

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

API 47-103-02951 County Wetzel District Proctor
Quad New Martinsville Pad Name Erlewine Field/Pool Name Mary
Farm name Erlewine, Richard Well Number Erlewine #3H
Operator (as registered with the OOG) EQT Production Company
Address 625 Liberty Avenue, Suite 1700 City Pittsburgh State Pennsylvania Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,392,658 Easting 517,395
Landing Point of Curve Northing 4,392,886 Easting 517,194
Bottom Hole Northing 4,394,114 Easting 516,756

Elevation (ft) _____ 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) _____

RECEIVED
Office of Oil and Gas

Date permit issued 12/20/2018 Date drilling commenced _____ Date drilling ceased _____
Date completion activities began 3/29/2019 Date completion activities ceased 04/02/2019
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____
JUL - 3 2019
WV Department of Environmental Protection

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

Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) _____

Reviewed by:

Reviewed

[Signature]

[Signature]

API 47- 103 - 02951 Farm name Erlewine, Richard Well number Erlewine #3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details _____

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							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) _____ Loggers TD (ft) _____
 Deepest formation penetrated _____ Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

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

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

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 - 02951 Farm name Erlewine, Richard Well number Erlewine #3H

PERFORATION RECORD

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

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)
								Please See Attachment

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of Environmental Protection

Please insert additional pages as applicable.

API 47- 103 - 02951 Farm name Erlewine, Richard Well number Erlewine #3H

PRODUCING FORMATION(S) DEPTHS
MARCELLUS 6,497' TVD 6,777' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 0 psi Bottom Hole N/A psi DURATION OF TEST 92.0 hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 4,272 mcfpd N/A bpd 245.3 bpd 827.0 bpd Estimated Orifice Pilot

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

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

RECEIVED
Office of Oil and Gas

JUL - 3 2019

Please insert additional pages as applicable.

WV Department of Environmental Protection

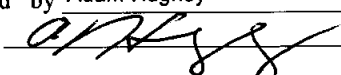
Drilling Contractor _____
 Address _____ City _____ State _____ Zip _____

Logging Company _____
 Address _____ City _____ State _____ Zip _____

Cementing Company _____
 Address _____ City _____ State _____ Zip _____

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

Please insert additional pages as applicable.

Completed by Adam Hughey Telephone (412) 553-5884
 Signature  Title Director - Completions Date 6/27/2019

51918747-103-02951-00-00 Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
1	3/14/2019	11,085	11,166	20	MARCELLUS
2	3/29/2019	10,886	11,067	40	MARCELLUS
3	3/30/2019	10,686	10,867	40	MARCELLUS
4	3/30/2019	10,486	10,667	40	MARCELLUS
5	3/30/2019	10,286	10,427	32	MARCELLUS
5	3/30/2019	10,446	10,467	8	MARCELLUS
6	3/30/2019	10,086	10,267	40	MARCELLUS
7	3/30/2019	9,886	10,067	40	MARCELLUS
8	3/31/2019	9,686	9,867	40	MARCELLUS
9	3/31/2019	9,486	9,667	40	MARCELLUS
10	3/31/2019	9,286	9,467	40	MARCELLUS
11	3/31/2019	9,086	9,267	40	MARCELLUS
12	3/31/2019	8,886	9,067	40	MARCELLUS
13	3/31/2019	8,686	8,867	40	MARCELLUS
14	4/1/2019	8,486	8,667	40	MARCELLUS
15	4/1/2019	8,286	8,467	40	MARCELLUS
16	4/1/2019	8,086	8,267	40	MARCELLUS
17	4/1/2019	7,886	8,067	40	MARCELLUS
18	4/1/2019	7,686	7,867	40	MARCELLUS
19	4/1/2019	7,486	7,667	40	MARCELLUS
20	4/2/2019	7,286	7,467	40	MARCELLUS
21	4/2/2019	7,086	7,267	40	MARCELLUS
22	4/2/2019	6,886	7,067	40	MARCELLUS
Killplug	4/2/2019	6,766	6,768	0	MARCELLUS

RECEIVED
Office of Oil and Gas

JUL - 3 2019

WV Department of
Environmental Protection

519187/47-103-02951-00-00 - 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	3/29/2019	97.30	8,444	8,778	3,741	237,740	4,973	0
2	3/30/2019	100.90	7,562	7,754	4,918	475,400	7,955	0
3	3/30/2019	101.07	7,821	8,062	3,947	475,802	7,862	0
4	3/30/2019	100.55	7,691	8,117	3,964	475,240	7,872	0
5	3/30/2019	100.82	7,595	8,215	4,327	475,220	8,361	0
6	3/30/2019	100.90	7,609	7,766	3,869	475,000	7,795	0
7	3/31/2019	101.20	7,553	8,716	5,272	475,600	7,786	0
8	3/31/2019	101.30	7,631	7,903	4,685	476,040	7,592	0
9	3/31/2019	100.64	7,443	7,642	4,523	475,620	7,820	0
10	3/31/2019	100.59	7,477	7,756	4,761	475,500	7,825	0
11	3/31/2019	100.80	7,493	7,649	4,446	475,120	7,667	0
12	3/31/2019	101.00	7,496	7,673	3,857	475,560	7,645	0
13	4/1/2019	100.90	6,944	7,195	5,335	475,820	7,648	0
14	4/1/2019	101.20	7,337	8,205	4,815	475,260	7,660	0
15	4/1/2019	101.40	7,333	7,833	4,867	475,140	7,577	0
16	4/1/2019	101.40	7,390	8,467	4,401	475,400	7,581	0
17	4/1/2019	101.30	7,198	8,235	4,793	475,120	7,776	0
18	4/1/2019	98.90	7,155	7,734	5,259	475,500	7,632	0
19	4/2/2019	101.50	6,944	7,403	5,259	472,910	7,567	0
20	4/2/2019	100.70	7,057	7,650	5,157	479,800	6,777	0
21	4/2/2019	101.40	7,057	8,095	4,531	475,580	7,450	0
22	4/2/2019	101.00	7,390	8,936	5,106	476,140	7,476	0
Kill Plug	4/2/2019	0	0	0	0	0	55	0

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection

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

API 47 - 103 - 02951 County Wetzel District Proctor
Quad New Martinsville Pad Name Erlewine Field/Pool Name Mary
Farm name Erlewine, Richard Well Number #3H
Operator (as registered with the OOG) Stone Energy Corporation
Address 1300 Fort Pierpont Dr. - Suite 201 City Morgantown State WV Zip 26508

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,392,658 Easting 517,395
Landing Point of Curve Northing 4,392,903 Easting 517,186
Bottom Hole Northing 4,394,114 Easting 516,756

Elevation (ft) 1,212 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 1/8/2014 Date drilling commenced 6/22/2014 Date drilling ceased 1/17/2015
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 120 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 295, 493, 557 and 1,004 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by: _____

RECEIVED
Office of Oil and Gas

JUL - 3 2019

WV Department of
Environmental Protection

API 47- 103 - 02951 Farm name Erlewine, Richard Well number #3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	86'	New	LS - 94.1 ppf		N - GTS
Surface	17.5"	13.375"	1,217' KB - 1,207' GL	New	J55 - 54.5 ppf	119'	Y - CTS
Coal	17.5"	13.375"	1,217' KB - 1,207' GL	New	J55 - 54.5 ppf	119'	Y - CTS
Intermediate 1	12.25"	9.625"	2,396'	New	J55 - 36 ppf		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	11,208'	New	P110 - 20 ppf		N - TOC @ 400' Calculated
Tubing							
Packer type and depth set		TAM CAP Inflatable Packer on 9.625" Casing @ 1,429'					

Comment Details Circulated 18 bbls cement to surface on 13.375" casing string. Circulated 29 bbls cement to surface on the 9.625" casing string. Did not circulate any cement to surface on the 5.5" casing string. TOC on 5.5" calculated to be @ 400'.

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	HalCem Class "A"	865	15.6	1.21	1,047	Surface	8.0
Coal	HalCem Class "A"	865	15.6	1.21	1,047	Surface	8.0
Intermediate 1	Lead-HalCem Tail-HalCem	Lead-430 Tail-350	Lead-15.6 Tail-15.6	Lead-1.24 Tail-1.21	Lead-533 Tail-424	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-Tuned Sapacer3 Tail-VariCem	Lead-178 Tail-2,275	Lead-14.5 Tail-15.0	Lead- 2.37 Tail-1.20	Lead-422 Tail-2,730	400' Calculated	7.0
Tubing							

Drillers TD (ft) 11,228 MD / 6,495 TVD Loggers TD (ft) N/A
 Deepest formation penetrated Marcellus Shale Plug back to (ft) First KOP @ 1,291'. Second KOP @ 1,100'
 Plug back procedure First KOP - TIH opened ended in 12.25" open hole to TD @ 1,954'. Pumped 569 sacks of HalCem mixed at 15.6 ppg, 1.21 cf/sx. Time drilled from 1,291' until bit dropped into original hole @ 1,850'. TOOH and TIH open ended to 1,845'. Pumped 706 sacks of Class "H" mixed at 17.5 ppg, 0.94 cf/sx. Was able to complete hole section after 2nd plug.
 Kick off depth (ft) 5,798 MD / 5,780 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 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29 and 31. Intermediate casing had bow spring centralizers placed on joints 4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52 and 56.
 Production casing had rigid spiral centralizers placed on every third joint beginning with joint 1 to joint 127. Ran a total of 43 rigid spiral centralizers. Ran bow spring centralizers from joint 132 to joint 248 on every fourth joint. A total of 30 bow spring centralizers were run.

RECEIVED
Office of Oil and Gas

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS JUL - 3 2019

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____
 WV Department of Environmental Protection

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

API 47- 103 - 02951 Farm name Erlewine, Richard Well number #3H

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.

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)

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection

Please insert additional pages as applicable.

API 47- 103 - 02951 Farm name Erlewine, Richard Well number #3H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Not Yet Completed</u>	<u> </u> TVD	<u> </u> MD
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

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 mcfpd Oil bpd NGL bpd Water bpd GAS MEASURED BY Estimated Orifice Pilot

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

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

Erlewine #3H
 API 47-103-02951
 Stone Energy Corporation

	Horizontal		Bottom (ft TVD)	Bottom (ft MD)	
	Top (ft TVD)	Top (ft MD)			
Sandstone & Shale	Surface		*	295	FW @ 120'
Coal	295		*	300	
Sandstone & Shale	300		*	493	
Coal	493		*	498	
Sandstone & Shale	498		*	557	
Coal	557		*	561	
Sandstone & Shale	561		*	1,004	
Coal	1,004		*	1,009	
Sandstone & Shale	1,009		*	2,014	SW @ None Reported
Little Lime	2,014		*	2,044	
Big Lime	2,044		*	2,144	
Big Injun	2,144		*	2,244	
Sandstone & Shale	2,244		*	2,612	
Berea Sandstone	2,612		*	2,642	
Shale	2,642		*	2,857	
Gordon	2,857		*	2,907	
Undiff Devonian Shale	2,907		*	5,770	5,788
Rhinestreet	5,770	5,788	~	6,165	6,211
Cashaqua	6,165	6,211	~	6,331	6,438
Middlesex	6,331	6,438	~	6,350	6,460
West River	6,350	6,460	~	6,406	6,565
Geneseo	6,406	6,565	~	6,417	6,586
Tully Limestone	6,417	6,586	~	6,458	6,669
Hamilton Shale	6,458	6,669	~	6,497	6,777
Marcellus	6,497	6,777	~	6,495	11,228
TD				6,495	11,228

* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log



End of Well Report

Erlewine 3H
Curve/Lateral
Saxon 141

Prepared By:
S.Rhodes

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection



TABLE OF CONTENTS

1. **Directional Plot – Planned vs. Actual**
2. **Surveys**
3. **Daily Drilling Reports**
4. **BHA Summary Reports and Slide Sheets**
5. **Graphical Job History**
6. **Support Staff**

RECEIVED
Office of Oil and Gas

JUL - 3 2019

WV Department of
Environmental Protection

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/29/2019
Job End Date:	4/2/2019
State:	West Virginia
County:	Wetzel
API Number:	47-103-02951-00-00
Operator Name:	EQT Production
Well Name and Number:	519187
Latitude:	39.68349500
Longitude:	-80.79733400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,497
Total Base Water Volume (gal):	6,986,776
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	84.96219	None
Hydrochloric Acid (15%)	ProFrac	Acidizing					
				Listed Below			

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection

Sand (Proppant)	ProFrac	Proppant							
					Listed Below				
Clearal 268	Chemstream	Bacteria Treatment			Listed Below				
StimStream FR 9800	Chemstream	Friction Reducer			Listed Below				
StimStream SC-398	Chemstream	Scale Inhibitor			Listed Below				
Other Chemical (s)	Listed Above	See Trade Name (s) List			Listed Below				
ProHib 100	ProFrac	Acid Corrosion Inhibitor			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	14.89928	None	
			Copolymer Of 2-Propenamide		Proprietary	30.00000	0.01419		
			Copolymer Of 2-Propenamide		Proprietary	30.00000	0.01419	None	
			Non-Hazardous Substances		Proprietary	90.00000	0.01253	None	
			Hydrochloric Acid		7647-01-0	15.00000	0.01020	None	
			Petroleum Distillate		64742-47-8	20.00000	0.00946	None	
			Petroleum Distillate		64742-47-8	20.00000	0.00946		

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of Environmental Protection

				Non-Hazardous Substances	Proprietary	90.00000	0.00825	
				Non-Hazardous Substances	Proprietary	90.00000	0.00825	None
				Glutaraldehyde	111-30-8	20.00000	0.00278	None
				Oleic Acid Diethanolamide	93-83-4	2.00000	0.00095	
				Oleic Acid Diethanolamide	93-83-4	2.00000	0.00095	None
				Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000	0.00095	
				Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000	0.00095	None
				Bis(Hexamethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00092	
				Bis(Hexamethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00092	None
				Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00047	None
				Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00047	
				Didecyl Dimethyl Ammonium Chloride	7173-51-5	3.00000	0.00042	None
				Alkyl Dimethyl Benzyl Ammonium Chloride	68391-01-5	3.00000	0.00042	None
				Methanol	67-56-1	90.00000	0.00012	
				Methanol	67-56-1	90.00000	0.00012	None
				Isopropanol	67-63-0	5.00000	0.00001	None
				Xylene	1330-20-7	5.00000	0.00001	None
				Imidazoline	61790-69-0	5.00000	0.00001	
				Propargyl Alcohol	107-19-7	5.00000	0.00001	
				Alcohols, C7-9-ISO, C8-Rich	68526-83-0	5.00000	0.00001	None
				Alcohols, C7-9-ISO, C8-Rich	68526-83-0	5.00000	0.00001	

RECEIVED
Office of Oil and Gas
JUL - 3 2019
WV Department of
Environmental Protection

			Xylene	1330-20-7	5.00000	0.00001	
			Propargyl Alcohol	107-19-7	5.00000	0.00001	None
			Isopropanol	67-63-0	5.00000	0.00001	
			Imidazoline	61790-69-0	5.00000	0.00001	None
			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)

Well Operator's Report of Well Work



Well Number: Erlewine # 3H

API: 47 - 103 - 02951

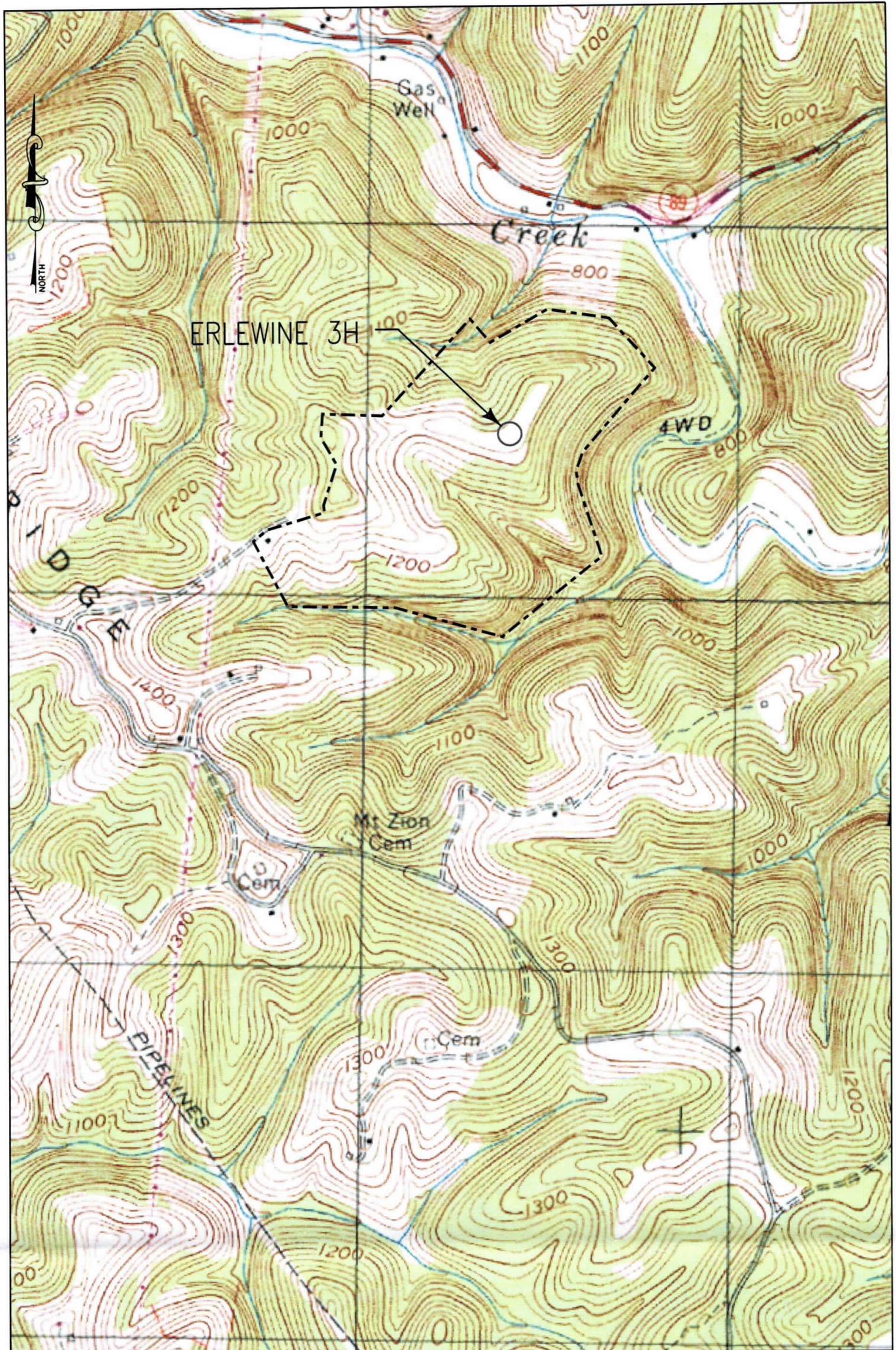
Submission: Initial Amended

Notes: Amended w/ Mylar plat

RECEIVED
Office of Oil and Gas

JUL - 3 2019

WV Department of
Environmental Protection

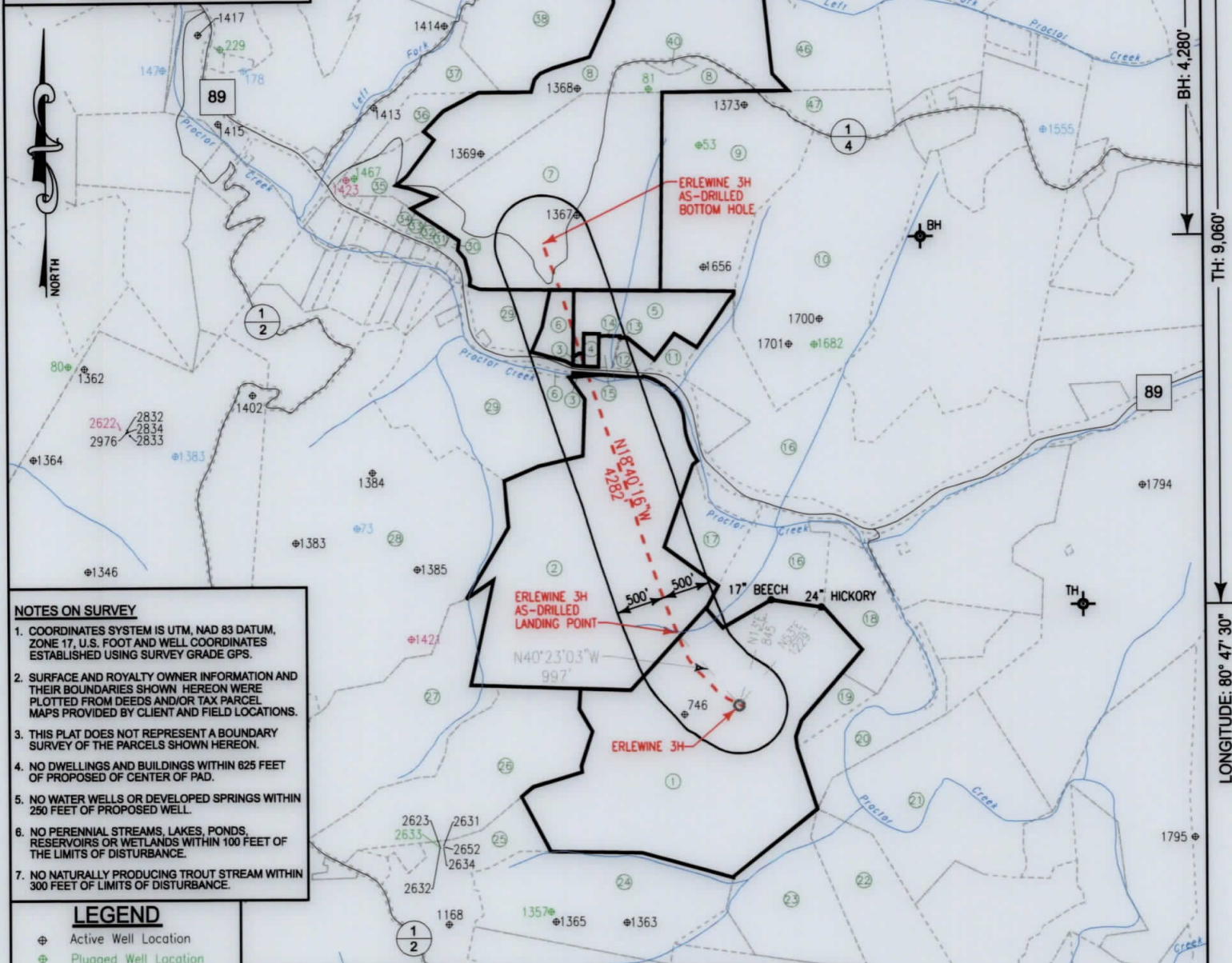


KEYSTONE CONSULTANTS, INC.
 32 EAST MAIN STREET,
 CARNEGIE, PA 15106
 412-278-2100

1" = 1000'
 NEW MARTINSVILLE 7.5'

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

**ERLEWINE 3H
ERLEWINE
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.

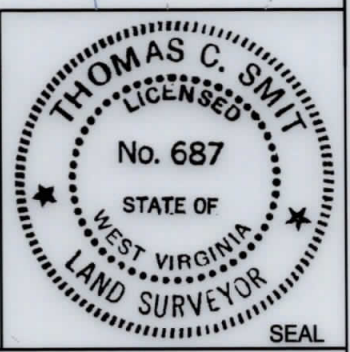
- LEGEND**
- ⊕ Active Well Location
 - ⊕ Plugged Well Location
 - ⊕ Never Drilled
 - ⊕ Abandoned Well
 - ① Tract Identification
 - Proposed Gas Well
 - Located Corner, as noted
 - Surface Tract Lines
 - Reference Line
 - Lease Boundary
 - Creek or Drain
 - Ⓢ WV County Route
 - Ⓡ WV State Route

Tract ID.	Lease No.	Acres	Owner
1	873753	130.201343	Ronald Carney ET UX
2	873438	126.755241	Piney Holdings, Inc
4	873956	1.278391	Timothy F. Bridge
5	873941	14.719421	Michael G. Baxter ET UX
3 & 6	873936	6.706076	Larry K. Keene
7	873671	187.739475	Clarence W. Baxter ET UX

(⊕) 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. Smollett
L. L. S. 687



FILE NO: W2192 (BK 65-61)
DRAWING NO:
SCALE: 1" = 1600'
MINIMUM DEGREE OF ACCURACY: 1:2500
PROVEN SOURCE OF ELEVATION: NGS CORS Station

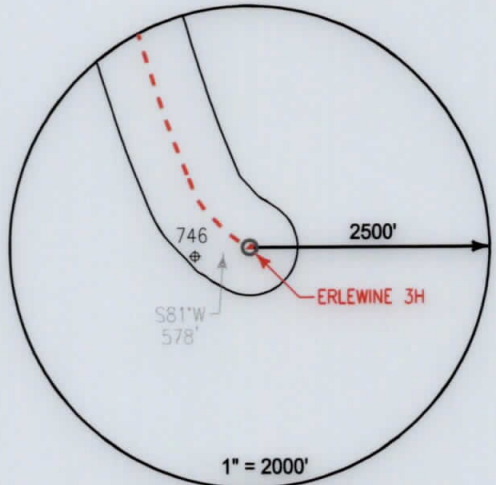
**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION**

DATE: JUNE 25 20 19
OPERATORS WELL NO: ERLEWINE 3H
API WELL NO
47 - 103 - 02951
STATE COUNTY PERMIT

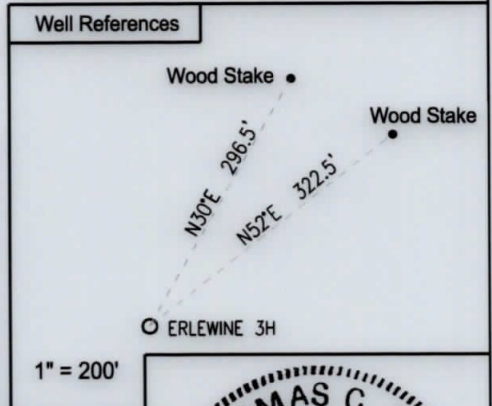
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION ELEVATION: 1,220' WATERSHED: TRIBUTARY OF PROCTOR CREEK QUADRANGLE: NEW MARTINSVILLE 7.5'
DISTRICT: Proctor COUNTY: Wetzel
SURFACE OWNER: Richard Erlewine ACREAGE: 135 ±
ROYALTY OWNER: Ronald Carney, et ux LEASE NO: 873753 ACREAGE: 130.20 ±
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: 6,750'
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

**Erlewine 3H
Erlewine
EQT Production Company**

Tract ID.	Tax Map No.	Parcel No.	County	District	Surface Tract Owner	Acres
1	6	46	Wetzel	Proctor	Richard L. Erlewine	136.18
2	6	36	Wetzel	Proctor	Richard L. Erlewine	127.14
3	6	26.4	Wetzel	Proctor	Larry K. Keene	0.44
4	6	26.1	Wetzel	Proctor	Timothy F. Bridge	1.25
5	6	26.3	Wetzel	Proctor	Michael G. & Kathleen F. Baxter	18.7
6	6	26	Wetzel	Proctor	Larry K. Keene	6.26
7	6	6	Wetzel	Proctor	Baxter Farm LLC	88.5
8	1	32	Wetzel	Proctor	Baxter Farm LLC	76.67
9	6	7.3	Wetzel	Proctor	Austin & Marlene Postlethwait	54.57
10	6	7.2	Wetzel	Proctor	Brian Lyle & Beth Ann Hayes	82.34
11	6	28	Wetzel	Proctor	Ray D. & Heather D. Yoho	2.74
12	6	27.1	Wetzel	Proctor	Carolyn M. Lloyd	2.13
13	6	27.2	Wetzel	Proctor	Carolyn M. Lloyd	0.1
14	6	26.2	Wetzel	Proctor	Carolyn M. Lloyd	0.09
15	6	27	Wetzel	Proctor	Carolyn M. Lloyd	1.26
16	6	30	Wetzel	Proctor	Albert Ray Anderson	102.63
17	6	38	Wetzel	Proctor	Ethel Anderson EST	12.56
18	6	40	Wetzel	Proctor	Kevin S. Goff	19.13
19	6	47	Wetzel	Proctor	Victor Richard Reed ET AL	5.55
20	7	34	Wetzel	Proctor	Kevin Goff	23.31
21	7	37	Wetzel	Proctor	Rost Energy Company	64.56
22	12	1	Wetzel	Proctor	Kevin Goff	28.69
23	11	5	Wetzel	Proctor	Emma L. & John J. Moore	30.34
24	11	3	Wetzel	Proctor	Christy Leek & Mary Wilson EST	52.33
25	6	45	Wetzel	Proctor	Christy Leek	29.51
26	6	45.1	Wetzel	Proctor	Donald F. & Martha J. Arrick	53.9
27	6	35	Wetzel	Proctor	Donald F. & Martha J. Arrick	58.96
28	6	23	Wetzel	Proctor	George Lemoyne Horner & Joseph Lemoyne Horner	156.55
29	6	24	Wetzel	Proctor	George R. Baxter	83.92
30	6A	11.2	Wetzel	Proctor	Robert L. & Mary Ellen Stillwagoner	0.32
31	6A	10	Wetzel	Proctor	Jay Edward & Kathleen S. Smith	3.33
32	6A	9	Wetzel	Proctor	Joyce Kay Morris	3.47
33	6A	8	Wetzel	Proctor	Candis Darlene Clark	3.67
34	6A	7	Wetzel	Proctor	Janice Capobianco	8.42
35	6	5	Wetzel	Proctor	Steven & Susan Louise Hafer	8.68
36	6	4	Wetzel	Proctor	Steven J. Hafer	6.91
37	1	27	Wetzel	Proctor	Steven J. Hafer	79.29
38	1	28	Wetzel	Proctor	Floyd R. & Mitzie Lou Cecil	87.73
39	1	29	Wetzel	Proctor	Baxter Farm LLC	2.11
40	1	33	Wetzel	Proctor	William & Christina Wilkinson	0.99
41	1	N/A	Wetzel	Proctor	N/A	1.45
42	1	31	Wetzel	Proctor	Steven Jack & Susan Hafer	19.08
43	1	30	Wetzel	Proctor	Proctor Creek School	0.66
44	1	20	Wetzel	Proctor	Charles E. Frohnapfel	124.67
45	1	34.1	Wetzel	Proctor	Herbert & Virginia Parsons	2.42
46	1	34	Wetzel	Proctor	Ronald J. Linda Petrecca	29.06
47	6	52	Wetzel	Proctor	Ronald J. Linda Petrecca	11.23

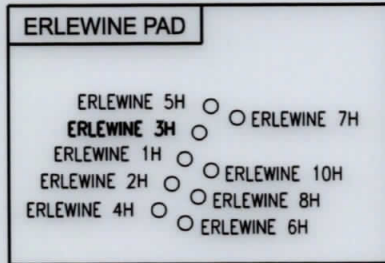


Notes:
ERLEWINE 3H As-Drilled coordinates are
 NAD 27 N: 433,692.003 E: 1,634,887.000
 NAD 27 Lat: 39.683495 Long: -80.797334
 NAD 83 UTM N: 4,392,657.551 E: 517,394.742
ERLEWINE 3H As-Drilled Landing Point coordinates are
 NAD 27 N: 434,451.193 E: 1,634,241.230
 NAD 27 Lat: 39.685554 Long: -80.799668
 NAD 83 UTM N: 4,392,885.553 E: 517,194.148
ERLEWINE 3H As-Drilled Bottom Hole coordinates are
 NAD 27 N: 438,507.173 E: 1,632,870.510
 NAD 27 Lat: 39.696634 Long: -80.804747
 NAD 83 UTM N: 4,394,114.253 E: 516,755.953
 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.



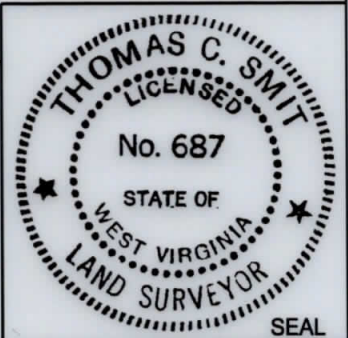
LEGEND

- ⊕ 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.

Thomas C. Smalls
 L. L. S. 687



FILE NO: W2192 (BK 65-61)
 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: JUNE 25 20 19
 OPERATORS WELL NO: ERLEWINE 3H
 API WELL NO
 47 - 103 - 02951
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION ELEVATION: 1,220' WATERSHED: TRIBUTARY OF PROCTOR CREEK QUADRANGLE: NEW MARTINSVILLE 7.5'
 DISTRICT: Proctor COUNTY: Wetzel
 SURFACE OWNER: Richard Erlewine ACREAGE: 135 ±
 ROYALTY OWNER: Ronald Carney, et ux LEASE NO: 873753 ACREAGE: 130.20 ±
 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: 6,750'
 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