



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
fax: (304) 926-0452

www.dep.wv.gov

WELL WORK PERMIT

/

Re: Permit approval for

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

Chief

A handwritten signature in blue ink, appearing to read "G. M. ...", is written over the word "Chief".

Operator's Well Number:

Farm Name:

U.S. WELL NUMBER:

Date Issued:

Promoting a healthy environment.

PERMIT CONDITIONS 47 10 30 27 93

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

PERMIT CONDITIONS 47 10 302793

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov.

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: EQT Production Company 306686 Wetzel Magnolia New Martinsville
Operator ID County District Quadrangle

2) Operator's Well Number: SMITH 2H Well Pad Name: SMITH

3) Farm Name/Surface Owner: Smith, Sonny & Charlotte Public Road Access: Wetzel County Route 22

4) Elevation, current ground: 1321 Elevation, proposed post-construction: 1321

5) Well Type (a) Gas Oil Underground Storage

Other _____

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 6,897', 50', 3,800 & 4,400 psig

*DMH
10-3-17*

8) Proposed Total Vertical Depth: 6,897'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 12,474'

11) Proposed Horizontal Leg Length: 4930

12) Approximate Fresh Water Strata Depths: 100

13) Method to Determine Fresh Water Depths: Depth of bit when water shows in the flowline or when drilling soap is injected

14) Approximate Saltwater Depths: 2202

15) Approximate Coal Seam Depths: 1,105

16) Approximate Depth to Possible Void (coal mine, karst, other): None Anticipated

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	LS	94.1	96'	80'	40- CTS
Fresh Water	13.375"	New	J55	54.5	1,312'	1,312'	1,139- CTS
Coal	13.375"	New	J55	54.5	1,312'	1,312'	1,139- CTS
Intermediate	9.625"	New	J55	36.0	2,582'	2,582'	717 Lead - 392 Tail CTS
Production	5.5"	New	P110	20.0	12,444'	12,444'	422 Lead - 2772 Tail CTS
Tubing	2.375"	New	J55	4.7		6,100'	N/A
Liners	N/A						

*DmH
10-3-17*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20"	24"	0.375"	N/A	17 psi	Type 1	1.18
Fresh Water	13.375"	17.5"	0.380"	2,730 psi	2160 psi	Class A	1.19
Coal	13.375"	17.5"	0.380"	2,730 psi	2160 psi	Class A	1.19
Intermediate	9.625"	12.25"	0.352"	3,520 psi	2814 psi	Class A	1.28 Lead - 1.19 Tail
Production	5.5"	8.75"	0.361"	12,360 psi	10112 psi	Class A	2.37 Lead - 1.20 Tail
Tubing	2.375"	N/A	0.190"	7,700 psi		N/A	N/A
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Well has been drilled to TD, propose to perforate and fracture the Marcellus and turn in to production.

DmH
10-3-17

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 350,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 400,000 pounds of sand per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): no additional

22) Area to be disturbed for well pad only, less access road (acres): no additional

23) Describe centralizer placement 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 3, 6, 9, 12, 15, 18, 21, 24, 27 and 30. Production casing had rigid spiral centralizers placed on every fourth joint beginning with joint 1 to joint 144. Ran a total of 38 rigid spiral centralizers. Ran bow spring centralizers from joint 154 to joint 283 on every third joint. A total of 44 bow spring centralizers were run.

24) Describe all cement additives associated with each cement type:

Fresh Water/Coal cement is typically Class A w/ 0.25 pps Cello-Flake and 1.0% to 3.0% CaCl₂. Intermediate cement is a lead/tail blend with the lead being Class A w/ 10% Salt and 0.25 pps Cello-Flake. Tail is Class A w/ 0.25 pps Cello-flake + 1.0% to 3.0% CaCl₂ + .02% Anti-Foam. Production cement is a lead/tail blend with the lead being Class "A" w/ 10% Salt blend w/ 0.02% Anti-foam and tail being HES's HALCEM blend w/ 0.65% Retarder and 0.1% Dispersant or SLB with lead/tail with the lead being Class A w/ 10% Salt or Class A w/ FlexSeal and the tail being Class A w/ 0.2% Dispersant, 0.4% Fluid Loss, 0.2% Anti-Foam, 0.15% Retarder, and 0.2% Anti-Settling Agent.

25) Proposed borehole conditioning procedures:

Fresh Water/Coal section will be done by circulating air through the drill string at TD between 30 and 90 minutes or until the well bore clears of cuttings.
Intermediate section will be done by circulating air and/or stiff foam through the drill string at TD between 30 and 120 minutes or until the well bore clears of cuttings.
Production section will be done by circulating drilling fluid through the drill string at TD between 120 to 720 minutes (a minimum of 3 bottoms up) until the shakers are clear of cuttings.

*Note: Attach additional sheets as needed.

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6000 Hampton Center, Suite B
Morgantown, WV 26505-1748
Telephone: (304) 599-1457
Fax: (337) 291-7787

5/21/2012

• • •

Mr. James Martin, Chief
WV Office of Oil and Gas
601, 57th Street, SE
Charleston, WV 25304-2345

Dear Mr. Martin;

Stone Energy, Operator ID 494490923, is requesting a waiver to allow the setting of the surface casing deeper than 300' for the well applications listed in the table below. This request is being made so we can ensure any potential fresh water horizon and all coal seams are covered by casing and cement. Cement on the surface strings will be circulated back to surface. The bottom coal seam for this pad (Smith Pad) is expected to be intersected by the well bores at a depth of 1,101'. Elevation of the Pad is 1,335' above sea level prior to construction and the anticipated elevation after construction is 1,321' above sea level. This leaves the coal seam 220' above sea level based upon the anticipated elevation of the constructed pad. With coal seams being a perfect avenue for the transportation of fresh water, the setting of the surface casing at 1,265' (56' above sea level) will protect both the coal seams and any fresh water from being introduced with salt water. Salt water is expected to be encountered at a depth of 1,740' (419' sub-sea).

Well Name
Smith #2H
Smith #4H
Smith #7H

Should you require additional information or have any questions please feel free to contact me at 304-225-1777.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Lee Homsby".

W. Lee Homsby
Drilling Engineer, Appalachia
Stone Energy Corporation

DH
5-22-12

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103-02793 MOD

Well: Smith #2H
 State: West Virginia
 County: Wetzell
 District: Magnolia
 Prospect: Mary
 Location: Surface: North = 4,388,536 East = 516,226 (UTM NAD 83)
 PBHL: North = 4,386,781 East = 516,894 (UTM NAD 83)
 PTD: 13100' MD / 6880' TVD

STONE ENERGY - PROPOSED HORIZONTAL - Modification

Revision: 12-Nov-13

Permit Number: 47-103-02793
 Permit Issued: 10/12/2012
 As Built Ground Elevation: 1321'
 Kelly Bushing: 18'
 Rig:
 Spud Date:
 TD Date:
 Rig Release Date:

HOLE SIZE	PILOT HOLE FORMATION TOPS	WELLBORE DIAGRAM	CASING & CEMENTING DATA DIRECTIONAL DATA	MW & FLUID TYPE	HOLE DEV.	
24" Hole then Driven	98' KB (80' BGL)		CONDUCTOR PIPE 20" x 3/8" wall L/S PE @ 98' (set in bedrock & grouted to surface)		Vertical	
17-1/2" Hole	Shallowest FW 80' TVD Pittsburgh Coal 1115' TVD Deepest FW 1114' TVD 1300' TVD		SURFACE CASING 13-3/8" 54.5# J-55 STC @ 1300' MD/TVD Set through fresh water zones Set through coal zones Cemented to surface	Air / Mist	Vertical	
12-1/4" Hole	Salt Water 1740' TVD Little Lime 2156' TVD Big Limo 2196' TVD Big Injun Sandstone 2296' TVD Base of Big Injun 2396' TVD 2600' TVD		INTERMEDIATE CASING 9-5/8" 36.0# J-55 LTC @ 2600' MD/TVD Set through potential salt water zones Set below base of Big Injun Cemented to surface	Stiff Foam	Vertical	
	Berea Sandstone 2765' TVD Gordon Sandstone 2986' TVD					
8-3/4" Hole					Air / Dust	
			KOP @ 6111' TVD			
8-3/4" Hole	Rhinestreet Shale 6338' TVD Middlesex Shale 6495' TVD West River Shale 6512' TVD Genesee Shale 6709' TVD Tully Limestone 6739' TVD Hamilton Shale 6764' TVD				WBM In Curve	
8-3/4" Hole in Lateral	Marcellus Shale 6799' TVD				WBM In Lateral	~89.5°
	Onondaga Limestone 6849' TVD					
			Landing Point (LP) @ 7480' MD / 6830' TVD ~89.5° angle ~151° azimuth			
			TD @ 13100' MD / 6880' TVD PRODUCTION CASING 5-1/2" 20.0# P-110 CDC @ 13100' MD Top of Cement @ 1600' (~1000' inside 9-5/8")			

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DMH
5-6-14

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STONE ENERGY - AS DRILLED TOP HOLE with SLANT

Revision: 1-Jul-14

Well: **Smith #2H TOP HOLE** (AFE# 2014-0002T)
 State: **West Virginia**
 County: **Wetzel**
 District: **Magnolia**
 Prospect: **Mary**
 Location: Surface: **(N) 420,232' (E) 1,630,826' State Plane WV North NAD 27**
 PBHL: **(N) 419,811' (E) 1,630,658' State Plane WV North NAD 27**
 PTD: **5911' MD / 5874' TVD**

Permit Number: **47-103-02793**
 Permit Issued: **10/12/2012**
 Ground Elevation: **1321'**
 Kelly Bushing: **15'**
 Rig: **NOMAC Rig #237**
 Spud Date: **10/31/2013**
 TD Date: **11/7/2013**
 Rig Release Date: **11/8/2013**

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HOLE SIZE	FORMATION TOPS	WELLBORE DIAGRAM	CASING & CEMENTING DATA	MW & TYPE	HOLE DEV.
Pre-Set Conductor	96' KB (81' BGL)		CONDUCTOR PIPE 20" @ 96' (set in bedrock & cemented)		Vert
17-1/2" Hole (Hammer)	Shallowest FW 100' TVD Pittsburgh Coal 1105' TVD Deepest FW 1110' TVD 1312'		9-5/8" TAM CAP Packer @ 1183' MD/TVD	SURFACE CASING Air / Mist	0.3°
12-1/4" Hole (Rock Bit)	RED BEDS Little Lime 2163' TVD Big Lime 2193' TVD Salt Water 2202' TVD Big Injun 2293' TVD Base of Big Injun 2393' TVD 2582'		13-3/8" 54.5# J-55 STC @ 1312' MD/TVD 1297' GL Set through fresh water and coal zones Do not set deeper than ground elevation Cemented to surface		
8-3/4" Hole Nudge (Rock Bit)	Berea 2762' TVD Gordon 2983' TVD		INTERMEDIATE CASING Stiff Foam	0.7°	
8-3/4" Hole to KOP (Hammer)	5874' TVD		9-5/8" 36.0# J-55 LTC @ 2582' MD/TVD Set through potential salt water zones Set below base of Big Injun Cemented to surface		
			Performed SLANT due to anti-collision concerns:		
				Air / Dust	9.6°
				TOP HOLE TD @ 5911' MD / 5874' TVD (~115' above planned KOP)	
	Rhinestreet Base 6360' TVD Middlesex 6517' TVD West River 6534' TVD Geneseo Shale 6731' TVD Tully LS 6761' TVD Hamilton Shale 6786' TVD Marcellus Shale 6821' TVD Onondaga LS 6871' TVD				

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WR-35
Rev. 8/23/13

Page 1 of

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

API 47 - 103 - 02793 County Wetzel District Magnolia
Quad New Martinsville Pad Name Smith Field/Pool Name Mary
Farm name Smith, Sonny and Charlotte Well Number #2H
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 4,388,536 Easting 516,226
Landing Point of Curve Northing 4,388,073 Easting 515,144
Bottom Hole Northing 4,386,785 Easting 516,901

Elevation (ft) 1,321 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 10/12/12 & 5/7/14 Date drilling commenced 10/31/2013 Date drilling ceased 7/11/2014
Date completion activities began Not Yet Completed Date completion activities ceased Not Yet Completed
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 2,202 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,105 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

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API 47-103 - 02793 Farm name Smith, Sonny and Charlotte Well number #2H

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"	96'	New	LS - 94.1 ppf		N - GTS
Surface	17.5"	13.375"	1,312'	New	J55 - 54.5 ppf	116' & 196'	Y - CTS
Coal	17.5"	13.375"	1,312'	New	J55 - 54.5 ppf	116' & 196'	Y - CTS
Intermediate 1	12.25"	9.625"	2,582'	New	J55 - 36 ppf		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	12,444'	New	P110 - 20 ppf		N - TOC @ 1,500' Calculated
Tubing							
Packer type and depth set		TAM CAP Inflatable Packer on the 9.625" casing @ 1,183'					

Comment Details Circulated 36 bbls cement to surface on 13.375" casing string. Circulated 26 bbls cement to surface on the 9.625" casing string. Circulated no cement cement to the surface on the 5.5" casing string. TOC on 5.5" calculated to be 1,500'.

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"	957	15.6	1.19	1,139	Surface	8.0
Coal	Class "A"	957	15.6	1.19	1,139	Surface	8.0
Intermediate 1	Lead-Flex Seal Tail-Class "A"	Lead-560 Tail-329	Lead-15.4 Tail 15.6	Lead-1.28 Tail-1.19	Lead-717 Tail-392	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-TunedSpacer3 VariCem	Lead-178 Tail-2,310	Lead- 14.5 Tail-15.2	Lead-2.37 Tail-1.20	Lead-422 Tail-2,772	1,500' Calculated	7.0
Tubing							

Drillers TD (ft) 12,474 MD / 6,897 TVD Loggers TD (ft) N/A

Deepest formation penetrated Marcellus Shale Plug back to (ft) _____

Plug back procedure _____

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Kick off depth (ft) 6,029 MD / 5,990' TVD

SEP 29 2017

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

WV Department of Environmental Protection

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 3, 6, 9, 12, 15, 18, 21, 24, 27 and 30.

Production casing had rigid spiral centralizers placed on every fourth joint beginning with joint 1 to joint 144. Ran a total of 38 rigid spiral centralizers. Ran bow spring centralizers from joint 154 to joint 283 on every third joint. A total of 44 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 - 02793 Farm name Smith, Sonny and Charlotte Well number #2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

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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 (lb)	Amount of Urea (lb)

Please insert additional pages as applicable.

API 47- 103 - 02793 Farm name Smith, Sonny and Charlotte Well number #2H

Table with columns: PRODUCING FORMATION(S), DEPTHS, TVD, MD. Row 1: Not Yet Completed

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface psi Bottom Hole psi DURATION OF TEST hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY Estimated Orifice Pilot

Table with columns: LITHOLOGY/FORMATION, TOP DEPTH IN FT, BOTTOM DEPTH IN FT, TOP DEPTH IN FT, BOTTOM DEPTH IN FT, DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H2S, ETC)

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 124 Vista Drive / 1178 US HWY 33 East City Charleroi / Weston State PA / WV Zip 15022 / 26452

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

Stimulating Company Address City State Zip

Please insert additional pages as applicable.

Completed by W. Lee Hornsby Telephone 304-225-1600 Signature Title Drilling Engineer Date 7/7/2014

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

RECEIVED Office of Oil and Gas SEP 29 2017 WV Department of Environmental Protection

EQT Production
Hydraulic Fracturing Monitoring Plan
Pad ID: Smith
Wetzel County, WV

9/19/17

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Office of Oil and Gas
SEP 29 2017
WV Department of
Environmental Protection

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Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operators near EQT hydraulic fracturing in Wetzel County, WV prior to hydraulic fracturing at the following EQT wells on Smith pad: Smith 2H, Smith 8H

Due to the requirements under 35CSR8 5.11, the permittee is required to review the area surrounding the proposed well pad so as to identify and evaluate potential conduits for unintended fracture propagation. A report is required to be submitted along with a well work permit application.

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. These additional measures include coordination with well operators of the timing and location of the hydraulic fracturing, establishment of measures well operators should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during fracturing.

1. Communications with Well Operators

EQT, using available data (WV Geological Survey, WVDEP website, and IHS data service), has identified all known wells and well operators within 500 feet of this pad and the lateral sections that are known or could reasonably be expected to be within range of the fracture propagation. A map showing these wells along with a list of the wells and operators is included in **Attachment A**.

EQT will notify these operators of the hydraulic fracturing schedule for these wells, and coordinate with them throughout the fracturing process.

EQT will recommend to these operators at a minimum to:

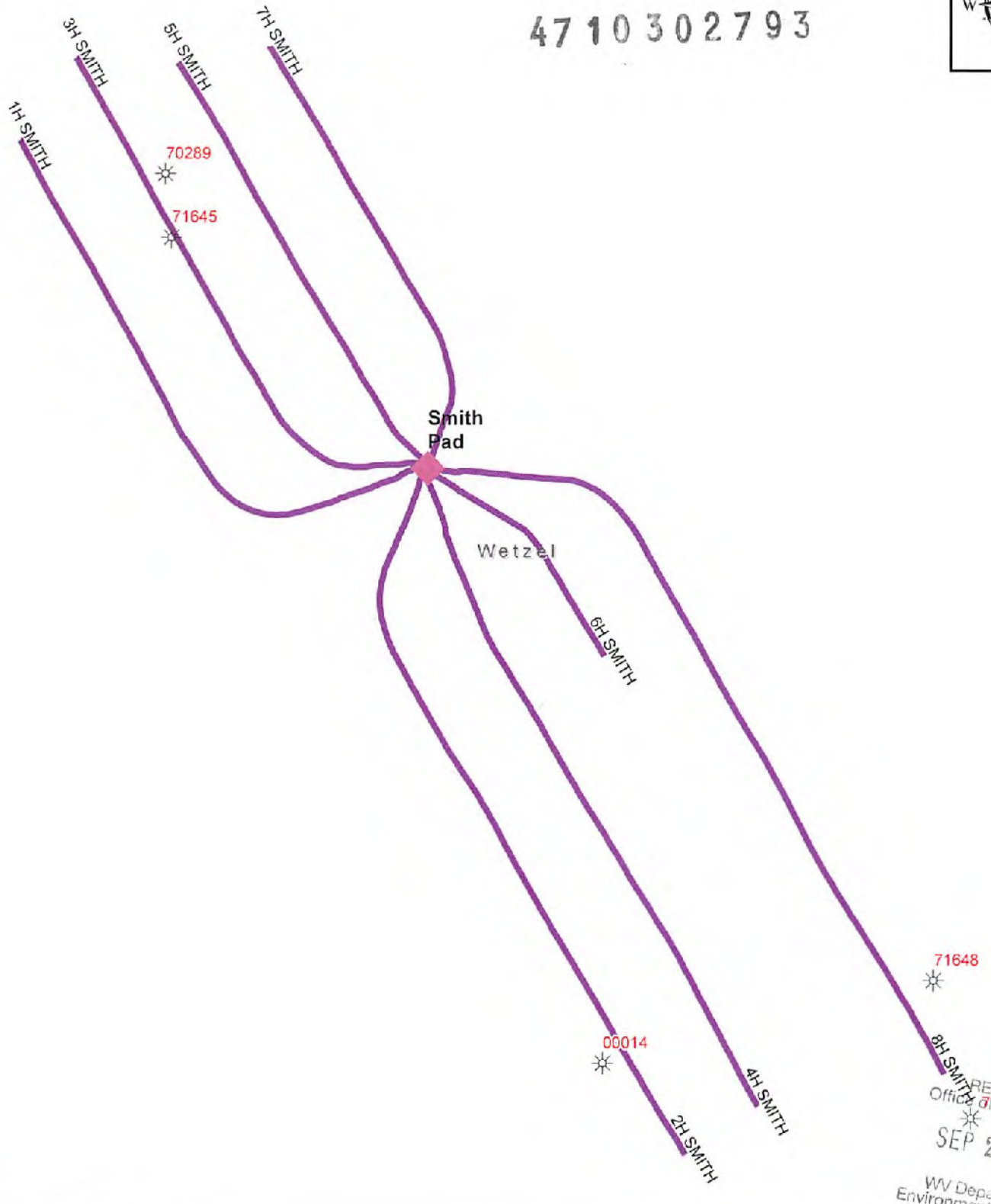
1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions
2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas or pressure
3. Inspect or install master valves or other necessary equipment for wellhead integrity capable of a pressure recommended by EQT
4. Notify the OOG and EQT if any changes in water, gas production, pressure, or other anomalies are identified

2. Reporting

EQT will provide information relating to the hydraulic fracturing schedule, communication with other operators, and ongoing monitoring of the work upon request of OOG or immediately in the event of any noted abnormalities.

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4710302793



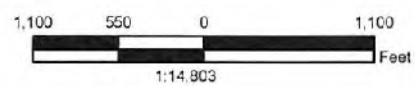
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EQT
EQT Corporation
625 Liberty Avenue
Pittsburgh, PA 15222

☼ Vertical Offsets

Smith Pad

SPUD
— MR



Vertical Offsets and
Foreign Laterals
within 500'

Disclaimer:

This map is confidential and is to be used only for the express informational purposes for which it was created. Unauthorized use, copying, or dissemination is strictly prohibited. EQT does not warrant the accuracy of the location of any items shown on this map, including, but not limited to, any structures, well or pipeline facilities, property boundaries, topography, roadways, or waterways. The items shown on the map may not have been placed on the map using survey lines or GPS coordinates. The specific location of any of the map items should be determined by a field survey performed by a licensed surveyor upon consultation with EQT.



4710302793

Well ID	Completion D	Current Operator	Elevation	Elevation Ref	Final Statu	Lat	Long	Permit Date	SPUD Date	TD Formation	N: Total Depth	Permit
47103702890000		UNKNOWN	GR		PSEUDO	39.653169	-80.81888				0	70289
47103000140000	12/1/1929	LEATHERWOOD INCORPORATED	790 GR		D&A	39.632704	-80.805742	10/17/1929	11/1/1929	BIG INJUN /SD/	1926	00014
47103716450000		UNKNOWN	GR		UNKWN	39.651717	-80.818692				0	71645
47103716490000		UNKNOWN	GR		UNKWN	39.631398	-80.794669				0	71649
47103716480000	8/13/1925	UNKNOWN	888 GR		D&A-OG	39.634591	-80.795796	6/29/1925	7/14/1925	HAMPSHIRE	2842	71648

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Attachment A-2

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name EQT Production Company OP Code 306686

Watershed (HUC 10) Tributary of of Doolin Run Quadrangle New Martinsville

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes No

If so, please describe anticipated pit waste: _____

Will a synthetic liner be used in the pit? Yes No If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 0014, 8462, 4037)
- Reuse (at API Number Various)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

*DMH
10-3-17*

Will closed loop system be used? If so, describe: Yes, The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. See Attached

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Mud

Additives to be used in drilling medium? See Attached

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) N/A

-Landfill or offsite name/permit number? See Attached List

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

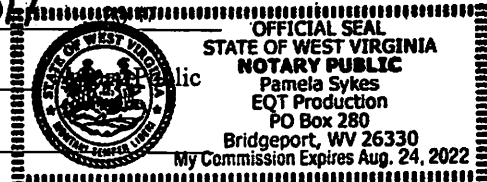
Company Official Signature *Victoria J. Roark*

Company Official (Typed Name) Victoria J. Roark

Company Official Title Permitting Supervisor

Subscribed and sworn before me this 26 day of Sept 2017

My commission expires 8-24-22



EQT Production Company

Proposed Revegetation Treatment: Acres Disturbed no additional Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type Granular 10-20-20

Fertilizer amount 1/3 ^{Tons} lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: 

Comments: _____

Title: Oil + Gas Inspector Date: 10-3-17

Field Reviewed? Yes No

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

**CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE**

Operator Name STONE ENERGY CORPORATION OP Code 494490923

Watershed Tributary of Doolin Run Quadrangle New Martinsville

Elevation 1,335' County Wetzel District Magnolia

Description of anticipated Pit Waste: No pit will be constructed on this well pad

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a synthetic liner be used in the pit? N/A. If so, what mil.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 9395, Ohio Oil Gathering, 34870 State Route 7, Newport, OH 45768)
- Reuse (at API Number _____ Flow back will be collected and used for stimulation at other pad sites)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Drilling medium anticipated for this well? Air, freshwater, oil based, etc. Vertical section air & drilling soap. Curve and lateral brine mud
-If oil based, what type? Synthetic, petroleum, etc. N/A

Additives to be used? See WW-9 Addendum

Will closed loop system be used? Yes

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Approved and permitted off site landfill

-If left in pit and plan to solidify what medium will be used? Cement, lime, N/A

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021/ WV0109185)

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Tim McGregor*

Company Official (Typed Name) Tim McGregor

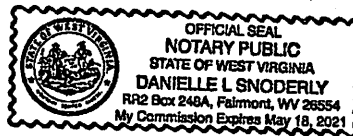
Company Official Title Land Coordinator

Subscribed and sworn before me this 21st day of May, 2012

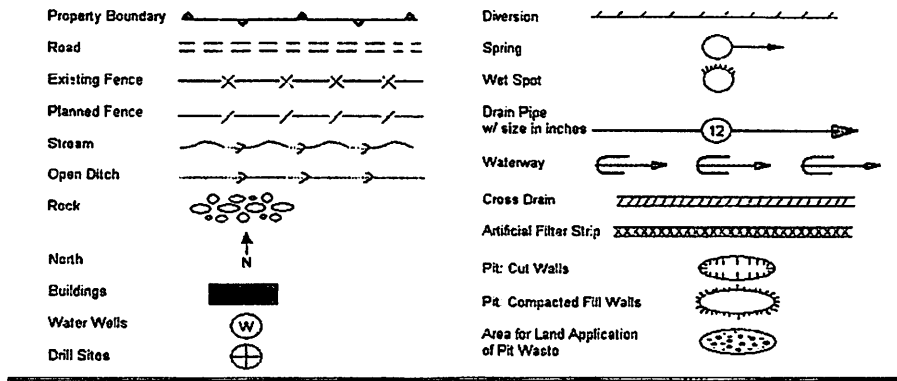
Danielle L. Snoderly Notary Public

My commission expires May 18, 2021

*MH
5-22-12*



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Proposed Revegetation Treatment: Acres Disturbed 14.22 Prevegetation pH _____

Lime 3.0 Tons/acre or to correct to pH 6.5

Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)

Mulch 2 to 3 Tons/acre

Seed Mixtures

Seed Type	Area I lbs/acre	Seed Type	Area II lbs/acre
Tall Fescue	40	Tall Fescue	40
Annual Rye	10	Annual Rye	10
Ladino Clover	5	Ladino Clover	5
Birdsfoot Trefoil	10	Birdsfoot Trefoil	10

Attach:

Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [Signature]

Comments: _____

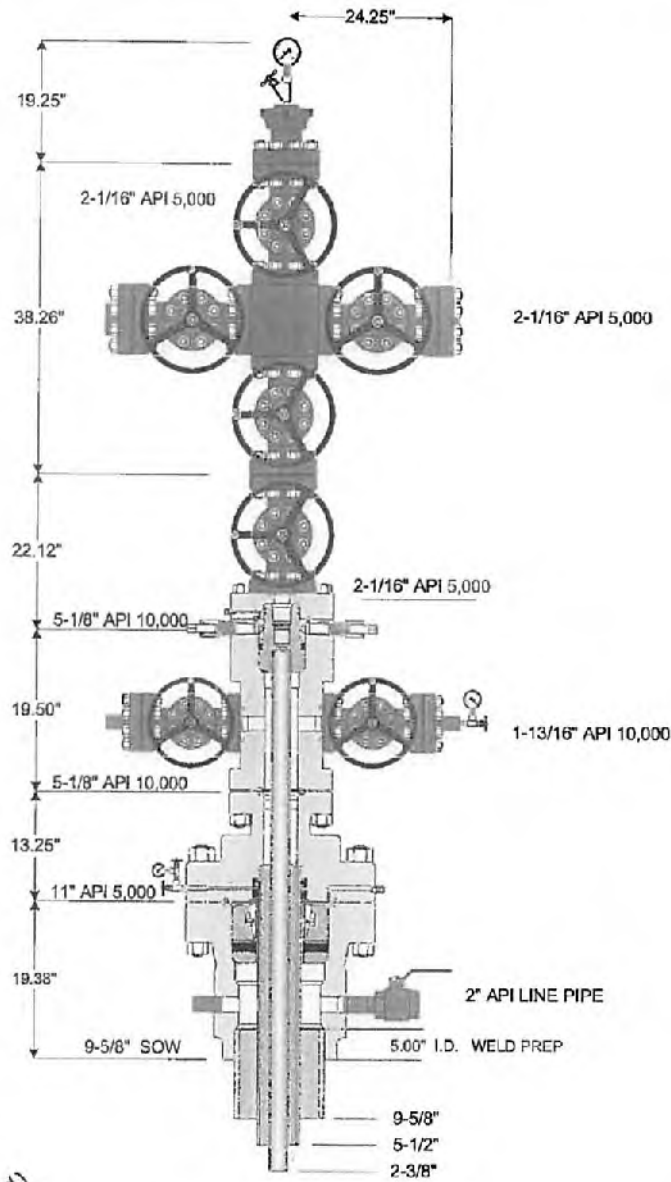
Title: Oil + Gas Inspector Date: 5-22-17

Field Reviewed? Yes No

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4710302793

NOTE: THIS DRAWING IS NOT TO SCALE. THE DIMENSIONS REFLECTED ON THE DRAWING ARE ESTIMATED MEASUREMENTS AND FOR REFERENCE ONLY.



*DMA
5-22-12*



©2010 Weatherford International Inc. All rights reserved

Customer: STONE ENERGY	Project: 46705	Quote: 99565 v 3
Tender, Project or Well: 2011- 2012 CONVENTIONAL MARCELLUS	Date: 07-17-2011	Drawn By: RF

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Environmental Protection

4710302793



STONE ENERGY CORPORATION

Addendum for

Planned Additives to be Used in Fracturing or Stimulations

Listed below are the chemicals used in addition to water and sand (CAS-No 14808-60-7) and their respective quantities for slick water fracturing;

- 0.5 gal/thousand gallons of water – Friction Reducer (CAS-No 7783-20-2)
- 0.25 gal/thousand gallons of water – Bacteria Control (CAS-No 11-30-8)
- 0.25 gal/thousand gallons of water – Clay Stabilizer (CAS- No 75-57-0)
- 0.75 gal/thousand gallons of water – Surfactant (CAS-No Proprietary)
- 0.25 gal/thousand gallons of water – Scale Inhibitor (CAS-No 7601-54-9 & 107-21-1)
- 2000 gal of 15% HCl (CAS-No 7647-01-0) per stage with/ 2 gal/thousand gallons of acid Corrosion Inhibitor (CAS-No 67-56-1, 107-19-7, & Proprietary) and 6 pints/thousand gallons of acid – Iron Stabilizer (CAS-No 6381-77-7)
- A 15 lb. Linear Gel and breaker is sometimes used during a stage but the exact amount is not known until the stimulation is in progress (CAS-No Proprietary & 7727-54-0)

DMH

5-28-13

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Where energy meets innovation.™

Site Specific Safety Plan

EQT
Smith Pad
New Martinsville
Wetzel County, WV

Smith 2H

For Wells:

Date Prepared: June 19, 2017

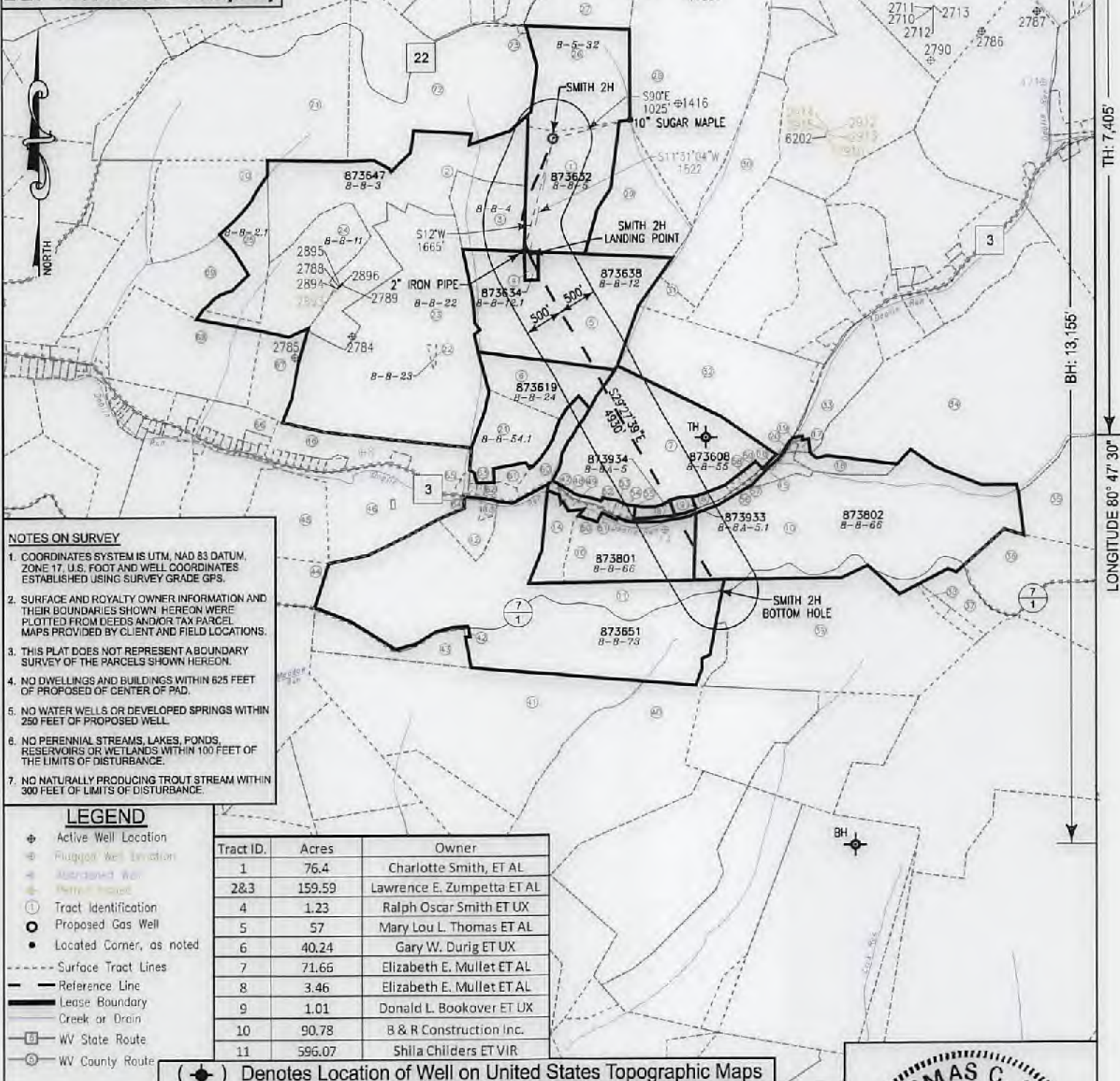
[Signature]
 EQT Production
Regional Land Supervisor
 Title

[Signature]
 WV Oil and Gas Inspector
Oil & Gas Inspector
 Title

8/21/17
 Date

10-3-17
 Date

**Smith 2H
Smith
EQT Production Company**



- NOTES ON SURVEY**
- COORDINATES SYSTEM IS UTM, NAD 83 DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
 - SURFACE AND ROYALTY OWNER INFORMATION AND THEIR BOUNDARIES SHOWN HEREON WERE PLOTTED FROM DEEDS AND/OR TAX PARCEL MAPS PROVIDED BY CLIENT AND FIELD LOCATIONS.
 - THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
 - NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OF CENTER OF PAD.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
 - NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
 - NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

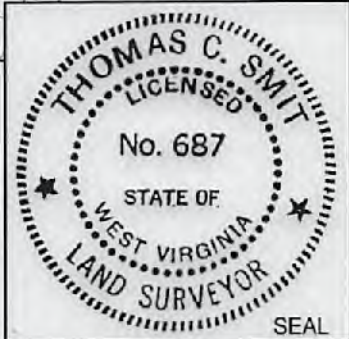
- LEGEND**
- Active Well Location
 - Plugged Well Location
 - Abandoned Well
 - Property Boundary
 - Tract Identification
 - Proposed Gas Well
 - Located Corner, as noted
 - Surface Tract Lines
 - Reference Line
 - Lease Boundary
 - Creek or Drain
 - WV State Route
 - WV County Route

(*) Denotes Location of Well on United States Topographic Maps



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 regulations issued and prescribed by the Department of Environmental Protection.

Thomas C. Smollis
L. L. S. 687



FILE NO: W2032 (BK 49-6)
DRAWING NO:
SCALE: 1" = 1800'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: FEBRUARY 22 20 18
OPERATORS WELL NO: SMITH 2H
API WELL NO
47 - 103 - 02793
STATE COUNTY PERMIT

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

LOCATION ELEVATION: 1335' WATERSHED: TRIBUTARY OF DOOLIN RUN QUADRANGLE: NEW MARTINSVILLE 7.5'
DISTRICT: Magnolia COUNTY: Wetzel

SURFACE OWNER: Charlotte Smith ACREAGE: 38.9 ±
ROYALTY OWNER: Charlotte Smith, ET AL LEASE NO: 873632 ACREAGE: 76.4 ±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

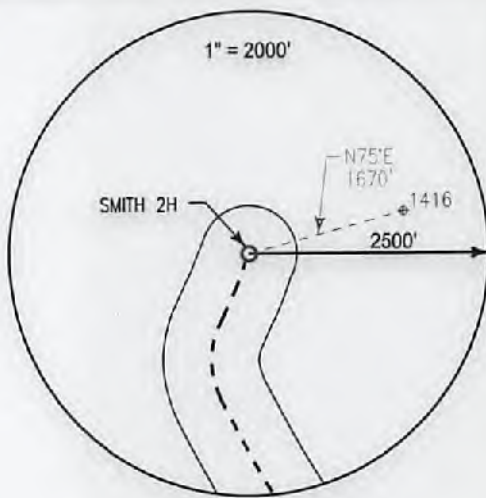
PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 6,880'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Jason Ranson
ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
Bridgeport, WV 26330 Bridgeport, WV 26330

TITLE PLAT

**Smith 2H
Smith
EQT Production Company**

Tract ID	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	8	5	Wetzel	Magnolia	Charlotte Smith	36.9
2	8	3	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	22.86
3	8	4	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	25.28
4	8	12.1	Wetzel	Magnolia	Ralph Oscar & Jones Kay Smith	1.23
5	8	12	Wetzel	Magnolia	David L. & Ralph G. Smith	58.35
6	8	24	Wetzel	Magnolia	Gary W. & Linda J. Durig	18.32
7	8	55	Wetzel	Magnolia	Cathy M. Westfall ET AL	17.66
8	8A	5	Wetzel	Magnolia	Cathy M. Westfall ET AL	2.9
9	8A	5.1	Wetzel	Magnolia	Donald L. & Brenda K. Brookover	1.07
10	8	66	Wetzel	Magnolia	Mark J. Cochran	134.66
11	8	73	Wetzel	Magnolia	Burwell Newman	154.12
12	8	63	Wetzel	Magnolia	Ronald & Viola Newman	6.81
13	8	63.1	Wetzel	Magnolia	Ronald & Viola Newman	1.1
14	8	64	Wetzel	Magnolia	Peter Hirschberger	6.78
15	8	56.2	Wetzel	Magnolia	Mark I. & Mary Beth Cochran	2.47
16	8	86.1	Wetzel	Magnolia	Mark J. Cochran	10.53
17	8	86.4	Wetzel	Magnolia	Mark J. Cochran	11.53
18	8	55.1	Wetzel	Magnolia	Mark I. & Mary Beth Cochran	0.34
19	8	28.1	Wetzel	Magnolia	Mark J. Cochran	0.17
20	8	56.3	Wetzel	Magnolia	Mark J. Cochran	0.32
21	8	54.1	Wetzel	Magnolia	Gary W. & Linda J. Durig	22.47
22	8	23	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	0.27
23	8	22	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	107.5
24	8	11	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	36.86
25	8	2.1	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	18.15
26	5	32	Wetzel	Magnolia	George S. Schuppach	37.5
27	5	26.2	Wetzel	Magnolia	Franklin Ray Blake	17.73
28	5	33	Wetzel	Magnolia	Franklin Ray Blake	108.47
29	8	6	Wetzel	Magnolia	Kocher Albert HBS	33.01
30	8	7	Wetzel	Magnolia	Gary Lemons	30.19
31	8	13	Wetzel	Magnolia	Gary Lemons	5.57
32	8	25	Wetzel	Magnolia	Cathy M. Westfall ET AL	57.68
33	8	28	Wetzel	Magnolia	Raymond L. & Ellen E. Ebert	17.33
34	9	7	Wetzel	Magnolia	James B. Stewart ET AL	164.78
35	9	15	Wetzel	Magnolia	David L. Geddard	52.95
36	9	27	Wetzel	Magnolia	David L. Geddard	59.3
37	9	24	Wetzel	Magnolia	Clinton L. & Albert E. Leasure	10.03
38	9	25	Wetzel	Magnolia	Clinton L. & Albert E. Leasure	1.26
39	8	74	Wetzel	Magnolia	Thomas Eugene Presley	97.1
40	13	5	Wetzel	Magnolia	Anna Lee & James Dennis	83.79
41	8	80	Wetzel	Magnolia	Charles S. Corliss	109.6
42	8	75.1	Wetzel	Magnolia	Russell K. Albright	0.14
43	8	81	Wetzel	Magnolia	Michael J. & Joanne K. Barnes	15.02
44	8	78	Wetzel	Magnolia	Clyde D. & Donna K. Dennis	26.94
45	8	61	Wetzel	Magnolia	Jimmie L. & Rex A. Thomas	23.72
46	8	62	Wetzel	Magnolia	Gary W. & Linda J. Durig	57.19
47	8	64	Wetzel	Magnolia	Peter Pisenbarger	0.32
48	8	64.7	Wetzel	Magnolia	Leonard R. Dumas Jr	0.26
49	8	85	Wetzel	Magnolia	Raymond L. Pihlbi	0.72
50	8	65	Wetzel	Magnolia	Jason T. & Tracy L. Goodrich	0.53
51	8	65.1	Wetzel	Magnolia	Mark J. Cochran	0.16
52	8A	25	Wetzel	Magnolia	Cathy M. Westfall ET AL	0
53	8A	19	Wetzel	Magnolia	Daniel R. Westfall	0.95
54	8A	18	Wetzel	Magnolia	Daniel R. Westfall	0.34
55	8A	17	Wetzel	Magnolia	Daniel R. Westfall	0.3
56	8A	3.2	Wetzel	Magnolia	Danny Lee Neff	0.32
57	8A	4	Wetzel	Magnolia	Danny Lee & Lisa H. Neff	1.22
58	8A	3	Wetzel	Magnolia	Michael J. Miller	0.24
59	8A	1	Wetzel	Magnolia	Michael J. Miller	0.46
60	8	54	Wetzel	Magnolia	Balbara E. Palmer	7.64
61	8	54.2	Wetzel	Magnolia	David Lee & Freda Lough	1.8
62	8	53.2	Wetzel	Magnolia	Christy Fluharty	0.65
63	8	53.3	Wetzel	Magnolia	Raymond Nibble	0.4
64	8	53.1	Wetzel	Magnolia	Debra L. Hohn	0.57
65	8	54.3	Wetzel	Magnolia	Debra L. Hohn	0.27
66	8	33.2	Wetzel	Magnolia	George R. Mallott	8.28
67	8	21	Wetzel	Magnolia	Nicholas L. Mallott	12.25
68	8	20	Wetzel	Magnolia	Billy Darrell Morris	54.66
69	8	10	Wetzel	Magnolia	Myron H. Holmick	35.57
70	8	2	Wetzel	Magnolia	JW Schamp EST	37.54
71	5	30	Wetzel	Magnolia	Wayne A. & Virginia L. Schuppach	93.83
72	5	31	Wetzel	Magnolia	John William Burton	66.56
73	5	31.1	Wetzel	Magnolia	Schuppach Cemetery	0.27



Notes:
SMITH 2H As-Built coordinates are
 NAD 27 N: 420,232.000 E: 1,630,826.000
 NAD 27 Lat: 39.646383 Long: -80.811084
 NAD 83 UTM N: 4,388,536.166 E: 516,225.853

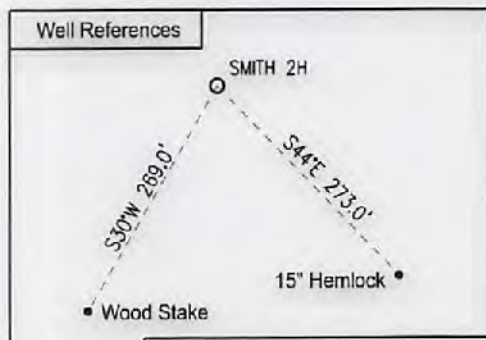
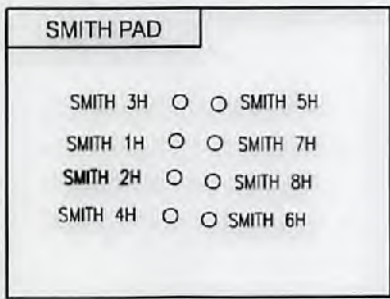
SMITH 2H As-Built Landing Point coordinates are
 NAD 27 N: 418,740.730 E: 1,630,522.170
 NAD 27 Lat: 39.642277 Long: -80.812066
 NAD 83 UTM N: 4,388,080.291 E: 516,140.859

SMITH 2H As-Built Bottom Hole coordinates are
 NAD 27 N: 414,448.010 E: 1,632,946.570
 NAD 27 Lat: 39.630593 Long: -80.803236
 NAD 83 UTM N: 4,386,785.138 E: 516,901.259

West Virginia Coordinates system of 1927 (North Zone) based upon Differential GPS Measurements
 Plat orientation, Corner and well ties are based upon the grid north meridian
 Well location references are based upon the grid north meridian.
 UTM coordinates are NAD83, Zone 17, Meters.

LEGEND

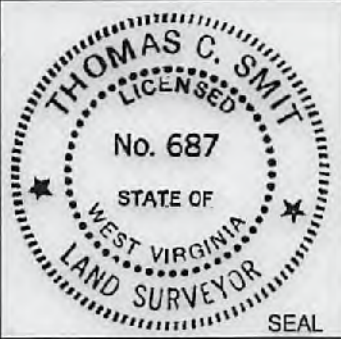
- ⊕ Active Well Location
- Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- ~ Creek or Drain
- WV County Route
- WV State Route



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 regulations issued and prescribed by the Department of Environmental Protection.

L. L. S. 687

L. L. S. 687



FILE NO: W2032 (BK 49-6)
 DRAWING NO:
 SCALE: 1" = 1000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

DATE: FEBRUARY 22 20 18
 OPERATORS WELL NO: SMITH 2H
 API WELL NO
 47 - 103 - 02793
 STATE COUNTY PERMIT

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

LOCATION ELEVATION: 1,335' WATERSHED: TRIBUTARY OF DOLLIN RUN QUADRANGLE: NEW MARTINSVILLE 7.5'
 DISTRICT: Magnolia COUNTY: Wetzel

SURFACE OWNER: Charlotte Smith ACREAGE: 38.9 ±
 ROYALTY OWNER: Charlotte Smith, ET AL LEASE NO: 873632 ACREAGE: 76.4 ±

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus ESTIMATED DEPTH: 6,880'

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Jason Ranson
 ADDRESS: 115 Professional Place PO Box 280 ADDRESS: 115 Professional Place PO Box 280
 Bridgeport, WV 26330 Bridgeport, WV 26330

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Various	Stone Energy Corp.	EQT Production Company	**	183A/305

** Per West Virginia Code Section 22-6-8.

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: EQT Production Company
By: Victoria J Roark
Its: Permitting Supervisor

4710302793

6A1 Lease Addendum

Smith 2H

Parcel Number	Grantor, Lessor, ect.	Grantee, Lessee, ect.	Royalty	Book/Page
8-8-5	Sonny L Smith (Charlotte Smith)	Stone Energy Corporation	1/8th	112A/96
8-8-3, 8-8-4	Lawrence E Zumpetta et ux	Stone Energy Corporation	1/8th	88A/309
8-8-12.1	Ralph O Smith	Stone Energy Corporation	1/8th	113A/571
8-8-12	Mary Lou L Thomas et ux	Stone Energy Corporation	1/8th	364/233
8-8-24	Gary W Durig	Stone Energy Corporation	1/8th	111A/231
8-8-55	Elizabeth M Mullett	Stone Energy Corporation	1/8th	108A/902
8-8A-5	Donald L Brookover et ux	Stone Energy Corporation	1/8th	137A/326
8-8-66	B&R Construction Inc.	Stone Energy Corporation	1/8th	143A/378
8-8-73	Shila Childers Et Vir	Stone Energy Corporation	1/8th	88A/215
8-8-4	Charles McGowen Jr. et ux	Stone Energy Corporation	1/8th	88A/305
8-8-4	John C Bober, III et us	Stone Energy Corporation	1/8th	88A/313
8-8-4	David T Griffith	Stone Energy Corporation	1/8th	88A/217
8-8-4	Jay H Renner	Stone Energy Corporation	1/8th	88A/93
8-8-4, 8-8-24	Lynn McCray	Stone Energy Corporation	1/8th	58/509
8-8-12	David Smith	Stone Energy Corporation	1/8th	112A/96
8-8-12	Milton Smith	Stone Energy Corporation	1/8th	112A/96
8-8-12	Mary Lou Smith	Stone Energy Corporation	1/8th	112A/96

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47 10 30 27 93

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that -

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Charles McGowen Jr., et ux	Stone Energy Corporation	1/8	88A/305
Lawrence E Zumpetta, et ux	Stone Energy Corporation	1/8	88A/309
John C Bober, III et ux	Stone Energy Corporation	1/8	88A/313
David T Griffith	Stone Energy Corporation	1/8	88A/317
Jay H Renner	Stone Energy Corporation	1/8	89A/93
Lynn McCray	Stone Energy Corporation	1/8	58/509

**Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas**

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: STONE ENERGY CORPORATION
 By: 
 Its: Land Coordinator

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47 10 302793

June 12, 2017

Mr. James Martin
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Smith well pad, well numbers **SMITH 2H**, SMITH 4H, SMITH 5H, SMITH 6H,
SMITH 7H
Magnolia District, Wetzel County

Dear Mr. Martin,

EQT Production Company is submitting an application for a new well work permit for the above well number. Upon information and belief, Operator's lease and/ or other real property rights permit it to conduct drilling operations for the subject well in the location shown on the plat, including under any public roads that the well lateral crosses.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark
Permitting Supervisor-WV

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 9-28-17

API No. 47- 103 - 02793
Operator's Well No. SMITH 2H
Well Pad Name: SMITH

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting:	<u>516226.07</u>
County:	<u>Wetzel</u>		Northing:	<u>4388536.15</u>
District:	<u>Magnolia</u>	Public Road Access:	<u>Wetzel County Route 22</u>	
Quadrangle:	<u>New Martinsville</u>	Generally used farm name:	<u>Smith, Sonny & Charlotte</u>	
Watershed:	<u>Tributary of of Doodin Run</u>			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED
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Required Attachments:

The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

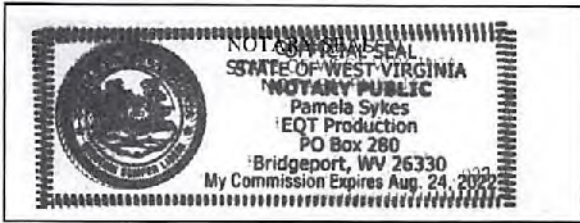
4710302793

Certification of Notice is hereby given:

THEREFORE, I *[Signature]*, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: EQT Production Company
By: Victoria J Roark
Its: Permitting Supervisor
Telephone: 304-848-0076

Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
Facsimile: 304-848-0041
Email: vroark@eqt.com



Subscribed and sworn before me this 26 day of Sept 2017.
[Signature] Notary Public
My Commission Expires 8-24-22

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the filing date of permit application.

Date of Notice: 9-28-17 Date Permit Application Filed: 9-28-17

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)

Name: See Attached
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: See Attached
Address: _____

Name: _____
Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: See Attached
Address: _____

COAL OWNER OR LESSEE

Name: See Attached
Address: _____

COAL OPERATOR

Name: _____
Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: See Attached
Address: _____

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: _____
Address: _____

*Please attach additional forms if necessary

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Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

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Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A
(8-13)

API NO. 47- 103 - 02793
OPERATOR WELL NO. SMITH 2H
Well Pad Name: SMITH

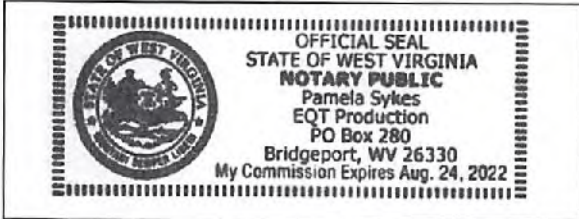
Notice is hereby given by:

Well Operator: EQT Production Company
Telephone: 304-848-0076
Email: vroark@eqt.com

Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
Facsimile: 304-848-0041

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.



[Handwritten Signature]
Subscribed and sworn before me this 26 day of Sept., 2017.
[Handwritten Signature] Notary Public

My Commission Expires 8-24-22

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SEP 29 2017
WV Department of
Environmental Protection

4710302793

Topo Quad: NEW MARTINSVILLE, WV - OHIO 7.5'

Scale: 1" = 1000'

County: WETZEL

Date: 29 JUNE 2017

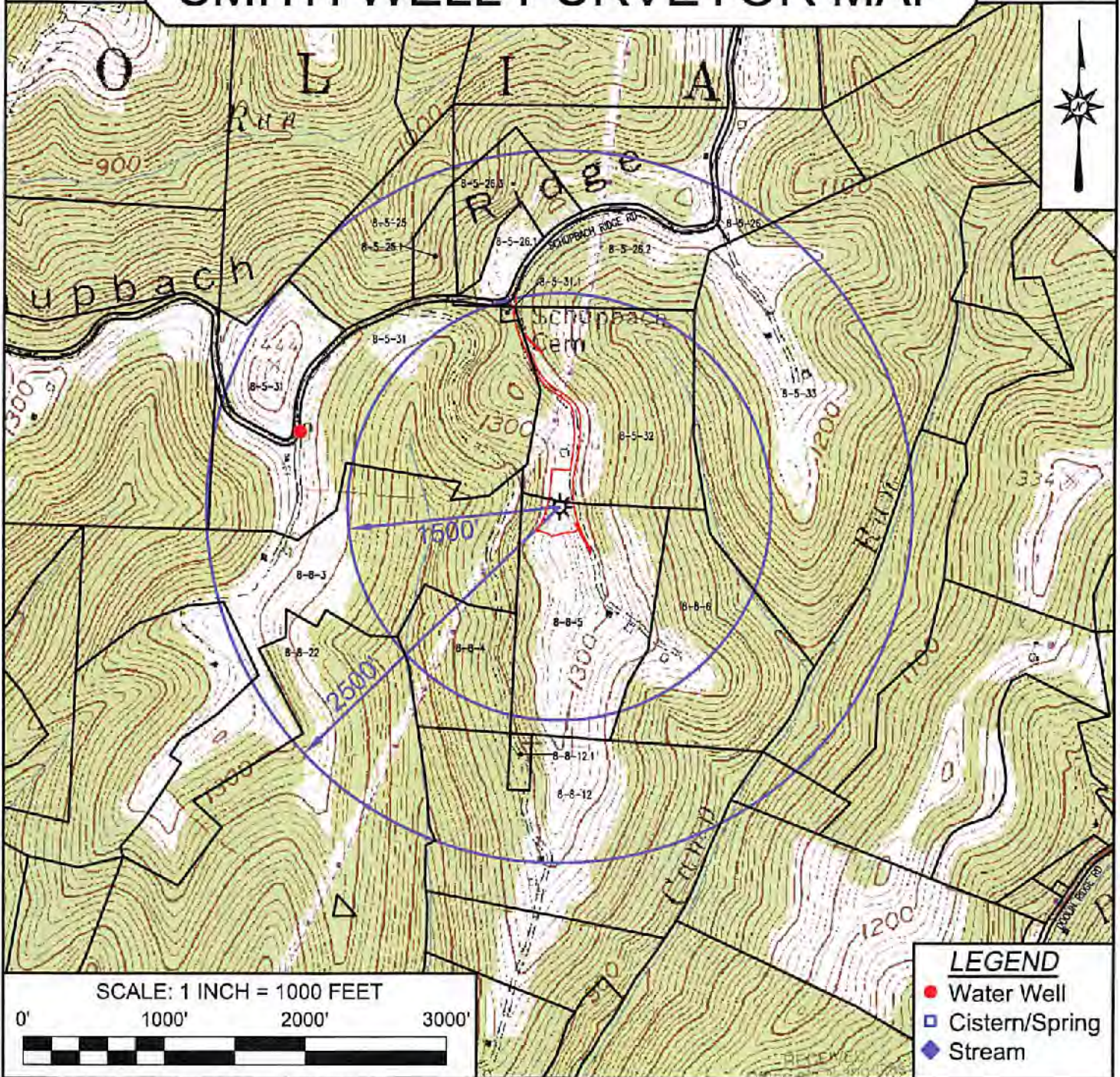
District: MAGNOLIA

Project No: 0492-17

Water

SMITH WELL PURVEYOR MAP

Topo



SCALE: 1 INCH = 1000 FEET



LEGEND

- Water Well
- Cistern/Spring
- Stream

SURVEYING AND MAPPING SERVICES PERFORMED BY:

PREPARED FOR:

Blue Mountain Inc.
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26562
 PHONE: (304) 652-6485

EQT Production Co. Inc.
 115 Professional Place, P.O. Box 280
 Bridgeport, WV 26330

SEP 29 2017
 WV Department of Environmental Protection



STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least TEN (10) days prior to filing a permit application.

Date of Notice: 8/4/17 Date Permit Application Filed: 8/14/17

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

- HAND DELIVERY
CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: Provided, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: Provided, however, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: See Attached
Address:

Name: See Attached
Address:

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: WV UTM NAD 83 Easting: 516226.07
County: Wetzel Northing: 4388536.15
District: Magnolia Public Road Access: Wetzel County Route 22
Quadrangle: New Martinsville Generally used farm name: Smith, Sonny & Charlotte
Watershed: Tributary of of Doolin Run

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: EQT Production Company
Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
Telephone: 304-848-0076
Email: vroark@eqt.com
Facsimile: 304-848-0041

Authorized Representative: Victoria Roark
Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
Telephone: 304-848-0076
Email: vroark@eqt.com
Facsimile: 304-848-0041

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Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

WV Department of Environmental Protection

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 9-28-17 **Date Permit Application Filed:** 9-28-17

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

- CERTIFIED MAIL HAND
- RETURN RECEIPT REQUESTED DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

Notice is hereby provided to the SURFACE OWNER(s)

(at the address listed in the records of the sheriff at the time of notice):

Name: See Attached
Address: _____

Name: _____
Address: _____

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>WV</u>	UTM NAD 83	Easting:	<u>516226.07</u>
County:	<u>Wetzel</u>		Northing:	<u>4388536.15</u>
District:	<u>Magnolia</u>	Public Road Access:	<u>Wetzel County Route 22</u>	
Quadrangle:	<u>New Martinsville</u>	Generally used farm name:	<u>Smith, Sonny & Charlotte</u>	
Watershed:	<u>Tributary of of Doolin Run</u>			

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: EQT Production Company
Telephone: 304-848-0076
Email: vroark@eqt.com

Address: 115 Professional Place PO Box 280
Bridgeport WV 26330
Facsimile: 304-848-0041

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47 10 302793

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 568-3505

Jim Justice
Governor

Thomas J. Smith, P. E.
Secretary of Transportation/
Commissioner of Highways

July 26, 2017

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

Subject: DOH Permit for the Smith Pad, Wetzel County 47-103-02793

Smith 1H Smith 2H Smith 3H Smith 4H
Smith 5H Smith 6H Smith 8H

Dear Mr. Martin,

This well site will be accessed from an encroachment permit 06-2013-0010 to be transferred EQT Production Company for access to the State Road for a well site located off of Wetzel County Route 22 SLS. This permit must be approved by the DOH before construction is begun.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

Cc: Nick Burngardner
EQT Production Company
CH, OM, D-6
File

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Anticipated Frac Additives
Chemical Names and CAS numbers

47 10 30 27 93

<u>Material</u>	<u>Ingredient</u>	<u>CAS Number</u>
Water		
Sand	Hydrotreated light petroleum distillate	14808-60-7
	Tributyl tetradecyl phosphonium chloride	64742-47-8
Friction Reducer	Ammonium chloride	81741-28-8
Biocide	Hydrochloric Acid	12125-02-9
Scale Inhibitor	Propargyl Alcohol	7647-01-0
15% Hydrochloric Acid	Methanol	107-19-7
Corrosion Inhibitor	Guar Gum	67-56-1
Corrosion Inhibitor	Sodium Persulfate	9000-30-0
Gelling Agent	Potassium Carbonate	7775-27-1
Oxidizing Breaker		584-08-7
Buffering Agent		

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LOCATION MAP

NEW MARTINSVILLE, WV 7 5M USGS QUADRANGLE
SCALE 1" = 2000'



SMITH WELL SITE

ENTRANCE OF SITE

NAD 83 - LAT: N 39.650510°; LONG: W 80.812201°
 NAD 27 - LAT: N 39.650432°; LONG: W 80.812381°
 UTM (NAD83) - N: 4388985.269; E: 516111.897

CENTER OF WELL PAD LOCATION

NAD 83 - LAT: N 39.646617°; LONG: W 80.810879°
 NAD 27 - LAT: N 39.646539°; LONG: W 80.811059°
 UTM (NAD83) - N: 4388553.447; E: 516226.226

MAGNOLIA DISTRICT
 WETZEL COUNTY, WEST VIRGINIA
 DATE: JUNE 1, 2017



NOTE: DRAWING WAS CREATED ON 22X34 PAPER. 11X17 DRAWINGS ARE HALF SCALE. REFER TO SCALE BAR FOR PROPER SCALING.



LOCATION MAP

NEW MARTINSVILLE, WV 7 5M USGS QUADRANGLE
SCALE 1" = 2000'

PROPERTY OWNERS

1. SMITH SONNY L & CHARLOTTE
08-08-05
2. SCHUBBACH GEORGE S
08-05-52



Know what's below.
 Call before you dig.

DMH
 10-3-17

4710 102793

SITE LOCATION

THE PROJECT IS LOCATED AT 39.650510, -80.812201 (NAD83 WVN). THE COORDINATES ARE REFERENCED FROM THE PAD ENTRANCE AND CAN BE LOCATED BY TAKING DOOLIN RIDGE ROAD ONE MILE EAST FROM NEW MARTINSVILLE. TURN LEFT ONTO SCHUBBACH RIDGE AND TRAVEL APPROXIMATELY 2.4 MILES AND THE PAD ENTRANCE WILL BE ON THE RIGHT.

FLOODPLAIN NOTE

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT ARE NOT LOCATED WITHIN A FLOOD ZONE, PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER 54051C0225E.

**WVDEP OOG
 ACCEPTED AS-BUILT**

9/13/2017

SHEET INDEX

PG	DRAWING NAME
1	COVER SHEET
2	GENERAL DETAILS #1
3	GENERAL DETAILS #2
4	EXISTING SITE PLAN
5	OVERALL SITE PLAN
6	OVERALL PROPOSED SITE PLAN w/ ORTHO
7	DETAIL SITE PLAN #1
8	PROFILES
9	CONSTRUCTION DETAILS



EQO PROFESSIONAL PLACE
 PROFESSIONAL BUILDING FOUR
 BRIDGEPORT, WV 26630



SMITH WELL SITE
 Cover Sheet

REVISIONS

NO.	DATE	DESCRIPTION



DRAWN BY: JRP
 CHECKED BY: JRP
 DATE: 06-01-2017
 SCALE: 10:0000
 JOB NO:
 DRAWING NUMBER: WETZEL-SMITH-01-01
 SHEET NO. 1

