

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

API 47 - 095 - 02510 County Tyler District Centerville
Quad West Union Pad Name WEU4 Field/Pool Name N/A
Farm name Donna J Peter Well Number WEU4H12 (516539)
Operator (as registered with the OOG) EQT Production Company
Address 625 LIBERTY AVENUE, SUITE 1700 City PITTSBURGH State PA Zip 15222

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,357,496.87 Easting 515,441.34
Landing Point of Curve Northing 4,357,528.81 Easting 516,116.27
Bottom Hole Northing 4,356,619.83 Easting 516,546.41

Elevation (ft) 1079' 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) 12.0 ppg Synthetic Base : Mud Barium Sulfate (Mil-Bar 410), Synthetic Base Oil (Next-Base), Calcium Chloride, Bentonite Clay (Carbo-Gel II), Polymerized Fatty Acid Emulsifier(Carbo-Tec and Next-Mul HT), Lime, Walnut Shells Cellulosic Material (Chek-Loss, LCM), Calcium Carbonate (Mil-Carb), Gilsonite (Ecco-Blok)

Date permit issued 8/3/2018 Date drilling commenced 8/30/2018 Date drilling ceased 2/4/19
Date completion activities began 3/6/2019 Date completion activities ceased 3/11/2019
Verbal plugging (Y/N) N Date permission granted N/A Granted by N/A

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

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Freshwater depth(s) ft 132, 175, 186, 204 Open mine(s) (Y/N) depths N WV Department of Environmental Protection
Salt water depth(s) ft 1128, 1219, 1222 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 232, 285, 700 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed

Reviewed by:
JCB
6/24/2019

API 47-095 - 02510

Farm name Donna J Peter

Well number WEU4H12 (516539)

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	30"	26"	53'	NEW	A-500 85.6#	N/A	Y
Surface	17-1/2"	13-3/8"	754'	NEW	J-55 54.5#	206	Y
Coal							
Intermediate 1	12-3/8"	9-5/8"	2864'	NEW	A-500 40#	N/A	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5 1/2"	10978'	NEW	P-110 20#	N/A	N
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	CLASS A	100	15.6	1.18	118	0	8+
Surface	CLASS A	739	16	1.13	835	0	20.2
Coal							
Intermediate 1	CLASS H	1085	16.4	1.07	1161	0	20.4
Intermediate 2							
Intermediate 3							
Production	CLASS A	1480	15.6	1.23	1820	4000	+72
Tubing							

Drillers TD (ft) 10,983' MD

Loggers TD (ft) N/A

Deepest formation penetrated MARCELLUS

Plug back to (ft) N/A

Plug back procedure N/A

Kick off depth (ft) 3943 MD

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 CONDUCTOR: NONE

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SURFACE: on shoe joint and less than every 150' and within 100' from surface.

INTERMEDIATE: On shoe joint and less than every 150' and within 100' from surface.

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PRODUCTION: 160 Composite bodied centralizers on every joint from TD up to 3570' MD

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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- 095 - 02510

Farm name Donna J Peter

Well number WEU4H12 (516539)

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

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Please insert additional pages as applicable.

API 47- 095 - 02510 Farm name Donna J Peter Well number WEU4H12 (516539)

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
MARCELLUS	6,608' TVD	7,471' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface 2,588 psi Bottom Hole N/A psi DURATION OF TEST 113.5 hrs
 OPEN FLOW Gas 4,952 mcfpd Oil N/A bpd NGL 0.5 bpd Water 393.6 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		

Please insert additional pages as applicable.

Drilling Contractor Precision Drilling
 Address 10350 Richmond Avenue Suite 700 City Houston State TX Zip 77042
 Logging Company Baker Hughes
 Address 400 Technology Drive - Suite 120 City Canonsburg State PA Zip 15317
 Cementing Company Halliburton
 Address 121 Champion Way Ste 110 City Canonsburg State PA Zip 15317
 Stimulating Company ProFrac
 Address 777 Main Street, Suite 3900 City Ft. Worth State TX Zip 76102

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Please insert additional pages as applicable.

Completed by Adam Hughey Telephone (412) 553-5884
 Signature  Title Director - Completions Date 6/5/2019

API 47- 095 02510 Farm name Donna J Peter Well number WEU4H12 (516539)

Drilling Contractor Falcon Drilling Company LLC
Address P.1120 Rt 119 Hwy North City Indiana State PA Zip 15701

Logging Company Gyrodata Inc.
Address 73 Noblestown Road City Carnegie State PA Zip 15106

Logging Company Scientific Drilling International
Address 124 Vista Drive City Charleroi State PA Zip 15022

Cementing Company Universal
Address 13549 S. Mosiertown Rd City Meadville State PA Zip 16335

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Formation Name	Drill Top MD (ftKB)	Drill Btm MD (ftKB)	Drill Top (TVD) (ftKB)	Drill Btm (TVD) (ftKB)
FRESH WATER ZONE	0	204	0	204
SAND/SHALE	0	235	0	235
COAL	235	237	235	237
SAND/SHALE	237	286	237	286
COAL	286	290	286	290
SAND/SHALE	290	701	290	701
COAL	701	705	701	705
SAND/SHALE	705	1843	705	1843
MAXTON	1843	2042	1843	2042
SAND/SHALE	2042	2116	2042	2116
BIG LIME	2116	2400	2116	2400
SAND/SHALE	2400	2408	2400	2408
WEIR	2408	2455	2408	2455
SAND/SHALE	2455	2495	2455	2495
GANTZ	2495	2512	2495	2512
SAND/SHALE	2512	2609	2512	2609
FIFTY FOOT	2609	2664	2609	2664
SAND/SHALE	2664	2695	2664	2695
THIRTY FOOT	2695	2749	2695	2749
SAND/SHALE	2749	2775	2749	2775
GORDON	2775	2820	2775	2820
SAND/SHALE	2820	2846	2820	2846
FORTH SAND	2846	2908	2846	2908
SAND/SHALE	2908	2959	2908	2959
FIFTH SAND	2959	2972	2959	2972
SAND/SHALE	2972	3016	2972	3016
BAYARD	3016	3153	3016	3153
SAND/SHALE	3153	3379	3153	3379
WARREN	3379	3445	3379	3445
SAND/SHALE	3445	3465	3445	3465
SPEECHLEY	3465	3579	3465	3579
SAND/SHALE	3579	3981	3579	3981
BALLTOWN A	3981	4093	3981	4092
SAND/SHALE	4093	4579	4092	4507
RILEY	4579	4869	4507	4730
SAND/SHALE	4869	5000	4730	4834
BENSON	5000	5063	4834	4884
SAND/SHALE	5063	5247	4884	5026
ALEXANDER	5247	5329	5026	5089
ELKS	5329	6884	5089	6285
SONYEA	6884	7070	6285	6417
MIDDLESEX	7070	7141	6417	6462
GENESEE	7141	7288	6462	6540
GENESEO	7288	7349	6540	6567
TULLY	7349	7416	6567	6592
HAMILTON	7416	7471	6592	6608
MARCELLUS	7471	10983	6608	6637

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516539 47-095-02510-00-00 Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
1 (Toe Sub)	2/22/2019	10,906	10,098	0	MARCELLUS
2	3/6/2019	10,702	10,883	40	MARCELLUS
3	3/6/2019	10,502	10,683	40	MARCELLUS
4	3/6/2019	10,302	10,483	40	MARCELLUS
5	3/7/2019	10,102	10,283	40	MARCELLUS
6	3/7/2019	9,902	10,083	40	MARCELLUS
7	3/7/2019	9,702	9,883	40	MARCELLUS
8	3/8/2019	9,502	9,683	40	MARCELLUS
9	3/8/2019	9,302	9,483	40	MARCELLUS
10	3/8/2019	9,102	9,283	40	MARCELLUS
11	3/8/2019	8,902	9,083	40	MARCELLUS
12	3/9/2019	8,702	8,883	40	MARCELLUS
13	3/10/2019	8,502	8,683	40	MARCELLUS
14	3/10/2019	8,302	8,483	40	MARCELLUS
15	3/10/2019	8,102	8,283	40	MARCELLUS
16	3/10/2019	7,902	8,083	40	MARCELLUS
16	3/11/2019	7,932	8,013	40	MARCELLUS
17	3/11/2019	7,702	7,883	40	MARCELLUS
18	3/11/2019	7,502	7,683	40	MARCELLUS
Kill Plug	3/11/2019	7,402	7,404	0	MARCELLUS

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516539 47-095-02510-00-00 - 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 (bbbls)	Amount of Nitrogen/other (units)
1	3/6/2019	94.7	8,195	8,568	4,221	210,260	4,116	0
2	3/6/2019	101	7,554	7,791	3,637	525,340	8,597	0
3	3/6/2019	100	7,480	7,821	4,487	525,500	10,491	0
4	3/7/2019	99.71	7,423	8,070	3,898	525,180	9,408	0
5	3/7/2019	98.79	7,448	7,800	3,673	524,980	9,747	0
6	3/7/2019	100	7,664	9,260	3,661	524,500	8,465	0
7	3/8/2019	101	7,731	8,422	3,707	525,840	8,282	0
8	3/8/2019	99.4	7,726	9,522	4,281	525,020	8,373	0
9	3/8/2019	100	7,241	7,516	4,076	525,200	10,663	0
10	3/8/2019	99.92	7,377	8,013	3,995	525,060	8,224	0
11	3/9/2019	99	7,230	7,912	3,958	525,600	10,855	0
12	3/10/2019	96.8	7,210	9,614	5,142	524,840	13,698	0
13	3/10/2019	97	7,243	7,675	3,805	525,640	9,276	0
14	3/10/2019	100	7,504	8,367	3,548	525,060	8,786	0
15	3/10/2019	99.95	7,209	8,021	3,961	525,180	10,164	0
16	3/11/2019	100	7,591	8,961	4,046	525,200	14,348	0
17	3/11/2019	100	7,355	7,926	4,907	525,440	9,329	0
18	3/11/2019	100.6	6,819	7,142	3,794	525,320	8,962	0

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Hydraulic Fracturing DISCLOSURE

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/6/2019
Job End Date:	3/11/2019
State:	West Virginia
County:	Tyler
API Number:	47-095-02510-00-00
Operator Name:	EQT Production
Well Name and Number:	516539
Latitude:	39.36671400
Longitude:	-80.82092000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,608
Total Base Water Volume (gal):	7,214,928
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	86.59203	None
StimStream FR 9800	Chemstream	Friction Reducer					
				Listed Below			

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Other Chemical (s)	Listed Above	See Trade Name (s) List					
				Listed Below			
ProHib 100	ProFrac	Acid Corrosion Inhibitor					
				Listed Below			
Clearal 268	Chemstream	Bacteria Treatment					
				Listed Below			
StimStream SC-398	Chemstream	Scale Inhibitor					
				Listed Below			
ProVis 4.0	ProFrac	Gel Breaker					
				Listed Below			
Hydrochloric Acid (15%)	ProFrac	Acidizing					
				Listed Below			
Sand (Proppant)	ProFrac	Proppant					
				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	13.14395	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02647	None
			Copolymer Of 2-Propenamide	Proprietary	30.00000	0.01904	None
			Petroleum Dilstillate	64742-47-8	20.00000	0.01269	None
			Petroleum Dilstillate	64742-47-8	20.00000	0.01269	

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			Non-Hazardous Substances	Proprietary	90.00000	0.01267	None
			Non-Hazardous Substances	Proprietary	90.00000	0.00833	
			Non-Hazardous Substances	Proprietary	90.00000	0.00833	None
			Glutaraldehyde	111-30-8	20.00000	0.00281	None
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00127	
			Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000	0.00127	
			Alcohols, C12-16, Ethoxylated	68551-12-2	2.00000	0.00127	None
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00127	None
			Bis(HexaMethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00093	None
			Bis(HexaMethylene Triamine Penta (Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00093	
			Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00063	
			Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00063	None
			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	0.00031	
			Methanol	67-56-1	90.00000	0.00031	None
			Hydrotreated Light Distillate (Petroleum)	64742-47-8	65.00000	0.00026	None
			Hydrotreated Light Distillate (Petroleum)	64742-47-8	65.00000	0.00026	
			Guar Gum	9000-30-0	50.00000	0.00020	
			Guar Gum	9000-30-0	50.00000	0.00020	None

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			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	
			Isopropanol	67-63-0	5.00000	0.00002	
			Propargyl Alcohol	107-19-7	5.00000	0.00002	
			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	
			Isopropanol	67-63-0	5.00000	0.00002	None
			Imidazoline	61790-69-0	5.00000	0.00002	None
			Propargyl Alcohol	107-19-7	5.00000	0.00002	None
			Ethylbenzene	100-41-4	1.00000	0.00000	
			Ethylbenzene	100-41-4	1.00000	0.00000	None

* 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.

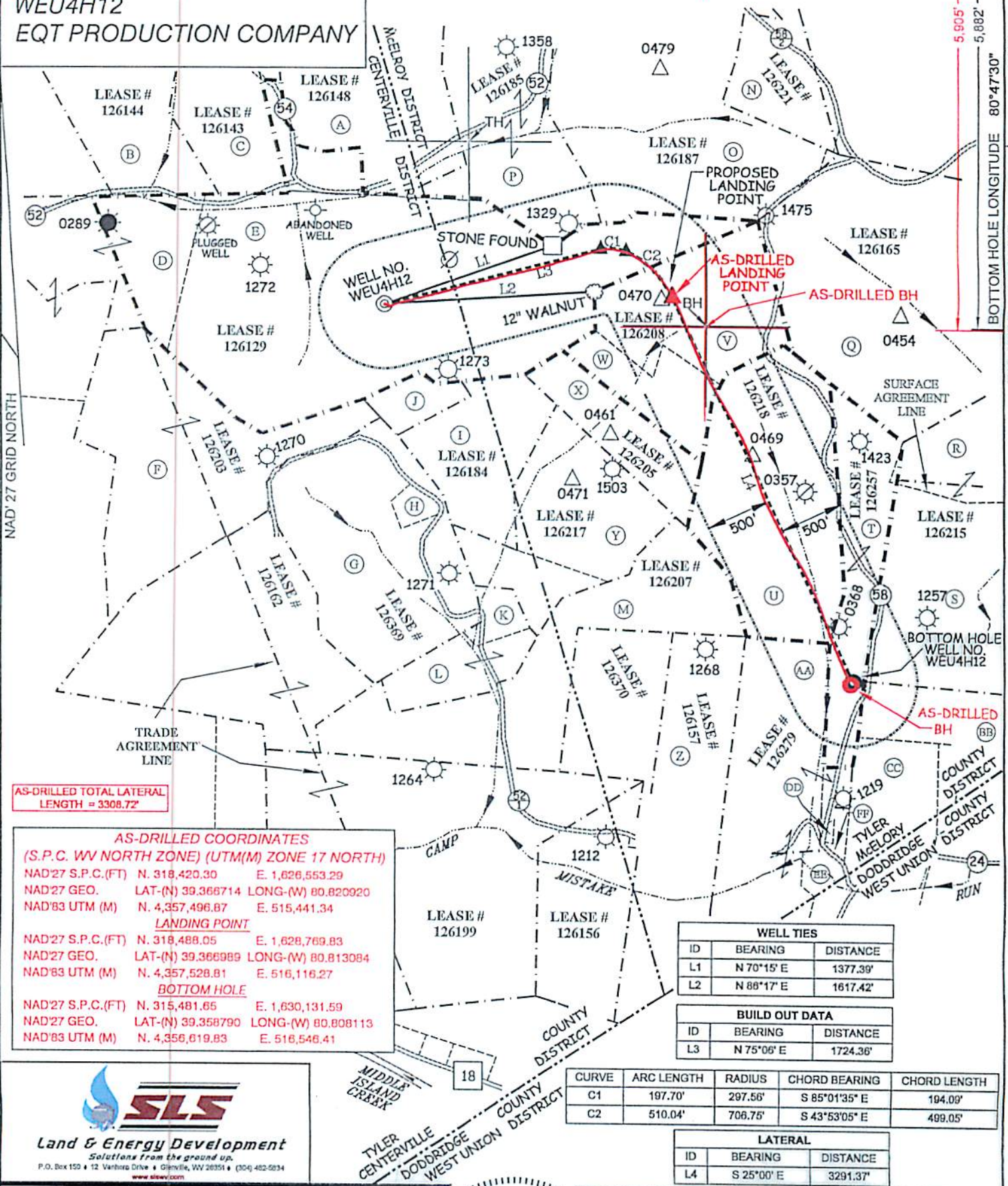
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

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**WEU4
WEU4H12
EQT PRODUCTION COMPANY**

NAD 27 GRID NORTH

BOTTOM HOLE LONGITUDE 80°47'30"
TOP HOLE LONGITUDE 80°47'30"



AS-DRILLED TOTAL LATERAL LENGTH = 3308.72'

AS-DRILLED COORDINATES
(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 318,420.30	E. 1,626,553.29
NAD'27 GEO.	LAT-(N) 39.366714	LONG-(W) 80.820920
NAD'83 UTM (M)	N. 4,357,496.87	E. 515,441.34
LANDING POINT		
NAD'27 S.P.C.(FT)	N. 318,488.05	E. 1,628,769.83
NAD'27 GEO.	LAT-(N) 39.366989	LONG-(W) 80.813084
NAD'83 UTM (M)	N. 4,357,528.81	E. 516,116.27
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 315,481.65	E. 1,630,131.59
NAD'27 GEO.	LAT-(N) 39.358790	LONG-(W) 80.808113
NAD'83 UTM (M)	N. 4,356,619.83	E. 516,548.41

WELL TIES

ID	BEARING	DISTANCE
L1	N 70°15' E	1377.39'
L2	N 86°17' E	1617.42'

BUILD OUT DATA

ID	BEARING	DISTANCE
L3	N 75°06' E	1724.36'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	197.70'	297.56'	S 85°01'35" E	194.09'
C2	510.04'	706.75'	S 43°53'05" E	499.05'

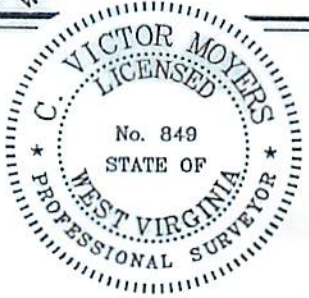
LATERAL

ID	BEARING	DISTANCE
L4	S 25°00' E	3291.37'



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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 *C. Victor Moyers*



(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 318,420.30	E. 1,626,553.29
NAD'27 GEO.	LAT-(N) 39.366714	LONG-(W) 80.820920
NAD'83 UTM (M)	N. 4,357,496.87	E. 515,441.34
LANDING POINT		
NAD'27 S.P.C.(FT)	N. 318,487.06	E. 1,628,759.00
NAD'27 GEO.	LAT-(N) 39.366986	LONG-(W) 80.813123
NAD'83 UTM (M)	N. 4,357,528.44	E. 516,112.97
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 315,504.06	E. 1,630,149.98
NAD'27 GEO.	LAT-(N) 39.358853	LONG-(W) 80.808050
NAD'83 UTM (M)	N. 4,356,626.75	E. 516,551.90

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



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

SCALE 1" = 1000'
DATE MAY 29, 20 19
REVISED _____, 20 ____
OPERATORS WELL NO. WEU4H12
API WELL NO. 47 - 95 - 02510
NO. STATE COUNTY PERMIT

LEGEND

COUNTY ROUTE	○	LEASE LINE	- - - - -
PROPOSED WELL	⊙	SURFACE LINE	- - - - -
EXISTING WELL	⊗	PROPOSED WELL LATERAL	- - - - -
PERMITTED WELL	⊕	AS-DRILLED WELL LATERAL	— — — — —
PLUGGED WELL	⊖	TIE LINE	— — — — —
STORAGE WELL	△	CREEK	— — — — —
CENTERTVILLE DIST. TAX MAP-PARCEL	C-00-00	ROAD	— — — — —
McELROY DIST. TAX MAP-PARCEL	M-00-00	FENCE LINE	— — — — —
WEST UNION DIST. TAX MAP-PARCEL	WU-00-00		

WELL OPERATOR EQT PRODUCTION COMPANY
ADDRESS 2400 ANSYS DRIVE, SUITE 200
CANONSBURG, PA 15317

DESIGNATED AGENT JASON RANSON
ADDRESS 115 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330

COUNTY NAME _____
PERMIT _____

**WEU4
WEU4H12
EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°22'30"

4,632'

4,650'

5,905'

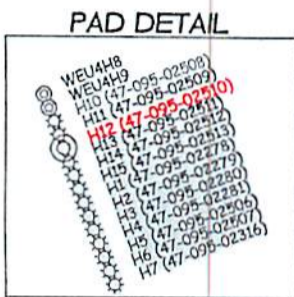
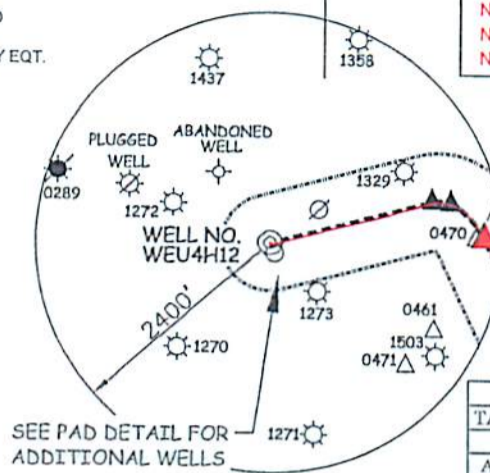
5,882'

BOTTOM HOLE LONGITUDE 80°47'30"
TOP HOLE LONGITUDE 80°47'30"

- NOTES ON SURVEY**
- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS 2500 SQ. FT. OR GREATER WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
 - WELL SPOT CIRCLE (SHEET 1) AND TOPO MARK SCALE ARE 1" = 2000'.
 - AS-DRILLED INFORMATION PROVIDED BY EQT.

AS-DRILLED COORDINATES (S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT)	N. 318,420.30	E. 1,626,553.29
NAD'27 GEO.	LAT-(N) 39.366714	LONG-(W) 80.820920
NAD'83 UTM (M)	N. 4,357,496.87	E. 515,441.34
LANDING POINT		
NAD'27 S.P.C.(FT)	N. 318,488.05	E. 1,628,769.83
NAD'27 GEO.	LAT-(N) 39.366989	LONG-(W) 80.813084
NAD'83 UTM (M)	N. 4,357,528.81	E. 516,116.27
BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 315,481.65	E. 1,630,131.59
NAD'27 GEO.	LAT-(N) 39.358790	LONG-(W) 80.808113
NAD'83 UTM (M)	N. 4,356,619.83	E. 516,546.41



ROYALTY OWNERS

ROXIE DAVIS ET AL	53 AC.±	LEASE NO. 126208
DARREN L. PARKS ET AL	50 AC.±	LEASE NO. 126218
THOMAS E. & RICHARD S. MARTIN	28 AC.±	LEASE NO. 126257

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BOTTOM HOLE		
NAD'27 S.P.C.(FT)	N. 315,504.06	E. 1,630,149.98
NAD'27 GEO.	LAT-(N) 39.358853	LONG-(W) 80.808050
NAD'83 UTM (M)	N. 4,356,626.75	E. 516,551.90

SURFACE OWNERSHIP

TAG	SURFACE OWNER	ACRES	T.M. - PAR.
TYLER COUNTY			
A	CHASE & REBA J. BARTRUG	109.94 ACRES±	TM-C-16-10
B	CONRAD COSTILOW	46.17 ACRES±	TM-C-16-14
C	JEFFERY E. & ANITA L. HOOVER	24.84 ACRES±	TM-C-16-16
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H	STONEWALL GAS COMPANY	2 ACRES±	TM-C-16-24.2
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V	EDWARD II & CAROLYN A. WHITE	40 ACRES±	TM-M-21-38
W	EDWARD II & CAROLYN A. WHITE	12.5 ACRES±	TM-M-21-39
X	EDWARD II & CAROLYN A. WHITE	16 ACRES±	TM-M-21-40
Y	BRYAN W. PRATT	23 ACRES±	TM-M-21-41
Z	RICHARD & LISA HENDRICKSON	44.68 ACRES±	TM-M-23-02
AA	JAMES T. & KATHRYN L. McNULTY	50.18 ACRES±	TM-M-23-3.1
BB	MYRON B. & BETTY WHITE	15.15 ACRES±	TM-M-23-07
DODDRIDGE COUNTY			
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DD	KENDRA K. (COTTRILL) WYKE	0.5 ACRES±	TM-WU-01-08
EE	JUDITH ANN BAGLEY	10.09 ACRES±	TM-WU-01-10
FF	JASON E. & JENNIFER L. BAGLEY	1.42 ACRES±	TM-WU-01-10.1



I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAN 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 DIVISION OF ENVIRONMENTAL PROTECTION.



P.S. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE MAY 29, 20 19

REVISED _____
OPERATORS WELL NO. WEU4H12
API WELL NO. 47 - 95 - 02510
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7701PWU4H12AD.dwg (516539)

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

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

LOCATION: PAD ELEVATION 1,079' WATERSHED TRIBUTARY OF CAMP MISTAKE RUN
DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE WEST UNION 7.5'

SURFACE OWNER DONNA J. PETER ACREAGE 113.40±
ROYALTY OWNER WACO OIL AND GAS INC. ET AL ACREAGE 152±

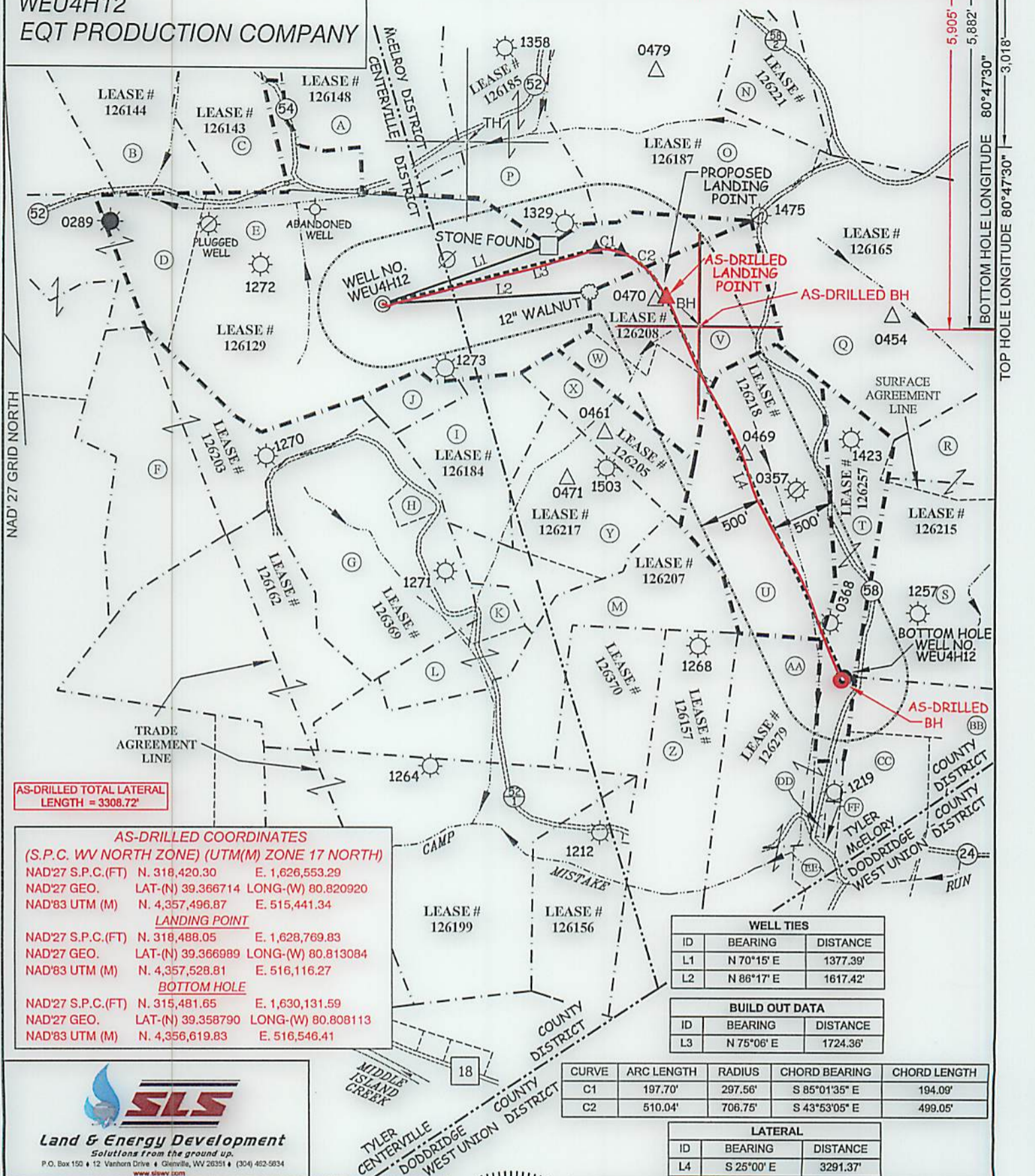
PROPOSED WORK: LEASE NO. 126129
DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH 6,680'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON
ADDRESS 2400 ANSYS DRIVE, SUITE 200 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
CANONSBURG, PA 15317 BRIDGEPORT, WV 26330

COUNTY NAME
PERMIT

**WEU4
WEU4H12
EQT PRODUCTION COMPANY**



AS-DRILLED TOTAL LATERAL LENGTH = 3308.72'

AS-DRILLED COORDINATES (S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'27 S.P.C.(FT) N. 318,420.30 E. 1,626,553.29
 NAD'27 GEO. LAT-(N) 39.366714 LONG-(W) 80.820920
 NAD'83 UTM (M) N. 4,357,496.87 E. 515,441.34

LANDING POINT

NAD'27 S.P.C.(FT) N. 318,488.05 E. 1,628,769.83
 NAD'27 GEO. LAT-(N) 39.366989 LONG-(W) 80.813084
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BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 315,481.65 E. 1,630,131.59
 NAD'27 GEO. LAT-(N) 39.358790 LONG-(W) 80.808113
 NAD'83 UTM (M) N. 4,356,619.83 E. 516,546.41

ID	BEARING	DISTANCE
L1	N 70°15' E	1377.39'
L2	N 86°17' E	1617.42'

ID	BEARING	DISTANCE
L3	N 75°06' E	1724.36'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	197.70'	297.56'	S 85°01'35" E	194.09'
C2	510.04'	706.75'	S 43°53'05" E	499.05'

ID	BEARING	DISTANCE
L4	S 25°00' E	3291.37'

SLS
Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Vanhorn Drive • Glenville, WV 26351 • (304) 462-5634
www.sls-wv.com

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P.S. 849 *C. Victor Moyers*



(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)

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

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

SCALE 1" = 1000'

DATE MAY 29, 2019

REVISED _____, 20____

OPERATORS WELL NO. WEU4H12

API WELL NO. 47 - 95 - 02510

NO. STATE COUNTY PERMIT

LEGEND

COUNTY ROUTE	⊙	LEASE LINE	— · — · —
PROPOSED WELL	⊙	SURFACE LINE	---
EXISTING WELL	⊙	PROPOSED WELL LATERAL	---
PERMITTED WELL	⊙	AS-DRILLED WELL LATERAL	---
PLUGGED WELL	⊙	OFFSET LINE	---
STORAGE WELL	⊙	TIE LINE	---
CENTERVILLE DIST. TAX MAP-PARCEL	C-00-00	CREEK	---
McELROY DIST. TAX MAP-PARCEL	M-00-00	ROAD	---
WEST UNION DIST. TAX MAP-PARCEL	WU-00-00	FENCE LINE	---

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON

ADDRESS 2400 ANSYS DRIVE, SUITE 200 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
 CANONSBURG, PA 15317 BRIDGEPORT, WV 26330

NAD'27 GRID NORTH

BOTTOM HOLE LONGITUDE 80°47'30"
TOP HOLE LONGITUDE 80°47'30"

COUNTY NAME
PERMIT

WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 2400 WAYS DRIVE, SUITE 200
 CANONSBURG, PA 15317

DESIGNATED AGENT JASON RANSON
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
 BRIDGEPORT, WV 26330

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

NO. 849
 STATE OF WEST VIRGINIA
 LICENSED SURVEYOR
 C. VICTOR MOYERS

BY THE DIVISION OF ENVIRONMENTAL PROTECTION
 THE REGULATIONS ISSUED AND PRESCRIBED
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P. S. 849
C. Victor Moyers

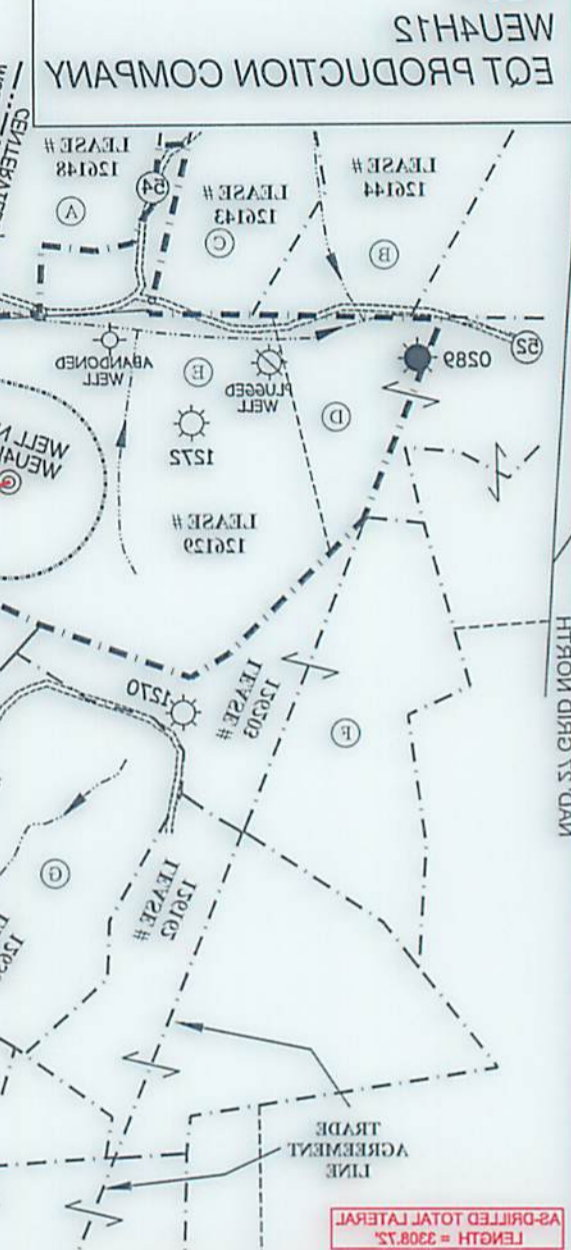
WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 2400 WAYS DRIVE, SUITE 200
 CANONSBURG, PA 15317

AS-DRILLED TOTAL LATERAL
 LENGTH = 3308.73'

AS-DRILLED COORDINATES

ND83 UTM (M)	E 518,548.41	N 4,358,819.83
ND27 S.P.C.(FT)	E 1,630,131.59	N 3,124,817.82
ND27 GEO.	LONG-(W) 80.808813	LAT-(N) 39.358290
ND83 UTM (M)	E 518,112.97	N 4,352,288.81
ND27 S.P.C.(FT)	E 1,628,769.83	N 3,118,488.02
ND27 GEO.	LONG-(W) 80.813084	LAT-(N) 39.368888
ND83 UTM (M)	E 518,441.34	N 4,352,486.87
ND27 S.P.C.(FT)	E 1,628,523.29	N 3,118,450.30
ND27 GEO.	LONG-(W) 80.820250	LAT-(N) 39.368714

(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)



LATERAL		
ID	BEARING	DISTANCE
L4	S 25°00' E	3294.37'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 75°08' E	1734.36'

WELL TIERS		
ID	BEARING	DISTANCE
L1	N 70°15' E	1377.39'
L2	N 88°17' E	1617.45'

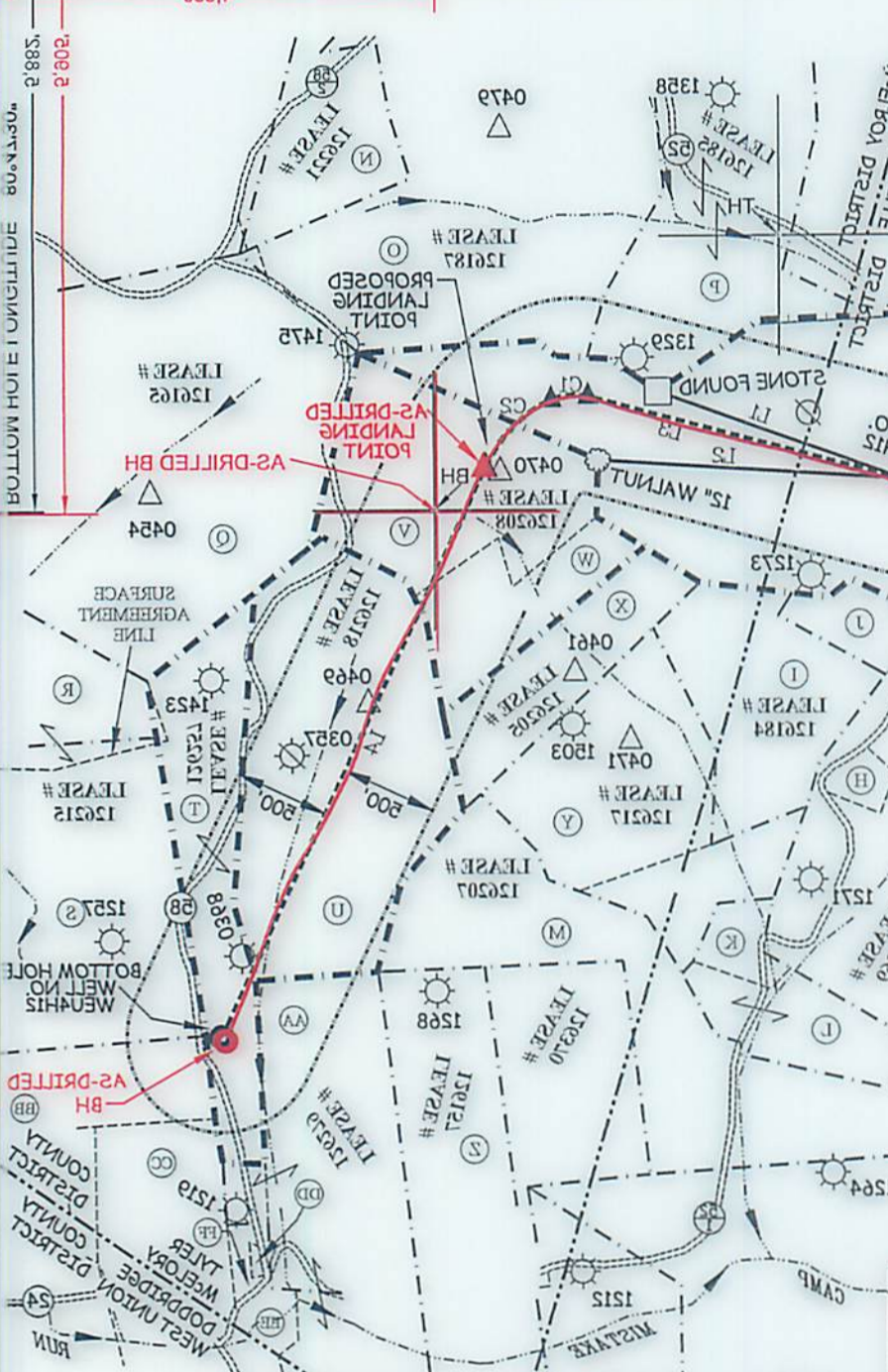
CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	187.70'	287.56'	S 85°01'35" E	184.09'
C2	510.04'	108.75'	S 43°23'05" E	489.02'

LEGEND

- LEASE LINE
- - - SURFACE LINE
- PROPOSED WELL LATERAL
- AS-DRILLED WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- FENCE LINE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- PLUGGED WELL
- STORAGE WELL
- CENTERVILLE DIST. TAX MAP-PARCEL C-00-00
- MCGUIRE DIST. TAX MAP-PARCEL M-00-00
- WEST UNION DIST. TAX MAP-PARCEL WJ-00-00
- COUNTY ROUTE
- SURFACE AGREEMENT LINE
- TRADE AGREEMENT LINE

NO. STATE COUNTY PERMIT
 WELL # 47 - 95 - 02510
 OPERATORS WELL NO. WEU415

DATE MAY 29, 2019
 SCALE 1" = 1000'
 UNITED STATES TOPOGRAPHIC MAPS (+) DENOTES LOCATION OF WELL ON



TOP HOLE LATITUDE 39°25'30"
 BOTTOM HOLE LATITUDE 39°25'30"
 TOP HOLE LONGITUDE 80°41'30"
 BOTTOM HOLE LONGITUDE 80°41'30"

WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 2400 WAYS DRIVE, SUITE 200
 CANONSBURG, PA 15317

DESIGNATED AGENT JASON RANSON
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
 BRIDGEPORT, WV 26330

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

NO. 849
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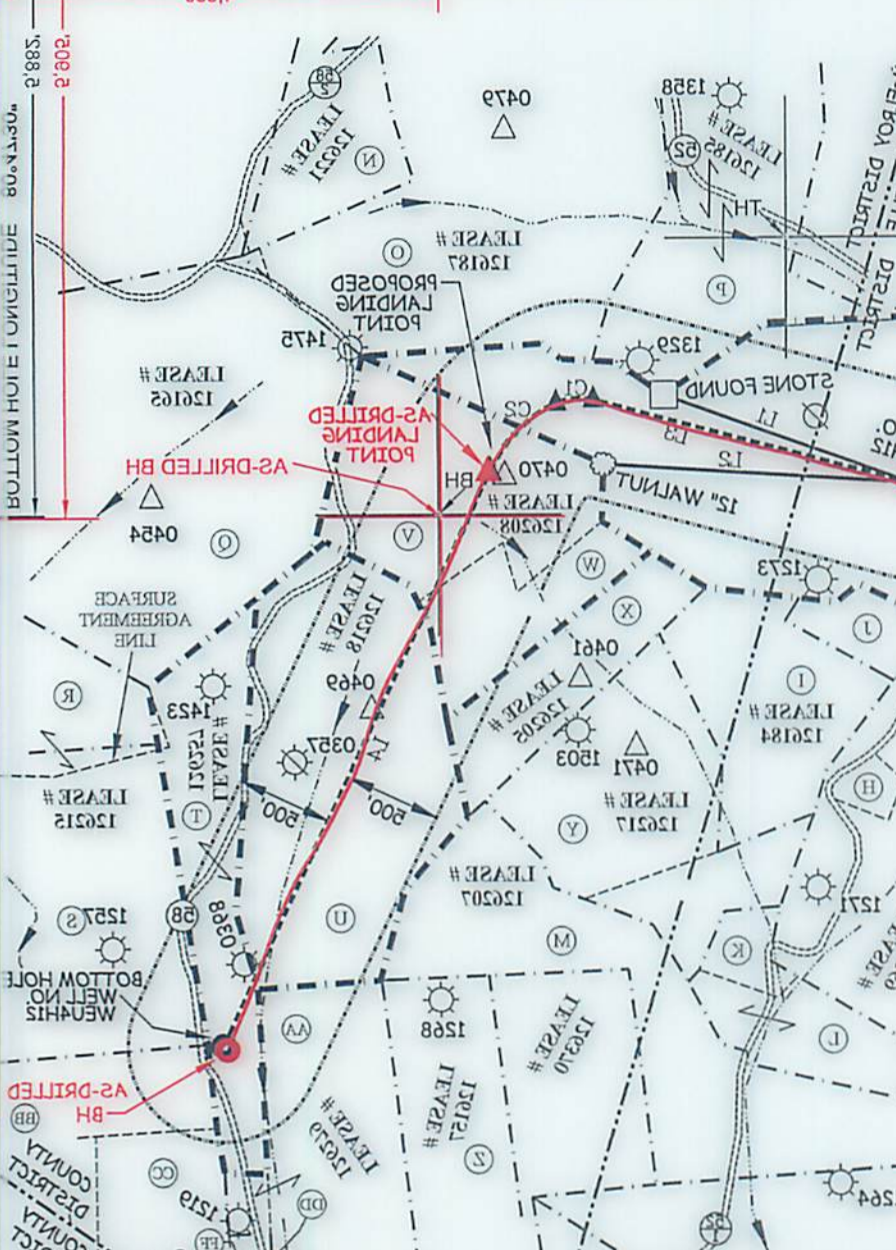
WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 2400 WAYS DRIVE, SUITE 200
 CANONSBURG, PA 15317

AS-DRILLED TOTAL LATERAL
 LENGTH = 3308.73'

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TOP HOLE LATITUDE 39°25'30"
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**WEU4
WEU4H12
EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°22'30"

4,632'

4,650'

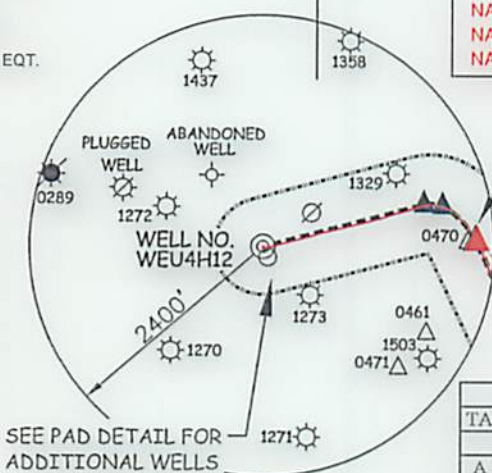
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PAD DETAIL



SEE PAD DETAIL FOR ADDITIONAL WELLS

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CC	MYRON B. & BETTY L. WHITE	14.88 ACRES±	TM-WU-01-01
DD	KENDRA K. (COTTRILL) WYKE	0.5 ACRES±	TM-WU-01-08
EE	JUDITH ANN BAGLEY	10.09 ACRES±	TM-WU-01-10
FF	JASON E. & JENNIFER L. BAGLEY	1.42 ACRES±	TM-WU-01-10.1

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 DIVISION OF ENVIRONMENTAL PROTECTION.

P.S. 849 *C. Victor Moyers*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE MAY 29, 20 19

REVISED _____
OPERATORS WELL NO. WEU4H12
API WELL NO. 47 - 95 - 02510
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7701PWEU4H12AD.dwg (516539)

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

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

LOCATION: PAD ELEVATION 1,079' WATERSHED TRIBUTARY OF CAMP MISTAKE RUN
DISTRICT CENTERVILLE COUNTY TYLER QUADRANGLE WEST UNION 7.5'

SURFACE OWNER DONNA J. PETER ACREAGE 113.40±
ROYALTY OWNER WACO OIL AND GAS INC. ET AL ACREAGE 152±
PROPOSED WORK: LEASE NO. 126129

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

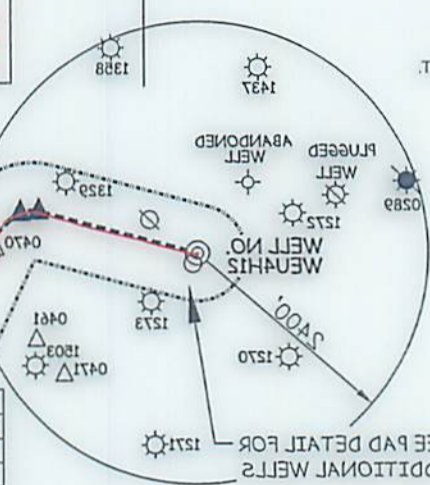
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
ESTIMATED DEPTH 6,680'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT JASON RANSON
ADDRESS 2400 ANSYS DRIVE, SUITE 200 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280
CANONSBURG, PA 15317 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT

**WEU#415
WEU#412
EQT PRODUCTION COMPANY**

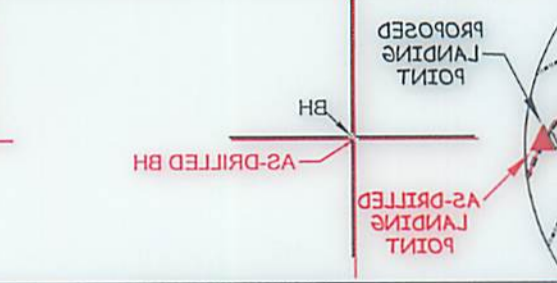
- NOTES ON SURVEY**
1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS 2500 SQ. FT. OR GREATER WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
 2. WELL SPOT CIRCLE (SHEET 1) AND TOPO MARK SCALE ARE 1" = 2000'.
 3. AS-DRILLED INFORMATION PROVIDED BY EQT.



AS-DRILLED COORDINATES

(S.P.C. W/ NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD83 UTM (M)	N. 4,357,488.87	E. 1,628,523.29
NAD27 S.P.C. (FT)	N. 3,184,450.30	E. 1,628,523.29
NAD27 GEO.	LAT (-N) 39.366714	LONG (-W) 80.820820
NAD83 UTM (M)	N. 4,357,488.87	E. 1,628,523.29
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NAD27 GEO.	LAT (-N) 39.366714	LONG (-W) 80.820820



SURFACE OWNERSHIP

TAG	SURFACE OWNER	ACRES	T.M. - PAR
TYLER COUNTY			
A	CHASE & REBA J. BARTLUG	109.94 ACRES±	TM-C-16-10
B	CONRAD COSTLOW	49.17 ACRES±	TM-C-16-14
C	JERRY E. & ANITA L. HOOVER	24.84 ACRES±	TM-C-16-16
D	RICHARD H. METCALF	61.27 ACRES±	TM-C-16-17
E	DOINA J. PETER	113.4 ACRES±	TM-C-16-23
F	CHRIS BAUM ET AL	26.84 ACRES±	TM-C-16-23
G	LEONA W. LORKOVICH ET AL	42.89 ACRES±	TM-C-16-24
H	STONEWALL GAS COMPANY	2 ACRES±	TM-C-16-24
I	PAUL WEEKLEY (LIFB)	18 ACRES±	TM-C-16-27
J	PAUL WEEKLEY (LIFB)	2 ACRES±	TM-C-16-28
K	PAUL WEEKLEY (LIFB)	3.37 ACRES±	TM-C-16-29
L	KENDRA WYKE ET AL	9.2 ACRES±	TM-C-18-02
M	ANZABETTA DRAIN HRS	46.88 ACRES±	TM-C-18-03
N	GARY DAVENPORT	16 ACRES±	TM-M-21-23
O	BRUCE & SANDRA STONKING	69.44 ACRES±	TM-M-21-28
P	BRUCE & SANDRA STONKING	42.86 ACRES±	TM-M-21-29
Q	ASIA DELL CUMBERLEDGE	22.72 ACRES±	TM-M-21-32
R	BRUCE W. BOLAND	32.43 ACRES±	TM-M-21-34
S	GORDON L. KEYS ET AL	60.6 ACRES±	TM-M-21-35
T	THOMAS E. & RICHARD S. MARTIN	28.99 ACRES±	TM-M-21-36
U	CLAY M. PERKINS ET AL	20.22 ACRES±	TM-M-21-37
V	EDWARD II & CAROLYN A. WHITE	40 ACRES±	TM-M-21-38
W	EDWARD II & CAROLYN A. WHITE	12.2 ACRES±	TM-M-21-39
X	EDWARD II & CAROLYN A. WHITE	16 ACRES±	TM-M-21-40
Y	BRYAN W. RYATT	23 ACRES±	TM-M-21-41
Z	RICHARD & LISA HENDRICKSON	44.68 ACRES±	TM-M-23-02
AA	JAMES T. & KATHRYN J. MENULTY	20.18 ACRES±	TM-M-23-1
BB	MYRON B. & BETTY WHITE	12.12 ACRES±	TM-M-23-07
DODDRIDGE COUNTY			
CC	MYRON B. & BETTY L. WHITE	14.88 ACRES±	TM-WU-01-0
DD	KENDRA K. (COTTRILL) WYKE	0.2 ACRES±	TM-WU-01-08
EE	JUDITH ANN BAGLEY	10.09 ACRES±	TM-WU-01-1
FF	JASON E. & JENNIFER L. BAGLEY	1.42 ACRES±	TM-WU-01-10

ROYALTY OWNERS

ROYALTY OWNER	AC.	LEASE NO.
RICHARD S. MARTIN	28 AC.±	LEASE NO. 128252
DARREN L. PARKS ET AL	50 AC.±	LEASE NO. 128218
ROXIE DAVIS ET AL	23 AC.±	LEASE NO. 128208

(S.P.C. W/ NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD83 UTM (M)	N. 4,357,488.87	E. 1,628,523.29
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NAD27 GEO.	LAT (-N) 39.366714	LONG (-W) 80.820820

Land & Energy Development
Solutions from the ground up.
P.O. Box 150 • 12 Ventnor Drive • Greenville, WV 26031 • (606) 683-5834
www.landenergy.com



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P. S. 849
C. Victor Moyers

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. 2701PWU#415AD.pwd (516839)

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)

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

LOCATION: PAD ELEVATION 1,079' WATERSHED _____ QUADRANGLE _____ COUNTY TYLER DISTRICT CENTERVILLE SURFACE OWNER DONNA J. PETER ROYALTY OWNER WACO OIL AND GAS INC. ET AL

PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORM NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER _____

PHYSICAL CHANGE IN WELL (SPECIFY): ESTIMATED DEPTH 6,680' TARGET FORMATION MARCELLUS

DESIGNATED AGENT: JASON RANSON
ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

WELL OPERATOR: EQT PRODUCTION COMPANY
ADDRESS 2400 ANSYS DRIVE, SUITE 200 CANONSBURG, PA 15317

DATE MAY 29 2019

REVISED _____

OPERATORS WELL NO. WEU#415

STATE _____ COUNTY _____

WELL NO. 47

PERMIT NO. 02510

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

RECEIVED

DATE MAY 29 2019

FILE NO. 2701PWU#415AD.pwd (516839)

TOP HOLE LONGITUDE 80.820820
BOTTOM HOLE LONGITUDE 80.820820

TOP HOLE LATITUDE 39.366714
BOTTOM HOLE LATITUDE 39.366714

TOP HOLE LONGITUDE 80.820820
BOTTOM HOLE LONGITUDE 80.820820