	<u>7,300' to 12,755'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,440 psi Bottom Hole 4,200 calculated psi DURATION OF TEST 140.75 hrs

OPEN FLOW Gas 2,904 mcfpd Oil _____ bpd NGL 122.4 bpd Water 580.8 bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
See Attached Sheet					

Please insert additional pages as applicable.

Drilling Contractor Nomac (top-hole) & Saxon Drilling (horizontal)
Address 2034 Martins Branch Rd / 9303 New Trails Drive City Mount Morris / The Woodlands State PA / TX Zip 25312 / 77381

Logging Company Scientific Drilling and Schlumberger
Address 3475 Washington Ave / 1178 US HWY 33 East City Finleyville / Weston State PA / WV Zip 15332 / 26452

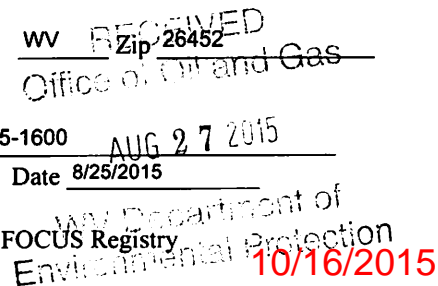
Cementing Company Halliburton
Address 1628 Jackson Mill Road City Jane Lew State WV Zip 26378

Stimulating Company Schlumberger
Address 1178 US HWY 33 East City Weston State WV Zip 26452

Please insert additional pages as applicable.

Completed by W. Lee Hornsby Telephone 304-225-1600 AUG 27 2015
Signature *W. Lee Hornsby* Title Drilling Engineer Date 8/25/2015

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry **WV Department of Environmental Protection 10/16/2015**



ZMBG #3H
 API 47-103-02894
 Stone Energy Corporation

	Horizontal			
	Top (ft TVD)	Top (ft MD)	Bottom (ft TVD)	Bottom (ft MD)
Sandstone & Shale	Surface		*	1,152'
				FW @ 100'
Coal	1,152'		*	1,154'
Sandstone & Shale	1,154'		*	2,116'
				No SW Reported
Big Lime	2,116'		*	2,216'
Big Injun	2,216'		*	2,316'
Sandstone & Shale	2,316'		*	2,689'
Berea Sandstone	2,689'		*	2,719'
Shale	2,719'		*	2,894'
Gordon	2,894'		*	2,944'
Undiff Devonian Shale	2,944'		*	5,693'
				5,714'
Rhinestreet	5,693'	5,714'	~	6,461'
Cashaqua	6,461'	6,558'	~	6,597'
Middlesex	6,597'	6,751'	~	6,618'
West River	6,618'	6,785'	~	6,672'
Geneseo	6,672'	6,887'	~	6,687'
Tully Limestone	6,687'	6,920'	~	6,720'
				7,012'
Hamilton Shale	6,720'	7,012'	~	6,750'
				7,132'
Marcellus	6,750'	7,132'	~	6,337'
				12,807'
TD				6,337'
				12,807'

* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log

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 10/18/2015

103-02894

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	10/30/2014
State:	West Virginia
County/Parish:	Wetzel County
API Number:	47-103-02894
Operator Name:	Stone Energy
Well Name and Number:	ZMBG #3H
Longitude:	515,391
Latitude:	4,387,944
Long/Lat Projection:	
Production Type:	Natural Gas
True Vertical Depth (TVD):	6637
Total Water Volume (gal)*:	5648829

Hydraulic Fracturing Fluid Composition

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
H015, Slickwater, WF115	Schlumberger	Corrosion Inhibitor, Bactericide (Myacide GA25), Scale Inhibitor, AntiFoam Agent, Surfactant , Acid, Breaker, Gelling Agent, Friction Reducer, Iron Control Agent, Clay Control Agent, Fluid Loss Additive , Propping	Water (Including Mix Water Supplied by Client)*	NA		82.60368%	
			Crystalline silica	14808-60-7	98.40780%	17.11934%	
			Hydrochloric acid	7647-01-0	0.89242%	0.15525%	
			Ammonium sulfate	7783-20-2	0.13511%	0.02350%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.06492%	0.01129%	
			Glutaraldehyde	111-30-8	0.05063%	0.00881%	
			Diammonium peroxodisulfate	7727-54-0	0.02975%	0.00518%	
			Urea	57-13-6	0.02252%	0.00392%	
			Methanol	67-56-1	0.00511%	0.00089%	
			Dicoco dimethyl quaternary ammonium chloride	61789-77-3	0.00499%	0.00087%	
			Trisodium ortho phosphate	7601-54-9	0.00401%	0.00070%	
			Ethylene Glycol	107-21-1	0.00401%	0.00070%	
			Sodium erythorbate	6381-77-7	0.00282%	0.00049%	
			Thiourea formaldehyde polymer	Proprietary	0.00256%	0.00044%	
			Aliphatic acids	Proprietary	0.00196%	0.00034%	
			Calcium chloride	10043-52-4	0.00125%	0.00022%	
			Aliphatic alcohols, ethoxylated #2	Proprietary	0.00085%	0.00015%	
			Propargyl alcohol	107-19-7	0.00085%	0.00015%	
			Olefin hydrocarbon	Proprietary	0.00043%	0.00007%	
			Hexadec-1-ene	629-73-2	0.00017%	0.00003%	
			Polypropylene glycol	25322-69-4	0.00010%	0.00002%	
			Formaldehyde	50-00-0	0.00001%	< 0.00001%	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Report ID: RPT-34841 (Generated on 2/16/2015 4:42 PM)

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

10/16/2015

ZMBG #3H (47-103-02894) AS-DRILLED

**ZMBG #3H
BOTTOM HOLE**

STATE PLANE
COORDINATES
NORTH ZONE-NAD 27
(N) 423753
(E) 1624393

L & L DECIMAL
NAD 27
39.65579
80.83409

UTM (NAD 83)
ZONE 17
METERS
4389576
514248

SCHEIBELHOOD
74.76 ACRES±
4-17

HEINZMAN
138.239 ACRES±
5-8

RICHTER
80.5 ACRES±
5-10

LLOYD
40.25 ACRES±
4-24

HEAVEN PARTNERSHIP
74.8 ACRES±
5-24

NICE
93.91 ACRES±
4-32

GODDARD
54.65 ACRES±
5-29

SCHUPBACH
99.75 ACRES±
5-30

BURTON
66.94 ACRES±
5-31

NICE
23.85 ACRES±
4-34

HOWELL
38.26 ACRES±
8-1

ZUMPETTA, ET AL
79.47 ACRES±
8-3

DALLISON LUMBER INC.
ET AL
35 ACRES±
8-2

ZUMPETTA, ET AL
37.91 ACRES±
8-11

HELMICK
35.40 ACRES±
8-10

ZUMPETTA, ET AL
27 ACRES±
8-21

ZMBG #3H
LANDING POINT

ZMBG #3H

NOTES ON SURVEY

1. NO DWELLINGS WITHIN 625' WERE FOUND.
2. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' WERE FOUND.
3. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WY NORTH ZONE '27.
4. WELL LAT./LONG. ESTABLISHED BY SG-GPS(OPUS).
5. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN MARCH, 2015 AND INFORMATION PROVIDED BY STONE ENERGY CORPORATION.
6. WELLS SHOWN ARE TAKEN FROM RECORDS OF WDEP.
7. AS-DRILLED INFORMATION PROVIDED BY STONE ENERGY CORPORATION.

ZMBG #3H LANDING POINT

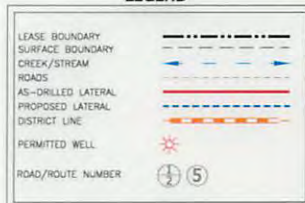
STATE PLANE
COORDINATES
NORTH ZONE-NAD 27
(N) 418986
(E) 1626097

L & L DECIMAL
NAD 27
39.64281
80.82459

UTM (NAD 83)
ZONE 17
METERS
4388137
515068



LEGEND



ZMBG #3H SURFACE HOLE

STATE PLANE
COORDINATES
NORTH ZONE-NAD 27
(N) 418332
(E) 1628055

L & L DECIMAL
NAD 27
39.64108
80.82080

UTM (NAD 83)
ZONE 17
METERS
4387943
515391

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Doyle Hupp Jr.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE JULY 15, 20 15

OPERATORS WELL NO. ZMBG #3H

P.S.
834

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

API WELL NO. 47-103-02894
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W2068 (BK 77-29)
PROVEN SOURCE OF ELEVATION SG-GPS(OPUS) SCALE 1" = 1000'

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS



WELL TYPE : OIL GAS LIQUID INJECTION WASTE DISPOSAL IF "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION : ELEVATION 1,340' WATERSHED TRIBUTARY OF DOOLIN RUN

DISTRICT MAGNOLIA COUNTY WETZEL QUADRANGLE NEW MARTINSVILLE 7.5'

SURFACE OWNER LAWRENCE ZUMPETTA, et al ACREAGE 79.47±

ROYALTY OWNER LAWRENCE ZUMPETTA, et al LEASE ACREAGE 472.02± **10/16/2015**

PROPOSED WORK : LEASE NO. _____

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH TVD 6,637' MD 12,807'

WELL OPERATOR STONE ENERGY CORPORATION DESIGNATED AGENT TIM MCGREGOR

ADDRESS P.O. BOX 52807 LAFAYETTE, LA 70508 ADDRESS 1300 FORT PIERPONT DR., SUITE 201 MORGANTOWN, WV 26508

COUNTY NAME
PERMIT