

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

API 47-103-02905 County Wetzel District Magnolia
Quad New Martinsville Pad Name Smith Field/Pool Name Mary
Farm name Smith, Sonny and Charlotte Well Number 519166
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 4,388,548.063 Easting 516,226.569
Landing Point of Curve Northing 4,388,685.222 Easting 515,837.040
Bottom Hole Northing 4,389,587.529 Easting 515,321.460

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 7/31/2013 Date drilling commenced 11/17/2013 Date drilling ceased 7/28/2014
Date completion activities began 5/13/2018 Date completion activities ceased 5/19/2018
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

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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 2,183 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,018 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
DMH
Revieweu

API 47- 103 - 02905 Farm name Smith, Sonny and Charlotte Well number 519166

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	24"	20"	90'	New	LS - 94.1 ppf		N - GTS
Surface	17.5"	13.375"	1,329' KB - 1,314' GL	New	J55 - 54.5 ppf	122' & 203'	Y - CTS
Coal	17.5"	13.375"	1,329' KB - 1,314' GL	New	J55 - 54.5 ppf	122' & 203'	Y - CTS
Intermediate 1	12.25"	9.625"	2,571'	New	J55 - 36 ppf		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	10,762'	New	P110 - 20 ppf		N - TOC @ 1,493' Calculated
Tubing							
Packer type and depth set		TAM CAP Inflatable Packer set @ 1,194' on the 9.625" casing string					

Comment Details Circulated 14 bbls cement to surface on 13.375" casing string. Circulated 9 bbls cement to surface on the 9.625" casing string. Circulated 25 bbls TunedSpacer to surface on the 5.5" casing string. TOC on 5.5" @ 1,493' calculated.

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"	950	15.6	1.20	1,140	Surface	8.0
Coal	Class "A"	950	15.6	1.20	1,140	Surface	8.0
Intermediate 1	Lead-10% Salt Tail-Class "A"	Lead-502 Tail-317	Lead-15.6 Tail 15.6	Lead-1.28 Tail-1.19	Lead-643 Tail-377	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-TunedSpacer3 Tail-VarCem	Lead-178 Tail-1,935	Lead- 14.5 Tail-18.2	Lead-2.37 Tail-1.21	Lead-422 Tail-2,341	1,493 calculated	7.0
Tubing							

Drillers TD (ft) 10,782 MD / 6,701 TVD Loggers TD (ft) N/A

Deepest formation penetrated Marcellus Shale Plug back to (ft) N/A

Plug back procedure _____

Kick off depth (ft) 8,080 MD / 8,013' TVD

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

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Surface casing had bow spring centralizers placed on joints 28 and 30. Intermediate casing had bow spring centralizers placed on joints 4, 8, 12, 18, 20, 24, 28, 32, 37, 41, 45, 49, 53 and 57.
Production casing had rigid spiral centralizers placed on every fourth joint beginning with joint 1 to joint 188. Ran a total of 48 rigid spiral centralizers. Ran bow spring centralizers from joint 196 to joint 244 on every eighth joint. A total of 7 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 - 02905 Farm name Smith, Sonny and Charlotte Well number 519166

PERFORATION RECORD

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

Please insert additional pages as applicable.

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STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
						Please	See	Attached

Please insert additional pages as applicable.

API 47- 103 - 02905 Farm name Smith, Sonny and Charlotte Well number 519166

PRODUCING FORMATION(S)	DEPTHS		
MARCELLUS	6,768	TVD	7,177 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 1,266 psi Bottom Hole N/A psi DURATION OF TEST 112 hrs

OPEN FLOW Gas 7,585 mcfpd Oil N/A bpd NGL 100 bpd Water 550 bpd GAS MEASURED BY Estimated Orifice Pilot

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

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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 ProFrac
Address 777 Main Street, Suite 3900 City Fort Worth State TX Zip 76102

Please insert additional pages as applicable.

Completed by Brad Maddox Telephone (412) 395-7053
Signature [Signature] Title Completions Director Date 8/16/2018

519166 47-103-02905-00-00 Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
1	4/20/2018	10,532	10,692	40	MARCELLUS
2	5/14/2018	10,332	10,454	40	MARCELLUS
3	5/14/2018	10,132	10,294	40	MARCELLUS
4	5/14/2018	9,932	10,094	40	MARCELLUS
5	5/15/2018	9,732	9,894	40	MARCELLUS
6	5/15/2018	9,532	9,694	40	MARCELLUS
7	5/15/2018	9,332	9,494	40	MARCELLUS
8	5/16/2018	9,132	9,294	40	MARCELLUS
9	5/16/2018	8,932	9,094	40	MARCELLUS
10	5/16/2018	8,732	8,886	40	MARCELLUS
11	5/17/2018	8,532	8,694	40	MARCELLUS
12	5/17/2018	8,332	8,494	40	MARCELLUS
13	5/17/2018	8,132	8,294	40	MARCELLUS
14	5/18/2018	7,932	8,094	40	MARCELLUS
15	5/18/2018	7,732	7,894	40	MARCELLUS
16	5/18/2018	7,532	7,694	40	MARCELLUS
17	5/18/2018	7,332	7,494	40	MARCELLUS
18	5/18/2018	7,132	7,294	40	MARCELLUS

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519166-47-103-02905-00-00 - Stimulated Stages

Stage Number	Stimulation Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	5/14/2018	95	7,426.00	8,085.00	4,125.00	450,480.00	7,986	0
2	5/14/2018	94	8,024.00	9,325.00	3,764.00	450,200.00	7,780	0
3	5/14/2018	95	7,100.00	9,476.00	4,527.00	450,680.00	9,800	0
4	5/15/2018	94	8,026.00	9,324.00	4,122.00	450,240.00	7,360	0
5	5/15/2018	99	7,960.00	8,510.00	4,268.00	450,600.00	7,284	0
6	5/15/2018	98	7,985.00	8,797.00	4,226.00	450,960.00	7,499	0
7	5/16/2018	95	7,476.00	7,943.00	4,317.00	450,400.00	7,424	0
8	5/16/2018	98	7,576.00	7,975.00	4,122.00	450,640.00	7,361	0
9	5/16/2018	99	7,653.00	8,453.00	4,529.00	450,040.00	8,563	0
10	5/17/2018	99	7,982.00	8,961.00	4,367.00	450,720.00	7,500	0
11	5/17/2018	99	8,126.00	8,733.00	4,646.00	450,860.00	7,393	0
12	5/17/2018	91	7,949.00	9,569.00	4,455.00	450,420.00	7,166	0
13	5/18/2018	95	7,852.00	8,229.00	4,133.00	450,920.00	8,050	0
14	5/18/2018	94	8,145.00	8,943.00	4,231.00	450,140.00	7,468	0
15	5/18/2018	96	8,280.00	9,122.00	4,171.00	450,140.00	7,221	0
16	5/18/2018	95	8,492.00	9,316.00	4,110.00	450,600.00	7,183	0
17	5/18/2018	99	7,515.00	8,444.00	3,977.00	450,720.00	7,309	0

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Smith #3H
API 47-103-02905
Stone Energy Corporation

	Horizontal		Bottom (ft TVD)	Bottom (ft MD)	
	Top (ft TVD)	Top (ft MD)			
Sandstone & Shale	Surface	*	1,018		FW @ 100
Coal	1,018	*	1,020		
Sandstone & Shale	1,020	*	2,163		
Little Lime	2,163	*	2,193		SW @ 2,183
Big Lime	2,193	*	2,293		
Big Injun	2,293	*	2,393		
Sandstone & Shale	2,393	*	2,762		
Berea Sandstone	2,762	*	2,795		
Shale	2,795	*	2,986		
Gordon	2,983	*	3,033		
Undiff Devonian Shale	3,033	*	5,773	5,808	
Rhinestreet	5,773	5,808 ~	6,481	6,595	
Cashaqua	6,481	6,595 ~	6,611	6,783	
Middlesex	6,611	6,783 ~	6,632	6,818	
West River	6,632	6,818 ~	6,686	6,911	
Geneseo	6,686	6,911 ~	6,699	6,941	
Tully Limestone	6,699	6,941 ~	6,734	7,030	
Hamilton Shale	6,734	7,030 ~	6,768	7,177	
Marcellus	6,768	7,177 ~	6,701	10,782	
TD			6,701	10,782	

* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log

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Project: Mary Prospect
 Site: Smith Pad
 Well: 3H
 Wellbore: OH
 Design: Smith 3H As Drilled



WELL DETAILS 3H

+N/S 0.00 Northing 420271.00 +E/W 0.00 Easting 1630829.00
 Ground Level 1321.00 Latitude 39° 38' 47.366 N Longitude 80° 48' 39.800 W

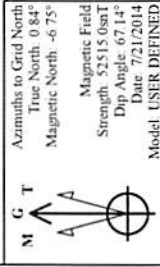
REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well 3H, Grid North
 Vertical (TVD) Reference: GL 1321' & KB 18' @ 1339 00R (Saxon 141)
 Section (VS) Reference: Slat - (0.00N, 0.00E)
 Measured Depth Reference: GL 1321' & KB 18' @ 1339 00R (Saxon 141)
 Calculation Method: Minimum Curvature

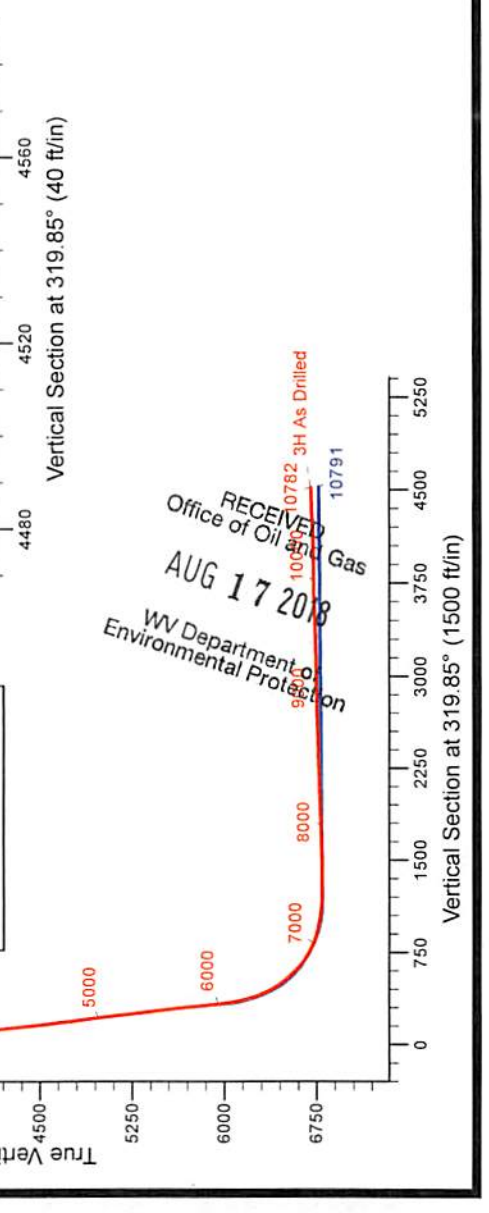
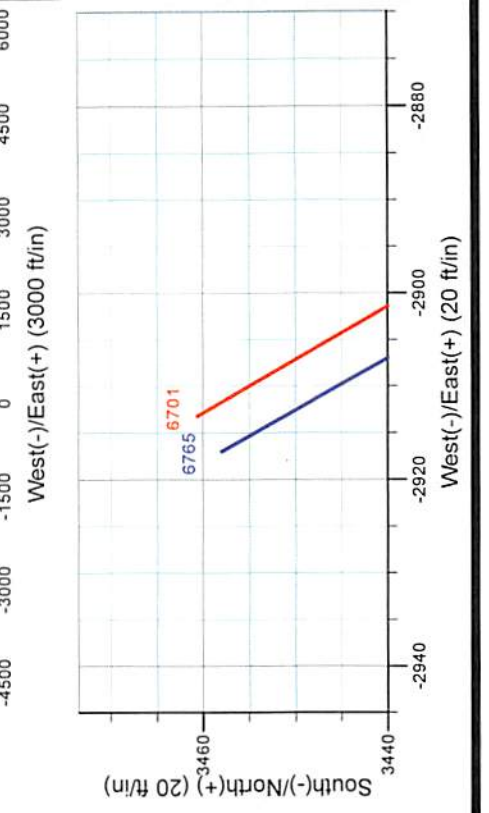
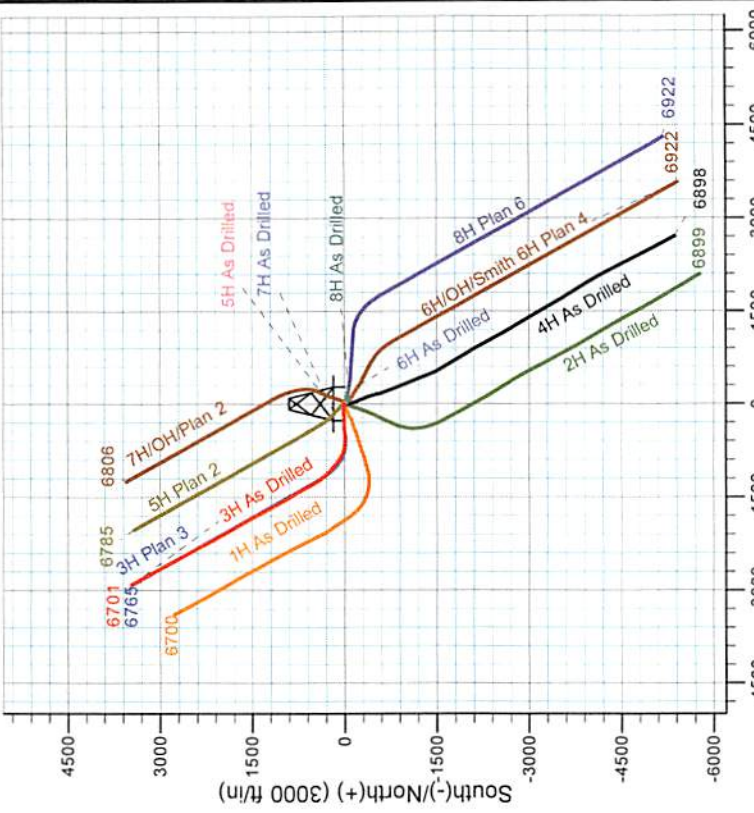
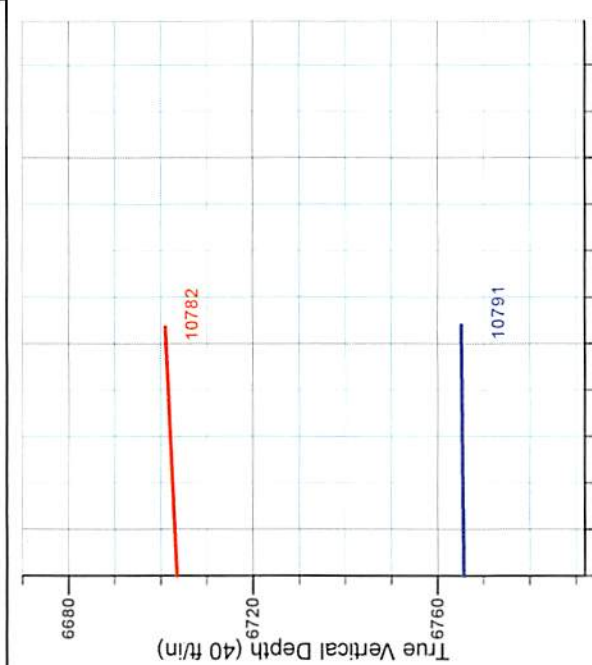
PROJECT DETAILS Mary Prospect

Geodetic System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone: West Virginia North 4701
 System Datum: Mean Sea Level

SECTION DETAILS									
Sec	MD	Inc	Azi	+N/S	+E/W	Dleg	TFace	V Sect	Target
1	5811.00	11.08	259.16	5767.61	-3.67	-486.34	0.00	310.78	
2	6058.00	11.08	259.16	6010.00	-12.60	-532.96	0.00	334.01	
3	6502.68	38.17	276.84	6410.88	-4.11	-714.95	6.25	23.74	457.85
4	7367.72	90.50	331.00	6795.00	-464.40	-1257.70	8.00	60.13	1165.92
5	10790.57	90.50	331.00	6765.13	3458.01	-2917.01	0.00	0.00	4524.02



- Model: USER DEFINED
- LEGEND
- 6H, OH, Smith 6H As Drilled V0
 - 6H, OH, Smith 6H Plan 4 V0
 - 7H, OH, Smith 7H As Drilled V0
 - 7H, OH, Plan 2 V0
 - 2H, OH, Smith 2H As Drilled V0
 - 1H, OH, Smith 1H As Drilled V0
 - 4H, OH, Smith 4H As Drilled V0
 - 8H, OH, Plan 6 V0
 - 8H, OH, Smith 8H As Drilled V0
 - 3H, OH, Plan 3 V0
 - 5H, OH, Smith 5H As Drilled V0
 - 5H, OH, Plan 2 V0
 - Smith 3H As Drilled





Stone Energy

Mary Prospect
Smith Pad
3H

OH

Design: Smith 3H As Drilled

Standard Survey Report

27 July, 2014

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www.scientificdrilling.com





Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Project	Mary Prospect, West Virginia		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		

Site	Smith Pad				
Site Position:		Northing:	420,251.00 usft	Latitude:	39° 38' 47.168 N
From:	Map	Easting:	1,630,827.00 usft	Longitude:	80° 48' 39.822 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.84 °

Well	3H					
Well Position	+N/-S	0.00 ft	Northing:	420,271.00 usft	Latitude:	39° 38' 47.366 N
	+E/-W	0.00 ft	Easting:	1,630,829.00 usft	Longitude:	80° 48' 39.800 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	0.00 ft	Ground Level:	1,321.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	11/20/2013	-8.55	67.18	52,504
	BGGM2014	6/11/2014	-8.52	67.15	52,439
	User Defined	6/12/2014	-7.56	67.15	52,541
	User Defined	7/21/2014	-7.59	67.14	52,515

Design	Smith 3H As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	319.85	

Survey Program	Date 7/27/2014				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
103.00	2,571.00	Survey 1 - Vaughn Gyro (OH)	VES GyroFlex		
2,632.01	5,811.00	Survey 2 - SDI MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	
5,843.00	10,782.00	Survey 3 - SDI MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

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Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103.00	0.15	136.52	103.00	-0.10	0.09	-0.13	0.15	0.15	0.00	0.00
First Vaughn Gyro Survey										
203.00	0.32	159.48	203.00	-0.45	0.28	-0.53	0.19	0.17	22.96	
303.00	0.28	184.37	303.00	-0.96	0.36	-0.97	0.14	-0.04	24.89	
403.00	0.04	218.23	403.00	-1.23	0.32	-1.15	0.25	-0.24	33.86	



Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
503.00	0.10	196.63	503.00	-1.34	0.27	-1.20	0.06	0.06	-21.60
603.00	0.25	250.59	603.00	-1.50	0.04	-1.17	0.21	0.15	53.96
703.00	0.23	273.68	703.00	-1.56	-0.36	-0.96	0.10	-0.02	23.09
803.00	0.05	297.69	803.00	-1.52	-0.60	-0.78	0.19	-0.18	24.01
903.00	0.23	305.58	903.00	-1.39	-0.80	-0.54	0.18	0.18	7.89
1,003.00	0.43	307.64	1,002.99	-1.04	-1.26	0.02	0.20	0.20	2.06
1,103.00	0.33	318.11	1,102.99	-0.60	-1.75	0.67	0.12	-0.10	10.47
1,203.00	0.42	330.71	1,202.99	-0.06	-2.13	1.32	0.12	0.09	12.60
1,303.00	0.36	328.87	1,302.99	0.52	-2.47	1.99	0.06	-0.06	-1.84
1,403.00	0.27	331.89	1,402.99	1.00	-2.74	2.53	0.09	-0.09	3.02
1,503.00	0.30	328.57	1,502.98	1.43	-2.99	3.02	0.03	0.03	-3.32
1,603.00	0.43	335.06	1,602.98	2.00	-3.28	3.64	0.14	0.13	6.49
1,703.00	0.37	349.55	1,702.98	2.65	-3.50	4.29	0.12	-0.06	14.49
1,803.00	0.50	333.66	1,802.98	3.36	-3.75	4.99	0.18	0.13	-15.89
1,883.00	0.55	322.91	1,882.97	3.98	-4.14	5.71	0.14	0.06	-13.44
1,903.00	0.41	318.80	1,902.97	4.11	-4.24	5.88	0.72	-0.70	-20.55
2,003.00	0.48	314.42	2,002.97	4.67	-4.78	6.65	0.08	0.07	-4.38
2,103.00	0.60	329.91	2,102.97	5.42	-5.34	7.59	0.19	0.12	15.49
2,203.00	0.35	333.78	2,202.96	6.15	-5.74	8.40	0.25	-0.25	3.87
2,303.00	0.40	324.24	2,302.96	6.71	-6.08	9.04	0.08	0.05	-9.54
2,403.00	0.43	325.64	2,402.96	7.30	-6.49	9.76	0.03	0.03	3.87
2,503.00	0.54	351.52	2,502.95	8.07	-6.77	10.54	0.24	0.11	-9.54
2,571.00	0.38	355.80	2,570.95	8.62	-6.84	10.99	0.24	-0.24	3.87
Last Vaughn Gyro Survey									
2,632.01	0.61	4.16	2,631.95	9.14	-6.83	11.39	0.39	0.38	13.70
First SDI MWD Survey									
2,725.01	0.57	9.57	2,724.95	10.09	-6.72	12.04	0.07	-0.04	5.82
2,816.01	1.50	283.02	2,815.94	10.81	-7.80	13.29	1.73	1.02	-95.11
2,910.01	1.92	279.90	2,909.90	11.35	-10.55	15.48	0.46	0.45	-3.32
3,000.01	1.94	278.88	2,999.84	11.85	-13.54	17.79	0.04	0.02	-1.13
3,093.01	3.64	273.36	3,092.73	12.26	-18.04	21.01	1.85	1.83	-5.94
3,186.01	4.21	273.00	3,185.51	12.62	-24.40	25.38	0.61	0.61	-0.39
3,279.01	4.12	264.84	3,278.27	12.49	-31.14	29.63	0.64	-0.10	-8.77
3,372.01	5.46	269.88	3,370.94	12.18	-38.89	34.39	1.51	1.44	5.42
3,467.01	6.98	274.67	3,465.38	12.65	-49.16	41.36	1.69	1.60	5.04
3,560.01	8.29	275.61	3,557.55	13.76	-61.47	50.15	1.41	1.41	1.01
3,650.01	9.49	277.97	3,646.47	15.42	-75.27	60.32	1.39	1.33	2.62
3,743.01	10.55	275.89	3,738.05	17.36	-91.33	72.16	1.20	1.14	-2.24
3,833.01	10.96	273.52	3,826.47	18.73	-108.07	84.00	0.67	0.46	-2.63
3,926.00	10.91	269.84	3,917.78	19.25	-125.69	95.76	0.75	-0.05	-3.96
4,019.00	11.59	267.21	4,008.99	18.77	-143.83	107.08	0.92	0.73	-2.83
4,114.00	11.45	265.79	4,102.08	17.61	-162.76	118.41	0.33	-0.15	-1.49
4,207.00	11.25	261.00	4,193.26	15.52	-180.93	128.52	1.04	-0.22	-5.15

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,298.00	10.83	258.86	4,282.58	12.48	-198.08	137.26	0.64	-0.46	-2.35	
4,390.00	10.80	259.38	4,372.94	9.22	-215.04	145.70	0.11	-0.03	0.57	
4,484.00	10.69	263.45	4,465.30	6.60	-232.35	154.86	0.82	-0.12	4.33	
4,578.00	11.40	271.78	4,557.56	5.89	-250.30	165.90	1.86	0.76	8.86	
4,669.00	11.13	270.58	4,646.81	6.26	-268.07	177.64	0.39	-0.30	-1.32	
4,762.00	10.70	269.42	4,738.12	6.27	-285.68	188.99	0.52	-0.46	-1.25	
4,856.00	11.11	272.33	4,830.43	6.55	-303.46	200.67	0.73	0.44	3.10	
4,950.00	10.94	272.06	4,922.69	7.23	-321.42	212.78	0.19	-0.18	-0.29	
5,040.00	10.76	268.56	5,011.08	7.33	-338.35	223.77	0.76	-0.20	-3.89	
5,135.00	10.63	268.67	5,104.43	6.90	-355.98	234.81	0.14	-0.14	0.12	
5,227.00	10.31	268.36	5,194.90	6.47	-372.69	245.25	0.35	-0.35	-0.34	
5,319.00	11.31	266.96	5,285.27	5.76	-389.93	255.82	1.12	1.09	-1.52	
5,411.00	11.78	268.23	5,375.41	4.99	-408.33	267.09	0.58	0.51	1.38	
5,502.00	11.52	266.55	5,464.53	4.16	-426.68	278.29	0.47	-0.29	-1.85	
5,596.00	11.30	264.27	5,556.68	2.67	-445.21	289.11	0.53	-0.23	-2.43	
5,688.00	11.19	261.87	5,646.91	0.51	-463.02	298.94	0.52	-0.12	-2.61	
5,749.00	11.08	259.16	5,706.76	-1.43	-474.64	304.94	0.88	-0.18	-4.44	
5,811.00	11.08	259.16	5,767.61	-3.67	-486.34	310.78	0.00	0.00	0.00	
5,843.00	10.54	258.65	5,799.04	-4.83	-492.23	313.69	1.71	-1.69	-1.59	
5,874.00	10.08	258.77	5,829.54	-5.91	-497.67	316.37	1.49	-1.48	0.39	
5,906.00	11.04	261.78	5,861.00	-6.90	-503.45	319.34	3.46	3.00	9.41	
5,938.00	11.57	264.78	5,892.37	-7.63	-509.68	322.80	2.47	1.66	9.38	
5,970.00	11.07	265.46	5,923.75	-8.16	-515.94	326.43	1.62	-1.56	2.13	
6,002.00	10.41	264.89	5,955.19	-8.66	-521.88	329.88	2.09	-2.06	-1.78	
6,034.00	11.26	266.09	5,986.62	-9.13	-527.87	333.38	2.75	2.66		
6,066.00	13.19	266.96	6,017.89	-9.54	-534.64	337.43	6.06	6.03		
6,098.00	14.48	268.14	6,048.96	-9.86	-542.28	342.12	4.13	4.03		
6,129.00	15.42	269.50	6,078.92	-10.02	-550.28	347.15	3.24	3.03		
6,161.00	17.10	271.58	6,109.63	-9.93	-559.23	352.99	5.56	5.25		
6,193.00	18.87	273.25	6,140.07	-9.51	-569.10	359.68	5.76	5.53		
6,224.00	20.33	274.13	6,169.27	-8.84	-579.48	366.89	4.80	4.71		
6,256.00	21.58	274.51	6,199.16	-7.97	-590.89	374.90	3.93	3.91		
6,288.00	24.12	275.38	6,228.64	-6.90	-603.27	383.71	8.01	7.94		
6,320.00	26.54	276.14	6,257.56	-5.52	-616.89	393.54	7.63	7.56		
6,352.00	28.91	276.62	6,285.89	-3.86	-631.68	404.35	7.44	7.41		
6,384.00	30.62	276.94	6,313.66	-1.99	-647.46	415.95	5.37	5.34		
6,416.00	32.50	277.13	6,340.93	0.07	-664.08	428.24	5.88	5.88		
6,448.00	35.15	277.63	6,367.51	2.36	-681.74	441.38	8.33	8.28		
6,479.00	37.84	278.24	6,392.43	4.90	-700.00	455.10	8.76	8.68		
6,511.00	39.73	279.45	6,417.37	7.99	-719.81	470.23	6.36	5.91		
6,543.00	41.38	283.48	6,441.69	12.14	-740.18	486.53	9.67	5.16		
6,575.00	42.90	286.87	6,465.42	17.76	-760.90	504.19	8.55	4.75		
6,607.00	43.27	290.31	6,488.80	24.73	-781.61	522.87	7.43	1.16		
6,639.00	44.39	293.60	6,511.88	33.02	-802.15	542.45	7.93	3.50		

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,670.00	45.17	296.79	6,533.89	42.32	-821.90	562.30	7.67	2.52	10.29
6,702.00	46.29	299.14	6,556.23	53.07	-842.14	583.56	6.32	3.50	7.34
6,734.00	47.61	300.84	6,578.07	64.76	-862.39	605.55	5.66	4.13	5.31
6,766.00	48.91	302.41	6,599.38	77.28	-882.72	628.23	5.47	4.06	4.91
6,798.00	50.89	304.89	6,619.99	90.85	-903.08	651.73	8.57	6.19	7.75
6,829.00	53.09	305.69	6,639.08	104.96	-923.02	675.37	7.38	7.10	2.58
6,861.00	55.87	307.06	6,657.67	120.41	-943.98	700.70	9.36	8.69	4.28
6,893.00	58.06	308.28	6,675.11	136.80	-965.21	726.92	7.55	6.84	3.81
6,925.00	60.69	309.54	6,691.41	154.10	-986.63	753.95	8.89	8.22	3.94
6,956.00	63.68	310.16	6,705.88	171.67	-1,007.68	780.95	9.81	9.65	2.00
6,988.00	66.89	310.31	6,719.26	190.44	-1,029.87	809.61	10.04	10.03	0.47
7,020.00	70.17	311.82	6,730.97	210.00	-1,052.31	839.03	11.15	10.25	4.72
7,051.00	72.74	312.88	6,740.83	229.80	-1,074.03	868.17	8.90	8.29	3.42
7,083.00	75.48	313.55	6,749.59	250.88	-1,096.46	898.74	8.80	8.56	2.09
7,115.00	77.60	314.74	6,757.03	272.55	-1,118.79	929.70	7.55	6.63	3.72
7,147.00	79.47	316.77	6,763.40	295.01	-1,140.66	960.98	8.53	5.84	6.34
7,179.00	80.25	318.27	6,769.03	318.25	-1,161.94	992.45	5.22	2.44	4.69
7,211.00	79.90	320.62	6,774.55	342.19	-1,182.43	1,023.97	7.32	-1.09	7.34
7,242.00	80.59	322.70	6,779.80	366.15	-1,201.38	1,054.51	6.98	2.23	6.71
7,274.00	82.15	324.48	6,784.60	391.62	-1,220.16	1,086.07	7.35	4.88	5.56
7,306.00	84.00	326.69	6,788.46	417.82	-1,238.11	1,117.68	8.97	5.78	6.91
7,337.00	85.23	328.94	6,791.37	443.94	-1,254.55	1,148.24	8.24	3.97	7.26
7,356.44	86.29	329.69	6,792.81	460.61	-1,264.44	1,167.37	6.65	5.44	3.85
Smith 3H_LP4									
7,369.00	86.97	330.17	6,793.55	471.46	-1,270.72	1,179.71	6.65	5.44	3.84
7,401.00	87.91	330.58	6,794.97	499.25	-1,286.52	1,211.14	3.20	2.94	3.84
7,464.00	90.24	331.25	6,795.99	554.29	-1,317.14	1,272.95	3.85	3.70	1.06
7,528.00	90.67	332.05	6,795.48	610.62	-1,347.53	1,335.60	1.42	0.67	1.25
7,591.00	91.41	332.38	6,794.34	666.34	-1,376.89	1,397.13	1.29	1.17	0.52
7,655.00	91.18	331.11	6,792.89	722.70	-1,407.18	1,459.73	2.02	-0.36	-1.98
7,716.00	91.04	329.28	6,791.71	775.62	-1,437.50	1,519.73	3.01	-0.23	-3.00
7,780.00	91.75	327.89	6,790.15	830.22	-1,470.84	1,582.97	2.44	1.11	-2.17
7,843.00	91.82	327.70	6,788.19	883.50	-1,504.40	1,645.33	0.32	0.11	-0.30
7,907.00	91.68	328.05	6,786.24	937.68	-1,538.42	1,708.68	0.59	-0.22	0.55
7,970.00	92.08	330.71	6,784.17	991.86	-1,570.49	1,770.77	4.27	0.63	4.22
8,034.00	92.96	333.00	6,781.36	1,048.23	-1,600.65	1,833.30	3.83	1.38	3.58
8,098.00	92.25	333.59	6,778.45	1,105.35	-1,629.38	1,895.48	1.44	-1.11	0.92
8,162.00	91.48	332.77	6,776.36	1,162.43	-1,658.24	1,957.73	1.76	-1.20	-1.28
8,225.00	92.01	333.17	6,774.45	1,218.52	-1,686.86	2,019.05	1.05	0.84	0.63
8,289.00	91.78	331.32	6,772.33	1,275.13	-1,716.64	2,081.52	2.91	-0.36	-2.89
8,353.00	91.65	330.10	6,770.41	1,330.92	-1,747.94	2,144.35	1.92	-0.20	-1.91
8,416.00	91.65	329.43	6,768.60	1,385.32	-1,779.65	2,206.38	1.06	0.00	-1.06
8,479.00	91.81	331.86	6,766.70	1,440.21	-1,810.52	2,268.23	3.86	0.25	3.86

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,543.00	91.95	331.35	6,764.60	1,496.48	-1,840.94	2,330.86	0.83	0.22	-0.80	
8,607.00	92.69	331.87	6,762.01	1,552.73	-1,871.34	2,393.46	1.41	1.16	0.81	
8,670.00	91.98	331.31	6,759.44	1,608.10	-1,901.29	2,455.09	1.43	-1.13	-0.89	
8,734.00	91.38	331.22	6,757.56	1,664.19	-1,932.04	2,517.80	0.95	-0.94	-0.14	
8,797.00	92.05	331.53	6,755.68	1,719.47	-1,962.21	2,579.50	1.17	1.06	0.49	
8,861.00	91.41	331.31	6,753.75	1,775.64	-1,992.81	2,642.17	1.06	-1.00	-0.34	
8,925.00	91.01	330.58	6,752.39	1,831.57	-2,023.89	2,704.96	1.30	-0.63	-1.14	
8,989.00	91.78	330.56	6,750.84	1,887.30	-2,055.33	2,767.83	1.20	1.20	-0.03	
9,052.00	91.34	330.02	6,749.12	1,942.00	-2,086.54	2,829.76	1.11	-0.70	-0.86	
9,115.00	90.94	330.87	6,747.87	1,996.79	-2,117.61	2,891.67	1.49	-0.63	1.35	
9,179.00	91.01	331.34	6,746.78	2,052.81	-2,148.53	2,954.43	0.74	0.11	0.73	
9,242.00	91.04	331.21	6,745.65	2,108.05	-2,178.80	3,016.17	0.21	0.05	-0.21	
9,306.00	91.44	331.25	6,744.27	2,164.14	-2,209.60	3,078.90	0.63	0.63	0.06	
9,369.00	90.94	331.73	6,742.96	2,219.48	-2,239.66	3,140.59	1.10	-0.79	0.76	
9,433.00	90.54	332.04	6,742.13	2,275.93	-2,269.82	3,203.18	0.79	-0.63	0.48	
9,497.00	91.72	332.12	6,740.87	2,332.47	-2,299.78	3,265.72	1.85	1.84	0.13	
9,560.00	92.42	332.73	6,738.59	2,388.27	-2,328.92	3,327.16	1.47	1.11	0.97	
9,624.00	92.86	332.44	6,735.65	2,445.02	-2,358.36	3,389.52	0.82	0.69	-0.45	
9,687.00	91.95	332.38	6,733.00	2,500.81	-2,387.51	3,450.96	1.45	-1.44	-0.10	
9,750.00	91.58	332.13	6,731.06	2,556.54	-2,416.83	3,512.46	0.71	-0.59	0.55	
9,814.00	92.36	332.48	6,728.86	2,613.17	-2,446.55	3,574.92	1.34	1.22	-1.17	
9,877.00	91.95	331.74	6,726.49	2,668.82	-2,476.00	3,636.44	1.34	-0.65	-0.84	
9,941.00	91.41	330.76	6,724.62	2,724.90	-2,506.77	3,699.15	1.75	-0.84	0.27	
10,004.00	90.37	330.93	6,723.64	2,779.91	-2,537.46	3,760.98	1.67	-1.65	0.41	
10,067.00	90.07	331.19	6,723.40	2,835.05	-2,567.94	3,822.78	0.63	-0.48	0.63	
10,131.00	90.40	331.59	6,723.13	2,891.23	-2,598.59	3,885.48	0.81	0.52	-0.65	
10,194.00	90.64	331.18	6,722.56	2,946.53	-2,628.76	3,947.21	0.75	0.38	-0.21	
10,255.00	91.04	331.05	6,721.67	2,999.94	-2,658.22	4,007.03	0.69	0.66	0.75	
10,319.00	91.71	331.53	6,720.13	3,056.05	-2,688.96	4,069.74	1.29	1.05	0.16	
10,382.00	92.49	331.63	6,717.82	3,111.42	-2,718.92	4,131.38	1.25	1.24	-0.47	
10,446.00	92.38	331.33	6,715.10	3,167.61	-2,749.45	4,194.01	0.50	-0.17	-1.48	
10,510.00	92.96	330.38	6,712.12	3,223.44	-2,780.59	4,256.76	1.74	0.91	1.08	
10,573.00	92.42	331.06	6,709.17	3,278.33	-2,811.36	4,318.56	1.38	-0.86	0.49	
10,636.00	91.88	331.37	6,706.80	3,333.51	-2,841.68	4,380.29	0.99	-0.86	-1.14	
10,700.00	92.15	330.64	6,704.55	3,389.45	-2,872.68	4,443.04	1.22	0.42	-1.50	
10,724.00	92.55	330.28	6,703.57	3,410.31	-2,884.51	4,466.61	2.24	1.67		
Last SDI MWD Survey										
10,778.74	92.55	330.28	6,701.13	3,457.80	-2,911.61	4,520.39	0.00	0.00	0.00	
Smith 3H_BHL3										
10,782.00	92.55	330.28	6,700.99	3,460.64	-2,913.23	4,523.59	0.00	0.00	0.00	
Projection to Bit										

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 3H
Project:	Mary Prospect	TVD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Site:	Smith Pad	MD Reference:	GL 1321' & KB 18' @ 1339.00ft (Saxon 141)
Well:	3H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Smith 3H As Drilled	Database:	Northeast District

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
103.00	103.00	-0.10	0.09	First Vaughn Gyro Survey
2,571.00	2,570.95	8.62	-6.84	Last Vaughn Gyro Survey
2,632.01	2,631.95	9.14	-6.83	First SDI MWD Survey
10,724.00	6,703.57	3,410.31	-2,884.51	Last SDI MWD Survey
10,782.00	6,700.99	3,460.64	-2,913.23	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

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Office of Oil and Gas
AUG 17 2018
WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/13/2018
Job End Date:	5/19/2018
State:	West Virginia
County:	Wetzel
API Number:	47-103-02905-00-00
Operator Name:	EQT Production
Well Name and Number:	519166
Latitude:	39.64649100
Longitude:	-80.81105600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,768
Total Base Water Volume (gal):	5,778,007
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	ProFrac	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	85.33888	None
Sand (Proppant)	ProFrac	Proppant					
				Listed Below			

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 Environmental Protection

Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
StimSTREAM SC-398	ChemStream, Inc.	Scale Inhibitor					
				Listed Below			
StimSTREAM FR 9700	ChemStream, Inc.	Friction Reducer					
				Listed Below			
ProFe 105	ProFrac	Iron Control					
				Listed Below			
ProHib 100	ProFrac	Acid Inhibitor					
				Listed Below			
Hydrochloric Acid (15%)	ProFrac	Acidizing					
				Listed Below			
Clearal 268	ChemStream, Inc.	Biocide					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

		Silica Substrate	14808-60-7	100.00000	14.35262	None
		Non-Hazardous Substances	Proprietary	90.00000	0.04131	None
		Hydrochloric Acid	7647-01-0	15.00000	0.02797	None
		Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.02176	None

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			Glutaraldehyde	111-30-8	20.00000	0.00918	None
			Alcohols, C11-14-iso-, C13-Rich, Etholylated	78330-21-9	5.00000	0.00363	
			Alcohols, C11-14-iso-, C13-Rich, Etholylated	78330-21-9	5.00000	0.00363	None
			Non-Hazardous Substances	Proprietary	90.00000	0.00218	
			Non-Hazardous Substances	Proprietary	90.00000	0.00218	None
			Alkyl Dimethyl Benzyl Ammonium Chloride	68391-01-5	3.00000	0.00138	None
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00138	None
			Citric Acid	77-92-9	100.00000	0.00077	None
			Citric Acid	77-92-9	100.00000	0.00077	
			Methanol	67-56-1	90.00000	0.00034	None
			Methanol	67-56-1	90.00000	0.00034	
			Bis(HexaMethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00024	None
			Bis(HexaMethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00024	
			Isopropanol	67-63-0	5.00000	0.00002	
			Proargyl Alcohol	107-19-7	5.00000	0.00002	None
			Isopropanol	67-63-0	5.00000	0.00002	None
			Alcohols, C7-9-Iso, C8-Rich	68526-83-0	5.00000	0.00002	None
			Alcohols, C7-9-Iso, C8-Rich	68526-83-0	5.00000	0.00002	
			Imidazoline	61790-69-0	5.00000	0.00002	
			Proargyl Alcohol	107-19-7	5.00000	0.00002	
			Xylene	1330-20-7	5.00000	0.00002	
			Xylene	1330-20-7	5.00000	0.00002	None
			Imidazoline	61790-69-0	5.00000	0.00002	None

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 Environmental Protection

			Ethylbenzene	100-41-4	1.00000	0.00000	None
			Ethylbenzene	100-41-4	1.00000	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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Well Operator's Report of Well Work



Where energy meets innovation.

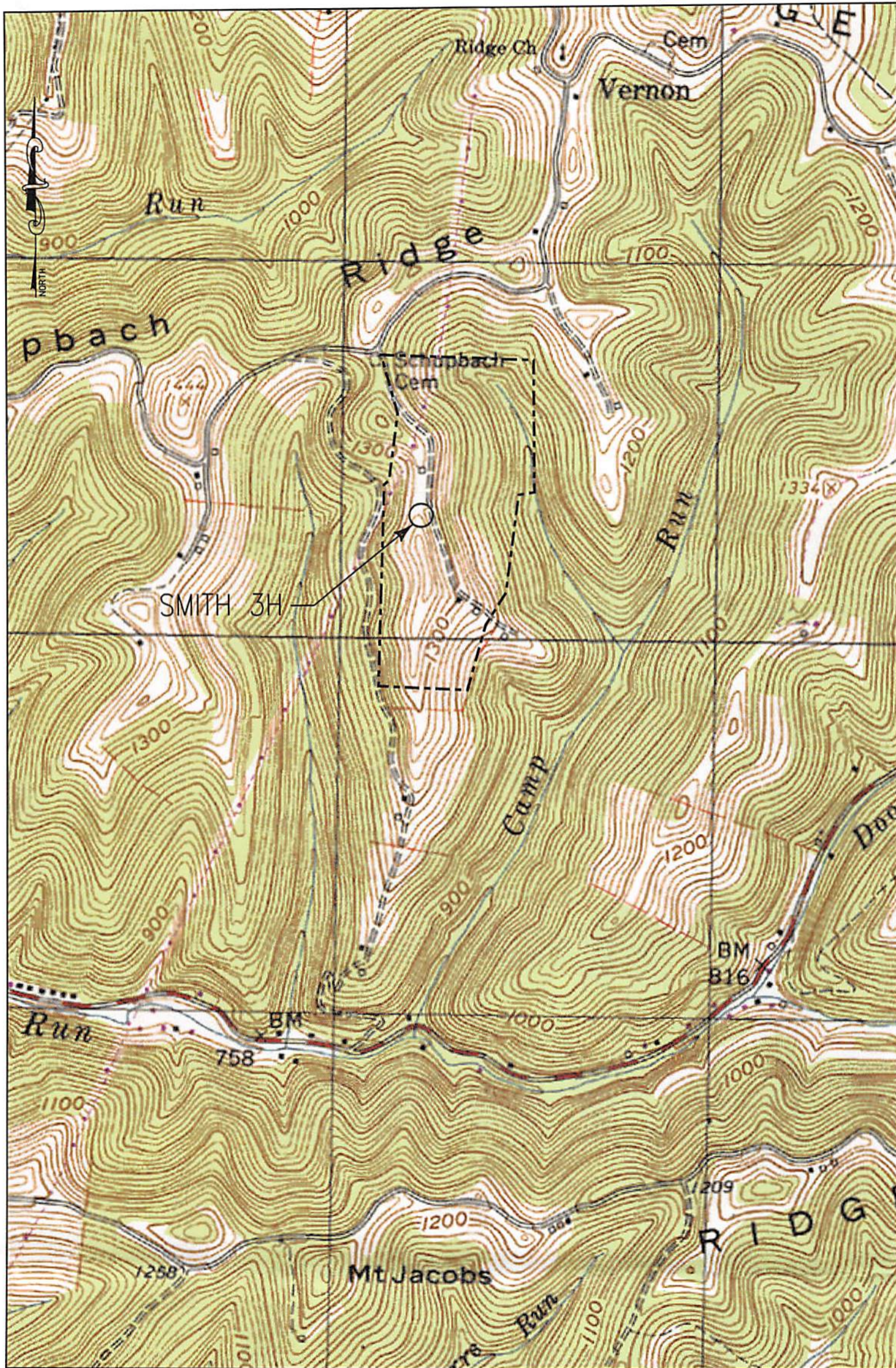
Well Number: 519166

API: 47 - 103 - 02905

Submission: Initial Amended

Notes: Please note that Stone Energy Corporation preformed the drilling operations on this well. EQT Corporation performed the stimulation operations.

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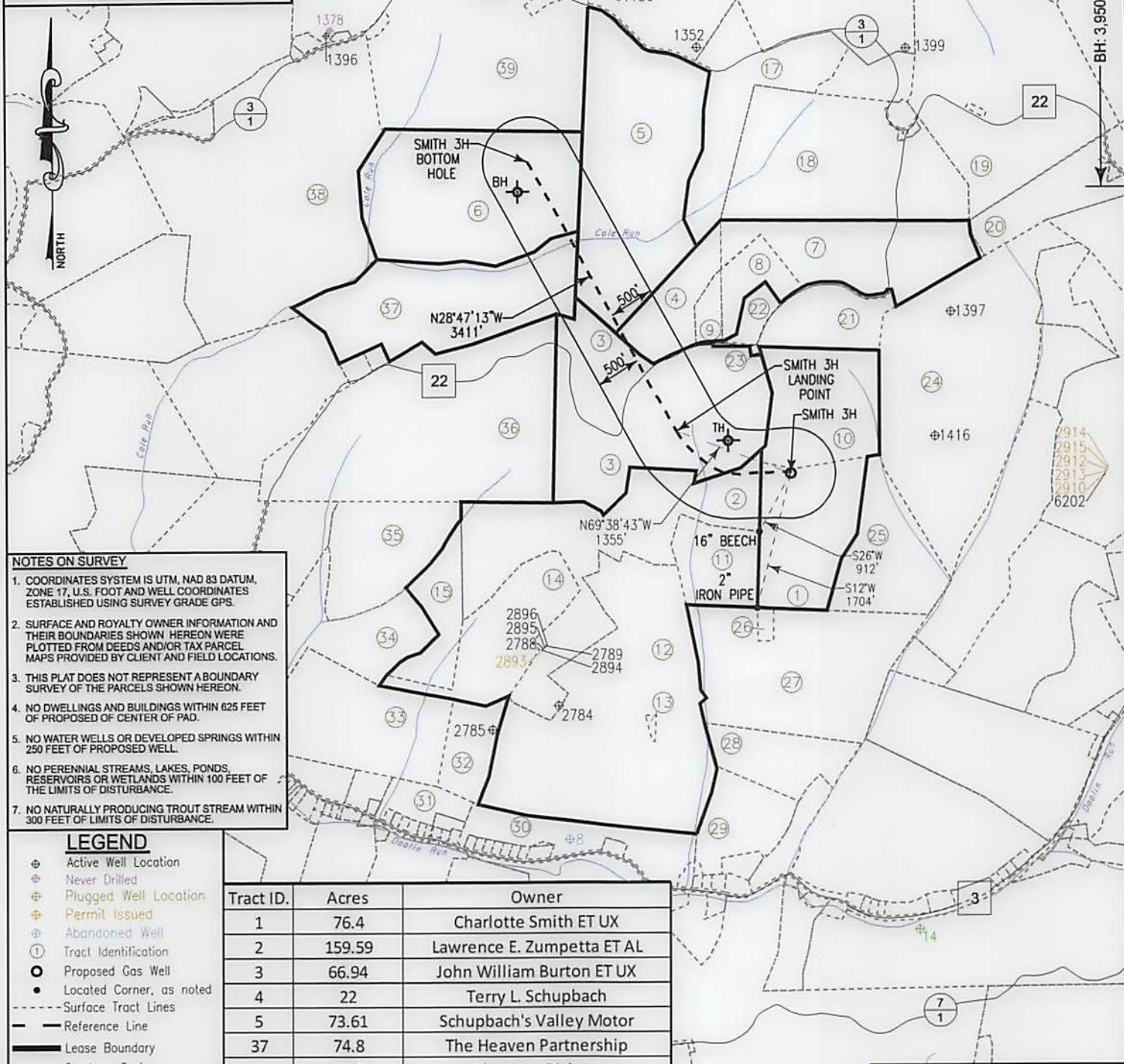


KEYSTONE CONSULTANTS, INC.
 32 EAST MAIN STREET,
 CARNEGIE, PA 15106
 412-278-2100

1" = 1000'
 NEW MARTINSVILLE 7.5'

EQT PRODUCTION COMPANY
 115 PROFESSIONAL PLACE
 PO BOX 280
 BRIDGEPORT, WV 26330

**Smith 3H
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
- ⊖ Never Drilled
- ⊕ Plugged Well Location
- ⊕ Permit Issued
- ⊖ Abandoned Well
- ① Tract Identification
- ⊙ Proposed Gas Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- ⊙ WV County Route
- ⊖ WV State Route

Tract ID.	Acres	Owner
1	76.4	Charlotte Smith ET UX
2	159.59	Lawrence E. Zumpetta ET AL
3	66.94	John William Burton ET UX
4	22	Terry L. Schupbach
5	73.61	Schupbach's Valley Motor
37	74.8	The Heaven Partnership
6	80.5	Sherman Richter

(⊕) 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. Smalls

L. L. S. 687

FILE NO: W2032 (BK 49-6)
 DRAWING NO: _____
 SCALE: 1" = 1600'
 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: DECEMBER 4 20 17
 OPERATORS WELL NO: SMITH 3H
 API WELL NO
47 - 103 - 02905
 STATE COUNTY PERMIT

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

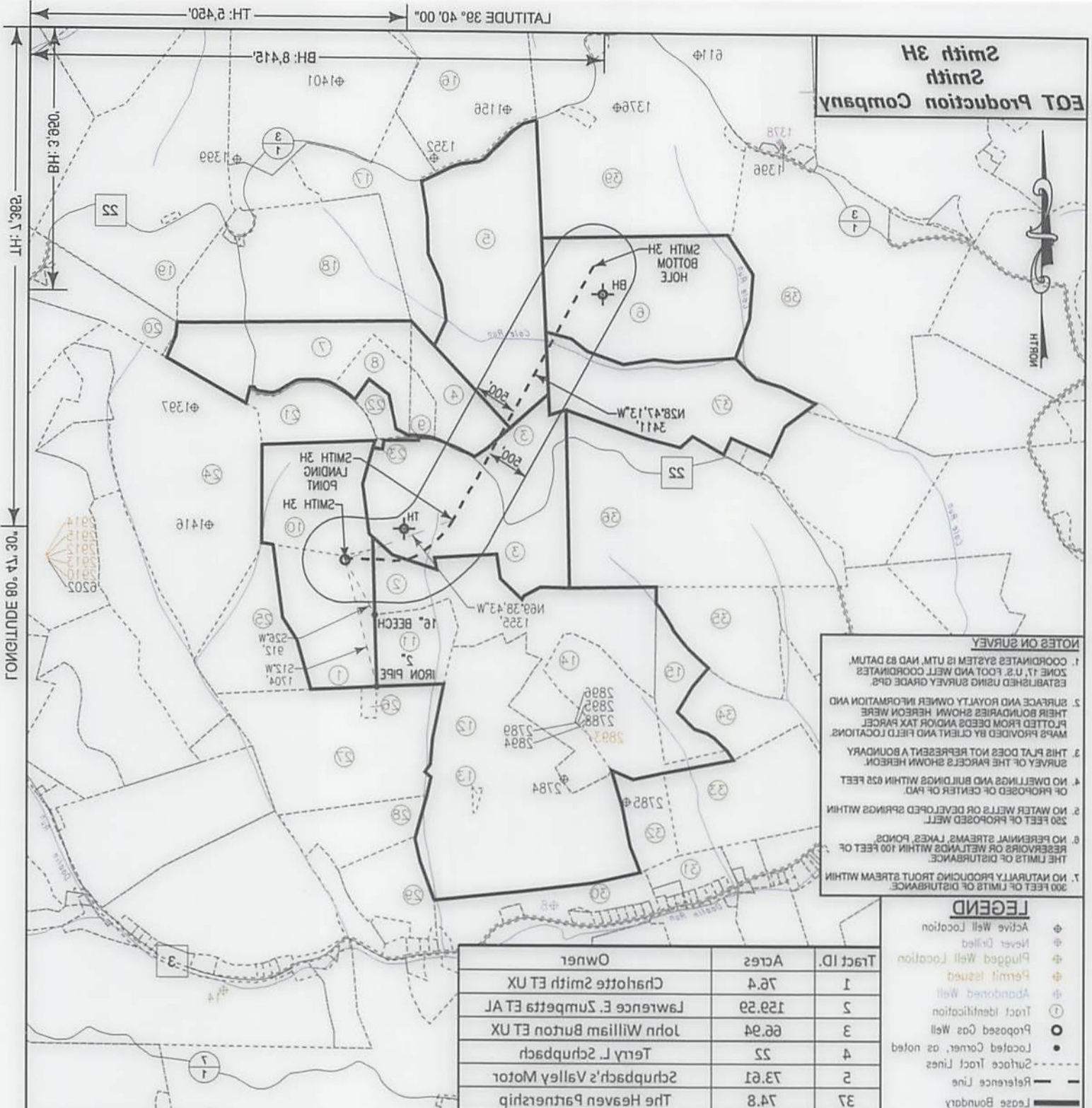
LOCATION ELEVATION: 1335' WATERSHED: TRIBUTARY OF DOOLIN RUN QUADRANGLE: NEW MARTINSVILLE 7.5'
 DISTRICT: Magnolia COUNTY: Wetzel

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: 6,740'

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



EQT Production Company
Smith 3H

NOTES ON SURVEY

1. COORDINATES SYSTEM IS UTM, HAD AS DATUM, ZONE 17, U.S. FOOT AND WELL COORDINATES ESTABLISHED USING SURVEY GRADE GPS.
2. 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.
3. THIS PLAT DOES NOT REPRESENT A BOUNDARY SURVEY OF THE PARCELS SHOWN HEREON.
4. NO DWELLINGS AND BUILDINGS WITHIN 625 FEET OF PROPOSED OR CENTER OF PAD.
5. NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF PROPOSED WELL.
6. NO PERENNIAL STREAMS, LAKES, PONDS, RESERVOIRS OR WETLANDS WITHIN 100 FEET OF THE LIMITS OF DISTURBANCE.
7. NO NATURALLY PRODUCING TROUT STREAM WITHIN 300 FEET OF LIMITS OF DISTURBANCE.

LEGEND

- ⊕ Active Well Location
- ⊖ Inert Drilled
- ⊕ Plugged Well Location
- ⊕ Permit Issued
- ⊖ Abandoned Well
- ⊕ Tract Identification
- Proposed Gas Well
- Located Corner, as noted
- Subface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- ⊕ WV State Route

Tract ID.	Acres	Owner
1	76.4	Charlotte Smith ET UX
2	129.29	Lawrence E. Zumpetta ET AL
3	66.94	John William Burton ET UX
4	22	Terry L. Schupbach
5	73.61	Schupbach's Valley Motor
37	74.8	The Heaven Partnership
6	80.2	Sherman Richter

(⊕) 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. Smith
L. L. S. 687



STATE PERMIT COUNTY PERMIT
47 - 103 - 02902
API WELL NO
OPERATORS WELL NO: SMITH 3H
DATE: DECEMBER 4 20 17

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

FILE NO: W2032 (BK 49-8)
DRAWING NO:
SCALE: 1" = 1600'
MINIMUM DEGREE OF ACCURACY:
1:2500
PROVEN SOURCE OF ELEVATION:
NGS CORS Station

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: Mingo COUNTY: Wetzel

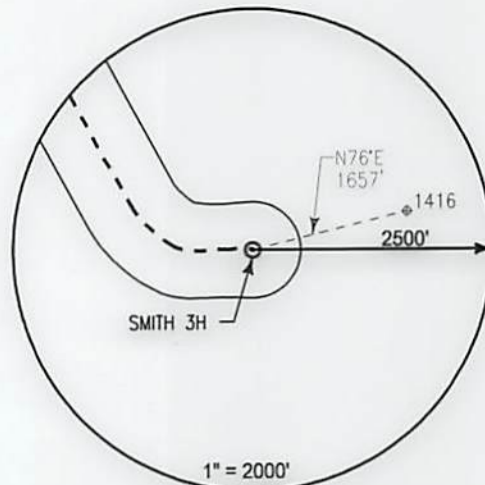
SURFACE OWNER: Charlotte Smith ROYALTY OWNER: Charlotte Smith, ET AL
 LEASE NO: 873632 ACREAGE: 76.4 ±
 ACREAGE: 38.9 ±

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: 6,740'

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

**Smith 3H
Smith
EQT Production Company**

Tract ID	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	8	5	Wetzel	Magnolia	Charlotte Smith	38.9
2	8	3	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	72.86
3	5	31	Wetzel	Magnolia	John William Burton	66.56
4	5	25	Wetzel	Magnolia	Stone Energy Corporation	17.64
5	5	11	Wetzel	Magnolia	Ronald L. Schupbach	89.45
6	5	10	Wetzel	Magnolia	Herman L. & Sherman Richter	80.66
7	5	26	Wetzel	Magnolia	Stone Energy Corporation	39.95
8	5	26.3	Wetzel	Magnolia	Stone Energy Corporation	10.95
9	5	25.1	Wetzel	Magnolia	Stone Energy Corporation	4.19
10	5	32	Wetzel	Magnolia	Charlotte Smith	37.5
11	8	4	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	15.28
12	8	22	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	107.5
13	8	23	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	0.27
14	8	11	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	36.86
15	8	2.1	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	18.15
16	5	1	Wetzel	Magnolia	Ronald L. Schupbach	90.33
17	5	12	Wetzel	Magnolia	Melvin E. & Wilda G. Schupbach	36.87
18	5	19	Wetzel	Magnolia	Ronald L. & Monette Schupbach	68.49
19	5	16	Wetzel	Magnolia	Sharon L. Bearce	108.64
20	5	22	Wetzel	Magnolia	Sharon L. Bearce	37.5
21	5	26.2	Wetzel	Magnolia	Franklin Ray Blake	17.73
22	5	26.1	Wetzel	Magnolia	Stone Energy Corporation	3.93
23	5	31.1	Wetzel	Magnolia	Schupbach Cemetery	0.27
24	5	33	Wetzel	Magnolia	Franklin Ray Blake	108.47
25	8	6	Wetzel	Magnolia	Kocher Albert HRS	33.01
26	8	12.1	Wetzel	Magnolia	Ralph Oscar & Jonee Kay Smith	1.23
27	8	12	Wetzel	Magnolia	David L. & Ralph O. Smith	58.15
28	8	24	Wetzel	Magnolia	Gary W. & Linda J. Durig	18.32
29	8	54.1	Wetzel	Magnolia	Gary W. & Linda J. Durig	22.47
30	8	62	Wetzel	Magnolia	Gary W. & Linda J. Durig	57.15
31	8	38.2	Wetzel	Magnolia	George R. Mullett	8.28
32	8	21	Wetzel	Magnolia	Michael L. Mullett	12.25
33	8	20	Wetzel	Magnolia	Billy Darrell Morris	54.66
34	8	10	Wetzel	Magnolia	Myron H. Helmick	35.57
35	8	2	Wetzel	Magnolia	J W Schamp EST	37.54
36	5	30	Wetzel	Magnolia	Wayne A. & Virginia L. Schupbach	93.83
37	5	24	Wetzel	Magnolia	Heaven Partnership	53.59
38	5	8	Wetzel	Magnolia	George E. & Beth Ann Heinzman	141.4
39	5	1	Wetzel	Magnolia	Mark Edwin Scheibelhood	327.66



Notes:
SMITH 3H As-Built coordinates are
 NAD 27 N: 420,271,000 E: 1,630,829,000
 NAD 27 Lat: 39.646491 Long: -80.811055
 NAD 83 UTM N: 4,388,548.063 E: 516,226.569

SMITH 3H As-Built Landing Point coordinates are
 NAD 27 N: 420,742,460 E: 1,629,558,280
 NAD 27 Lat: 39.647734 Long: -80.815592
 NAD 83 UTM N: 4,388,685.222 E: 515,837.040

SMITH 3H As-Built Bottom Hole coordinates are
 NAD 27 N: 423,731,640 E: 1,627,915,770
 NAD 27 Lat: 39.655874 Long: -80.821581
 NAD 83 UTM N: 4,389,587.529 E: 515,321.460

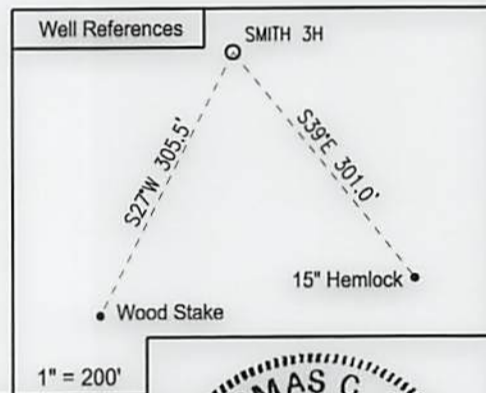
West Virginia Coordinates system of 1927 (North Zone) based upon Differential GPS Measurements
 Plat orientation, Corner and well ties are based upon the grid north meridian
 Well location references are based upon the grid north meridian.
 UTM coordinates are NAD83, Zone 17, Meters.

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

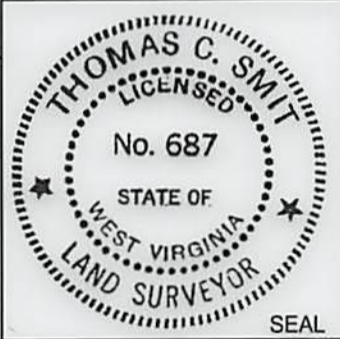
SMITH PAD

- SMITH 3H ○ ○ SMITH 5H
- SMITH 1H ○ ○ SMITH 7H
- SMITH 2H ○ ○ SMITH 8H
- SMITH 4H ○ ○ SMITH 6H



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" = 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: DECEMBER 4 20 17
 OPERATORS WELL NO: SMITH 3H
 API WELL NO
 47 - 103 - 02905
 STATE COUNTY PERMIT

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

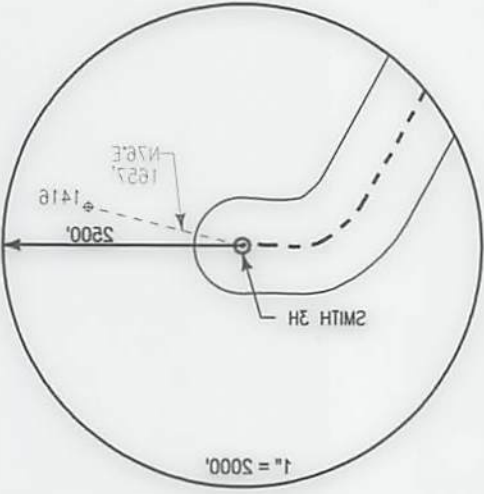
LOCATION ELEVATION: 1,335' WATERSHED: TRIBUTARY OF DOLLIN RUN QUADRANGLE: NEW MARTINSVILLE 7.5'
 DISTRICT: Magnolia COUNTY: Wetzel

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: 6,740'

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

Tract ID	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	8	2	Wetzel	Magnolia	Charlotte Smith	38.9
2	8	3	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	27.86
3	2	31	Wetzel	Magnolia	John William Burton	66.56
4	2	25	Wetzel	Magnolia	Stone Energy Corporation	17.64
5	2	22	Wetzel	Magnolia	Ronald J. Schupbach	89.42
6	2	10	Wetzel	Magnolia	Herman J. & Sherman Richter	80.66
7	2	26	Wetzel	Magnolia	Stone Energy Corporation	39.92
8	2	26.3	Wetzel	Magnolia	Stone Energy Corporation	10.92
9	2	25.1	Wetzel	Magnolia	Stone Energy Corporation	4.19
10	2	32	Wetzel	Magnolia	Charlotte Smith	37.2
11	8	4	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	12.28
12	8	22	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	107.2
13	8	23	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	0.77
14	8	11	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	26.86
15	8	2.1	Wetzel	Magnolia	Lawrence E. Zumpetta ET AL	18.12
16	2	1	Wetzel	Magnolia	Ronald J. Schupbach	90.33
17	2	12	Wetzel	Magnolia	Melvin E. & Wilda G. Schupbach	36.87
18	2	19	Wetzel	Magnolia	Ronald J. & Monette Schupbach	68.49
19	2	16	Wetzel	Magnolia	Sharon L. Bearce	108.64
20	2	22	Wetzel	Magnolia	Sharon L. Bearce	37.2
21	2	26.2	Wetzel	Magnolia	Franklin Ray Blake	17.73
22	2	26.1	Wetzel	Magnolia	Stone Energy Corporation	3.93
23	2	21.1	Wetzel	Magnolia	Schupbach Cemetery	0.72
24	2	33	Wetzel	Magnolia	Franklin Ray Blake	108.47
25	8	6	Wetzel	Magnolia	Kocher Albert HRS	33.01
26	8	12.1	Wetzel	Magnolia	Ralph Oscar & Loretta Kay Smith	1.23
27	8	12	Wetzel	Magnolia	David L. & Ralph O. Smith	28.12
28	8	24	Wetzel	Magnolia	Gary W. & Linda J. Duhg	18.32
29	8	24.1	Wetzel	Magnolia	Gary W. & Linda J. Duhg	22.47
30	8	62	Wetzel	Magnolia	Gary W. & Linda J. Duhg	27.12
31	8	38.2	Wetzel	Magnolia	George R. Mullett	8.28
32	8	21	Wetzel	Magnolia	Michael J. Mullett	12.22
33	8	20	Wetzel	Magnolia	Billy Darrell Morris	24.66
34	8	10	Wetzel	Magnolia	Myron H. Helmick	32.27
35	8	2	Wetzel	Magnolia	1 W Schamp EST	37.24
36	2	30	Wetzel	Magnolia	Wayne A. & Virginia L. Schupbach	93.83
37	2	24	Wetzel	Magnolia	Heaven Partnership	23.29
38	2	8	Wetzel	Magnolia	George E. & Betty Ann Heinzman	14.14
39	2	1	Wetzel	Magnolia	Mark Edwin Schreiffelhood	327.66

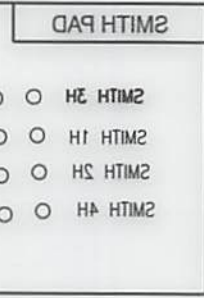


Notes:
 SMITH 3H A-Built coordinates are:
 NAD 27 N: 420,271,000 E: 1,630,829,000
 NAD 27 Lat: 39.64491 Long: -80.811025
 NAD 83 UTM N: 4,388,548,063 E: 216,228,569

SMITH 3H A-Built Landing Point coordinates are:
 NAD 27 N: 420,742,480 E: 1,629,228,280
 NAD 27 Lat: 39.64734 Long: -80.812282
 NAD 83 UTM N: 4,388,882,222 E: 215,827,040

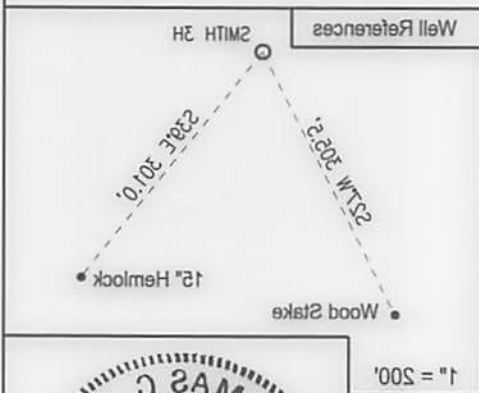
SMITH 3H A-Built Bottom Hole coordinates are:
 NAD 27 N: 423,731,640 E: 1,627,912,770
 NAD 27 Lat: 39.62874 Long: -80.821281
 NAD 83 UTM N: 4,388,287,229 E: 215,321,480

West Virginia Coordinates system of 1927 (North Zone) based upon Differential GPS Measurements. 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 plot 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. Smith
 L. L. S. 687



FILE NO: W5032 (BK 49-8)
 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

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

LOCATION ELEVATION: 1,332' WATERSHED: TRIBUTARY OF DOLLIN RUN QUADRANGLE: NEW MARTINSVILLE T.S.
 DISTRICT: Magnolia COUNTY: Wetzel

SURFACE OWNER: Charlotte Smith
 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: 6,740'

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

DATE: DECEMBER 4 20 17
 OPERATORS WELL NO: SMITH 3H
 API WELL NO
 STATE COUNTY PERMIT
 47 - 103 - 02905