

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

API 47 - 103 - 02846 County Wetzel District Magnolia
Quad New Martinsville Pad Name Stone Field/Pool Name Mary
Farm name Stone Energy Corporation Well Number #4H
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 4,389,052 Easting 518,705
Landing Point of Curve Northing 4,388,721 Easting 518,832
Bottom Hole Northing 4,387,481 Easting 519,314

Elevation (ft) 1,215 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 2/5/2013 Date drilling commenced 5/14/2013 Date drilling ceased 2/13/2014
Date completion activities began 4/7/2014 Date completion activities ceased 10/28/2014
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 95 Open mine(s) (Y/N) depths N
Salt water depth(s) ft None Reported Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,106 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:
AL 5/15/15
06/05/2015
W.S. 6/02/15

API 47-103 - 02846 Farm name Stone Energy Corporation Well number #4H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	60'	New	LS		N - GTS
Surface	17.5"	13.375"	1,229' KB - 1,214' GL	New	J55	100' & 181'	Y - CTS
Coal	17.5"	13.375"	1,229' KB - 1,214' GL	New	J55	100' & 181'	Y - CTS
Intermediate 1	12.25"	9.625"	2,420'	New	J55		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	12,002'	New	P110		Y - TOC @ 564'
Tubing	N/A	2.375"	7,485'	New	N80		N/A
Packers type and depth set							

Comment Details Circulated 45 bbls cement to surface on 13.375" casing string. Circulated 30 bbls cement to surface on the 9.625" casing string. Circulated 35 bbls cement to surface on the 5.5" casing string. TOC on 5.5" after running CBL @ 564'.

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"	930	15.6	1.19	1,079	Surface	8.0
Coal	Class "A"	930	15.6	1.19	1,079	Surface	8.0
Intermediate 1	Lead-FlexSeal Tail-Class "A"	Lead-510 Tail-285	Lead-15.0 Tail 15.6	Lead-1.26 Tail-1.19	Lead-643 Tail-339	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-FlexSeal Tail-Class "A"	Lead-938 Tail-1,647	Lead- 15.0 Tail-15.6	Lead-1.26 Tail-1.19	Lead-1,182 Tail-1,960	564	7.0
Tubing							

Drillers TD (ft) 12,010 MD / 6,770 TVD Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Shale Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 5,728 MD / 5,705' 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 2, 5, 8, 11, 14, 17, 20, 23, 26 and 29. Intermediate casing had bow spring centralizers placed on joints 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55 and 57. Production casing had rigid spiral centralizers placed on every fourth joint beginning with joint 4 to joint #152. Ran a total of 38 rigid spiral centralizers. Ran bow spring centralizers from joint 160 to joint 272 on every eighth joint. A total of 15 bow spring centralizers were run.

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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 _____

API 47- 103 - 02846 Farm name Stone Energy Corporation Well number #4H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	4/14/14	11,723	11,906	72	Marcellus Shale
2	5/6/14	11,470	11,653	72	Marcellus Shale
3	5/7/14	11,220	11,397	72	Marcellus Shale
4	5/8/14	10,970	11,153	72	Marcellus Shale
5	5/9/14	10,720	10,903	72	Marcellus Shale
6	5/10/14	10,469	10,653	72	Marcellus Shale
7	5/11/14	10,220	10,401	72	Marcellus Shale
8	5/12/14	9,962	10,153	72	Marcellus Shale
9	5/13/14	9,704	9,898	72	Marcellus Shale
10	5/14/14	9,460	9,643	72	Marcellus Shale
11	5/15/14	9,209	9,393	72	Marcellus Shale
12	5/16/14	8,959	9,143	72	Marcellus Shale
13	5/17/14	8,710	8,887	72	Marcellus Shale
14	5/18/14	8,460	8,643	72	Marcellus Shale
15	5/19/14	8,210	8,393	72	Marcellus Shale
16	5/31/14	7,959	8,142	72	Marcellus Shale

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbbls)	Amount of Nitrogen/other (units)
1	5/6/14	85.4	7,517	5,712	4,569	361,020	8,157	
2	5/7/14	85.3	7,443	6,790	4,995	422,560	8,325	
3	5/8/14	85.5	7,157	6,196	5,148	425,200	8,387	
4	5/9/14	85.1	7,338	6,938	4,918	426,760	8,417	
5	5/10/14	85.3	7,265	6,738	5,233	418,940	8,274	
6	5/11/14	82.0	7,106	5,119	4,746	422,860	9,718	
7	5/12/14	80.1	6,679	6,066	5,119	416,560	8,243	
8	5/13/14	80.2	6,661	5,848	4,545	426,220	8,213	
9	5/14/14	79.3	6,937	6,859	4,804	426,940	8,255	
10	5/15/14	79.4	6,624	5,749	4,659	426,220	8,365	
11	5/16/14	79.2	6,744	5,796	4,115	420,580	8,346	
12	5/17/14	79.1	6,892	5,799	4,718	418,140	8,324	
13	5/18/14	80.5	6,581	6,015	4,460	416,400	8,269	
14	5/19/14	80.8	6,448	6,858	4,948	420,720	8,624	
15	5/30/14	80.5	6,393	5,962	5,233	422,720	8,226	
16	6/1/14	79.1	6,264	6,182	4,861	421,640	8,245	

Please insert additional pages as applicable.

API 47- 103 - 02846

Farm name Stone Energy Corporation

Well number #4H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	6/2/14	7,708	7,893	72	Marcellus Shale
18	6/4/14	7,509	7,640	72	Marcellus Shale
19	6/5/14	7,257	7,443	72	Marcellus Shale

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
17	6/3/14	79.9	6,593	6,230	5,231	414,480	8,246	
18	6/4/14	78.9	6,638	7,323	4,685	370,100	7,545	
19	6/5/14	80.2	6,353	6,718	4,660	424,620	8,237	

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus Shale</u>	<u>6,778' to 6,769'</u> TVD	<u>7,257' to 11,906'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 2,591 psi Bottom Hole 4,352 calculated psi DURATION OF TEST 73 hrs

OPEN FLOW Gas 2,267 mcfpd Oil _____ bpd NGL 204 bpd Water 506.4 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	
	<u>0</u>		<u>0</u>		
See Attached Sheet					

Please insert additional pages as applicable.

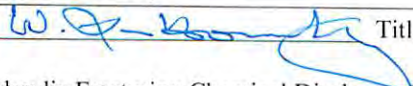
Drilling Contractor Nomac (top-hole) & Saxon Drilling (horizontal)
Address 2034 Martins Branch Rd /9303 New Trails Drive City Mount Morris / The Woodlands State PA / TX Zip 25312 / 77381

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

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

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

Please insert additional pages as applicable.

Completed by W. Lee Hornsby Telephone 304-225-1600
Signature  Title Drilling Engineer Date 4/27/2015

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Stone #4H
API 47-103-02846
Stone Energy Corporation

	Horizontal			Bottom (ft TVD)	Bottom (ft MD)
	Top (ft TVD)	Top (ft MD)			
Sandstone & Shale	Surface		*	1,106	FW @ 95
Coal	1,106		*	1,110	
Sandstone & Shale	1,110		*	2,086	No SW Reported
Little Lime	2,086		*	2,116	
Big Lime	2,116		*	2,216	
Big Injun	2,216		*	2,316	
Sandstone & Shale	2,316		*	2,689	
Berea Sandstone	2,689		*	2,719	
Shale	2,719		*	2,894	
Gordon	2,894		*	2,944	
Undiff Devonian Shale	2,944		*	5,697	5,717
Rhinestreet	5,697	5,717	~	6,414	6,500
Cashaqua	6,414	6,500	~	6,594	6,772
Middlesex	6,594	6,772	~	6,610	6,795
West River	6,610	6,795	~	6,667	6,898
Geneseo	6,667	6,898	~	6,682	6,929
Tully Limestone	6,682	6,929	~	6,716	7,006
Hamilton Shale	6,716	7,006	~	6,764	7,178
Marcellus	6,764	7,178	~	6,770	12,010
TD				6,770	12,010

* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log

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06/05/2015

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	6/6/2014
State:	West Virginia
County/Parish:	Wetzel County
API Number:	47-103-02846
Operator Name:	Stone Energy
Well Name and Number:	Stone 4H
Longitude:	518,705
Latitude:	4,389,052
Long/Lat Projection:	
Production Type:	
True Vertical Depth (TVD):	0
Total Water Volume (gal)*:	6653463

Hydraulic Fracturing Fluid Composition

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
H015, Slickwater, WF115	Schlumberger	Corrosion Inhibitor, Bactericide (Myacide GA25), Scale Inhibitor, Surfactant , Acid, Breaker, Gelling Agent, Friction Reducer, Iron Control Agent, Clay Control Agent, Accelerator, Fluid Loss Additive , Propping	Water (Including Mix Water Supplied by Client)*	NA		87.41959%	
			Crystalline silica	14808-60-7	98.61326%	12.40595%	
			Hydrochloric acid	7647-01-0	0.79085%	0.09949%	
			Carbohydrate polymer	Proprietary	0.56427%	0.07099%	
			Ammonium sulfate	7783-20-2	0.15972%	0.02009%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.06673%	0.00839%	
			Glutaraldehyde	111-30-8	0.05082%	0.00639%	
			Urea	57-13-6	0.02662%	0.00335%	
			Diammonium peroxidisulphate	7727-54-0	0.02471%	0.00311%	
			Calcium chloride	10043-52-4	0.01444%	0.00182%	
			Dicoco dimethyl quaternary ammonium chloride	61789-77-3	0.00513%	0.00065%	
			Trisodium ortho phosphate	7601-54-9	0.00398%	0.00050%	
			Ethane-1,2-diol	107-21-1	0.00398%	0.00050%	
			Methanol	67-56-1	0.00307%	0.00039%	
			Sodium erythorbate	6381-77-7	0.00301%	0.00038%	
			Aliphatic alcohols, ethoxylated #2	Proprietary	0.00230%	0.00029%	
			Aliphatic acids	Proprietary	0.00230%	0.00029%	
			Prop-2-yn-1-ol	107-19-7	0.00077%	0.00010%	

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

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

Report ID: RPT-29865 (Generated on 8/25/2014 1:09 PM)

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

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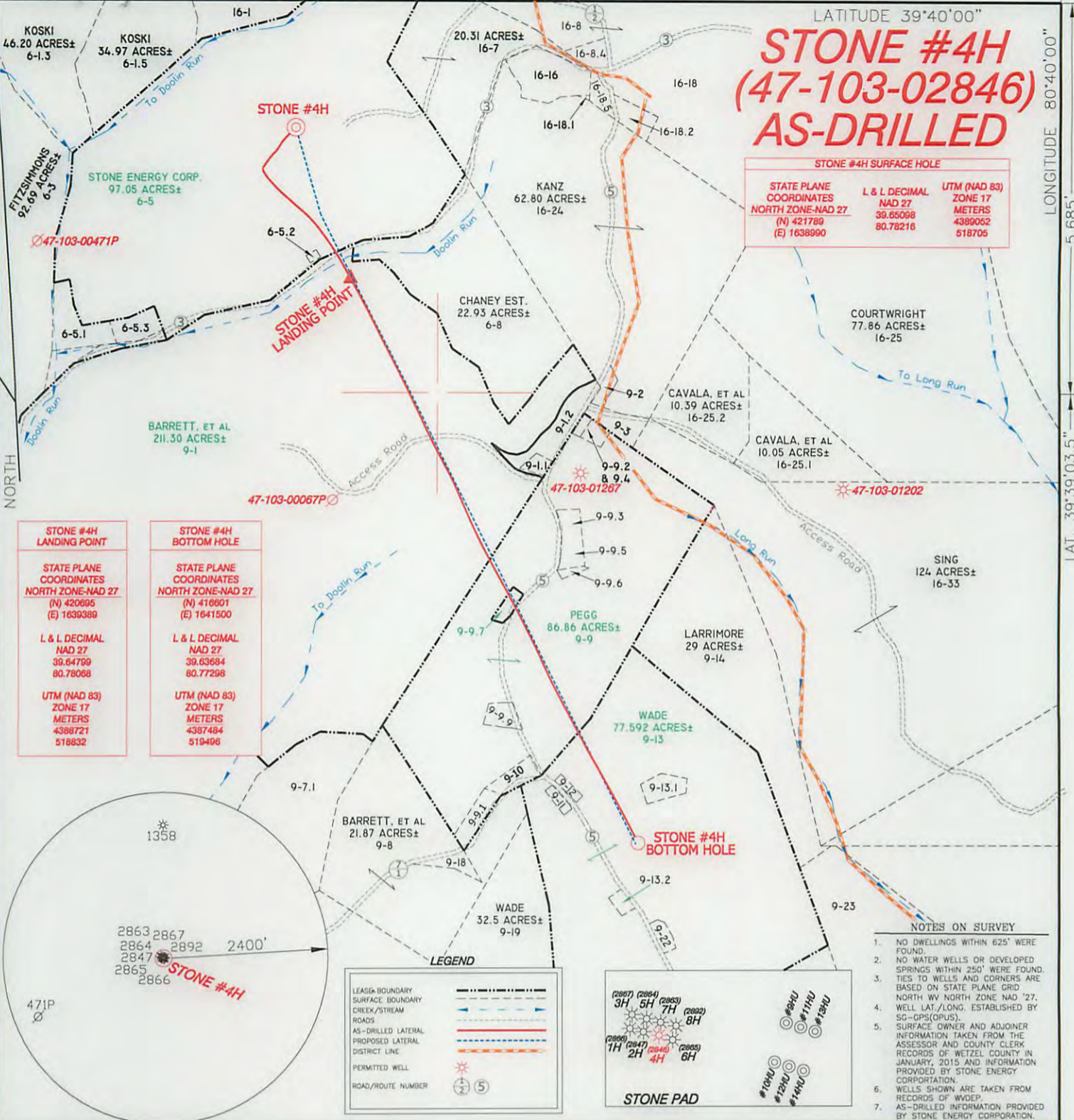
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STONE #4H (47-103-02846) AS-DRILLED

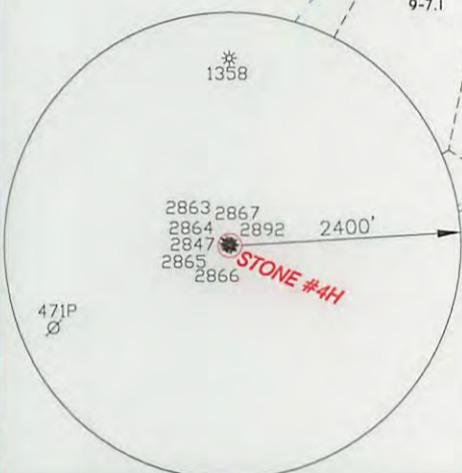
STONE #4H SURFACE HOLE

STATE PLANE COORDINATES NORTH ZONE-NAD 27 (N) 421789 (E) 1638990	L & L DECIMAL NAD 27 39.65068 80.78216	UTM (NAD 83) ZONE 17 METERS 4389052 518705
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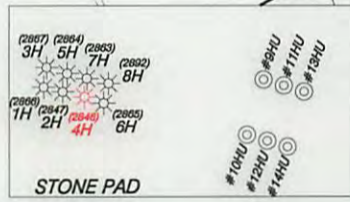
STONE #4H LANDING POINT
STATE PLANE COORDINATES NORTH ZONE-NAD 27 (N) 420695 (E) 1639389
L & L DECIMAL NAD 27 39.64799 80.78068
UTM (NAD 83) ZONE 17 METERS 4388721 518632

STONE #4H BOTTOM HOLE
STATE PLANE COORDINATES NORTH ZONE-NAD 27 (N) 418601 (E) 1641500
L & L DECIMAL NAD 27 39.63684 80.77298
UTM (NAD 83) ZONE 17 METERS 4387484 518496



LEGEND

LEASE BOUNDARY	---
SURFACE BOUNDARY	---
CREEK/STREAM	---
ROADS	---
AS-DRILLED LATERAL	---
PROPOSED LATERAL	---
DISTRICT LINE	---
PERMITTED WELL	☼
ROAD/ROUTE NUMBER	② ⑤



- NOTES ON SURVEY**
- NO DWELLINGS WITHIN 625' WERE FOUND.
 - NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' WERE FOUND. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV NORTH ZONE NAD '27.
 - WELL LAT./LONG. ESTABLISHED BY SG-GPS(OPUS).
 - SURFACE OWNER AND ADJONER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF WETZEL COUNTY IN JANUARY, 2015 AND INFORMATION PROVIDED BY STONE ENERGY CORPORATION.
 - WELLS SHOWN ARE TAKEN FROM RECORDS OF WVDEP.
 - AS-DRILLED INFORMATION PROVIDED BY STONE ENERGY CORPORATION.

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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 DATE APRIL 8 20 15
 OPERATORS WELL NO. STONE #4H
 API WELL NO. 47-103-02846
 STATE WV PERMIT Environmental Protection

P.S. 834
 HUPP Surveying & Mapping
 P.O. Box 647 Grantsville, WV 26147
 (304) 354-7035 EMAIL: hupp@frontiernet.net

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W2234 (BK 75-28)
 PROVEN SOURCE OF ELEVATION SG-GPS (OPUS) SCALE 1" = 1000'

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

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

LOCATION :
 ELEVATION 1,215' WATERSHED DOOLIN RUN
 DISTRICT MAGNOLIA COUNTY WETZEL QUADRANGLE NEW MARTINSVILLE 7.5'
 SURFACE OWNER STONE ENERGY CORPORATION ACREAGE 97.05±
 ROYALTY OWNER BARBARA BARRETT, et al LEASE ACREAGE 473.34± **06/05/2015**
 PROPOSED WORK : LEASE NO. _____
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD-6,770' MD- 12,010'

WELL OPERATOR STONE ENERGY CORPORATION DESIGNATED AGENT TIM MCGREGOR
 ADDRESS P.O. BOX 52807 LAFAYETTE, LA 70508 ADDRESS 1300 FORT PIERPONT DR., SUITE 2C1 MORGANTOWN, WV 26508