



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

API 47 - 085 - 10227 County RITCHIE District CLAY  
Quad PENNSBORO 7.5' Pad Name PEN54 Field/Pool Name \_\_\_\_\_  
Farm name Jerry Morton et al Well Number 514475  
Operator (as registered with the OOG) EQT Production Company  
Address 625 Liberty Ave. EQT Plaza, 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 4,345,392.18 Easting 506,266.12  
Landing Point of Curve Northing 4,345,436.77 Easting 506,578.18  
Bottom Hole Northing 4,342,427.97 Easting 508,105.81

Elevation (ft) 1016 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)

Water based mud 13.0 ppg, barium sulfate, sodium chloride, xanthan gum, polyanionic cellulose, sodium hydroxide, chrome lignosulfonate, calcium hydroxide, sodium acid pyrophosphate, bentonite, Methyl ester of sulfonated tannin, treated silica, partially hydrolyzed polyacrylamide/polyacrylate, potassium chloride, glutaraldehyde, ground walnut shells, calcium carbonate, fibrous cellulose.

Date permit issued 08/17/2015 Date drilling commenced 04/07/2016 Date drilling ceased 08/12/2016  
Date completion activities began 10/3/2016 Date completion activities ceased 11/13/2016  
Verbal plugging (Y/N) N Date permission granted N/A

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

Freshwater depth(s) ft 109',115',312',637',739',755',780' Open mine(s) (Y/N) depths \_\_\_\_\_  
Salt water depth(s) ft 1360' Void(s) encountered (Y/N) depths \_\_\_\_\_  
Coal depth(s) ft 336',799',877',1088',1192' Cavern(s) encountered (Y/N) depths \_\_\_\_\_  
Is coal being mined in area (Y/N) N

**APPROVED** \_\_\_\_\_wed by:

NAME: Michael Lott

DATE: 5/10/2017

05/19/2017  
RBDMS/HX

API 47-085 - 10227 Farm name Jerry Morton et al Well number 514475

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"	40'	NEW	A-500 40LB/FT	NONE	Y
Surface	17.5"	13.375"	912'	NEW	J-55 54.5LB/FT	322'	Y
Coal							
Intermediate 1	12.375"	9.625"	5184'	NEW	A-500 & P-110 40lb/r	NONE	Y
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	18,096'	NEW	P-110 20LB/FT	NONE	Y
Tubing							
Packer type and depth set		Davis Lynch casing packer and diverter tool placed at 3415' Two stage cement job performed.					

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	CLASS A	59	15.6	1.18	70	0	8
Surface	CLASS A	739	15.6	1.20	887	0	8
Coal							
Intermediate 1	CLASS A	259/310 & 1230	14.2/15.6 & 15.6	1.24/1.18 & 1.18	2173	0	8
Intermediate 2							
Intermediate 3							
Production	CLASS A / CLASS H	690 / 1720	15.2 / 15.6	1.12 / 2.098	4381	0	72+
Tubing							

Drillers TD (ft) 18098' Loggers TD (ft) N/A  
 Deepest formation penetrated MARCELLUS Plug back to (ft) N/A  
 Plug back procedure N/A

Kick off depth (ft) 5360'

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  
 SURFACE- RAN AT LEAST EVERY 500' FEET  
 INTERMEDIATE- RAN AT LEAST EVERY 500' FEET  
 PRODUCTION- COMPOSITE BODY CENTRALIZERS RAN EVERY JOINT FROM SHOE TO KOP

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 47-085 - 10227

Farm name Jerry Morton et al

Well number 514475

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.

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

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WV Department of  
Environmental Protection

Please insert additional pages as applicable.

API 47- 085 - 10227 Farm name Jerry Morton et al Well number 514475

PRODUCING FORMATION(S)	DEPTHS	
MARCELLUS	6279	TVD 6908 MD

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2,482 psi Bottom Hole N/A psi DURATION OF TEST 42.00 hrs

OPEN FLOW Gas 9,308 mcfpd Oil N/A bpd NGL 65 bpd Water 516 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 <sub>2</sub> 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 Savanna Drilling - Rig 803  
Address 125 Industry Road City Waynesburg State PA Zip 15370

Logging Company GYRODATA INC.  
Address 601 MAYER ST. City BRIDGEVILLE State PA Zip 15017

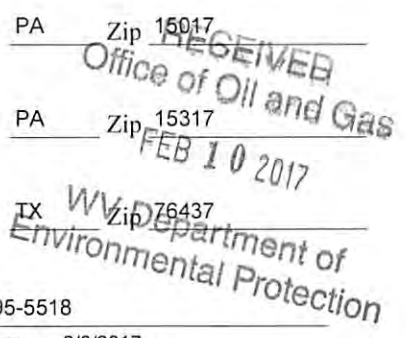
Cementing Company HALLIBURTON ENERGY SERVICES  
Address 121 CHAMPION WAY City CANONSBURG State PA Zip 15317

Stimulating Company FTS International  
Address 301 E. 18th Street City Cisco State TX Zip 76437

Please insert additional pages as applicable.

Completed by Jim Helmick Telephone (412) 395-5518  
Signature  Title VP Completions Date 2/8/2017

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



05/19/2017

API 47- 085 - 10227 Farm name Jerry Morton et al Well number 514475

Drilling Contractor \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Logging Company \_\_\_\_\_  
Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Logging Company PROFESSIONAL DIRECTIONAL  
Address 103 SUDS RUN ROAD City MT. CLARE State WV Zip 26408

Cementing Company ALLIED SERVICES  
Address 116 KIMMEL SCHOOL ROAD City SHELOCTA State PA Zip 15773

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WV Department of  
Environmental Protection

API 47-085-10227		514475		PEN54
Final Formations				
Formation Name	Final Top MD (ftGL) (ft)	Final Top TVD (ft)	Final Btm MD (ftGL) (ft)	Final Btm TVD (ft)
SAND/SHALE	1	1	336	336
COAL	336	336	344	344
SAND/SHALE	344	344	799	799
COAL	799	799	802	802
SAND/SHALE	802	802	877	877
COAL	877	877	882	882
SAND/SHALE	882	882	1088	1088
COAL	1088	1088	1092	1092
SAND/SHALE	1092	1092	1192	1192
COAL	1192	1192	1197	1197
SAND/SHALE	1197	1197	1426	1426
MAXTON	1426	1426	1621	1621
BIG LIME	1621	1621	2003	2003
WEIR	2003	2003	2221	2221
GANTZ	2221	2221	2366	2366
50F	2366	2366	2461	2461
GORDON	2461	2461	2619	2619
5TH	2619	2619	2633	2633
BAYARD	2633	2633	3088	3088
WARREN	3088	3088	3166	3166
SPEECHLEY	3166	3166	3556	3556
BALLTOWN A	3556	3556	3911	3911
BALLTOWN B	3911	3911	3962	3962
BRADFORD	3962	3962	4212	4212
RILEY	4212	4212	4595	4595
BENSON	4595	4595	4842	4842
ALEXANDER	4842	4842	5381	5380
RHINESTREET	5381	5380	5643	5630
RHINESTREET UPPER	5643	5630	6237	6023
SONYEA	6237	6023	6416	6118
MIDDLESEX	6416	6118	6524	6168
GENESSEE	6524	6168	6684	6225
GENESEO	6684	6225	6818	6260
TULLY	6818	6260	6876	6272
HAMILTON	6876	6272	6908	6279
MARCELLUS	6908	6279	18098	

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Environmental Protection

05/19/2017

**PEN54**  
**WV 514475**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°15'00"

8,855'

ROYALTY OWNERS		
DONALD R. REYNOLDS ET AL	128 AC.±	LEASE NO. 1005918
DEAN E. FRANCAVIGLIA ET AL	153 AC.±	LEASE NO. 1005921
EQT PRODUCTION COMPANY ET AL	158 AC.±	LEASE NO. 708517

A	JERRY MORTON ET AL	243.50 ACRES±	C-TM-31-05
B	HEARTWOOD FORESTLAND FUND IV LP	185.30 ACRES±	C-TM-31-14
C	HEARTWOOD FORESTLAND FUND IV LP	196.90 ACRES±	C-TM-31-11
D	HEARTWOOD FORESTLAND FUND IV LP	53 ACRES±	C-TM-31-15
E	RANDALL LAMM	126.32 ACRES±	C-TM-31-19
F	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	42.51 ACRES±	C-TM-32-02
G	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	56.14 ACRES±	C-TM-32-03
H	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	57 ACRES±	C-TM-32-04
I	RANDALL LAMM	44 ACRES±	C-TM-36-5.1
J	RONNIE WAGES	66.95 ACRES±	C-TM-36-05
K	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	66.45 ACRES±	BH- C-TM-32-05
L	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	57.60 ACRES±	C-TM-32-07
M	JACK MACKAY ET AL	235.03 ACRES±	C-TM-37-03
N	RONALD DODD ET AL	70.40 ACRES±	C-TM-37-02
O	JEFFERY JETT	18.31 ACRES±	C-TM-37-04
P	EDWIN G. WILLIAMS	40.77 ACRES±	C-TM-37-05
Q	EDWIN G. WILLIAMS	23 ACRES±	C-TM-37-5.1
R	MARY SIMMONS (LIFE) ET AL	30 ACRES±	C-TM-37-07
S	REBECCA COTTRILL ET AL	4.3 ACRES±	C-TM-37-08
T	CHARLES E. COTTRILL ET AL	16.15 ACRES±	C-TM-36-25
U	ROGER & MARY WILLIAMS	8.068 ACRES±	C-TM-37-5.2
V	JEFFERY JETT	25.015 ACRES±	C-TM-36-21.1
W	JUNIOR COTTRILL ET AL	33.065 ACRES±	C-TM-36-21
X	JEFFERY JETT	0.472 ACRES±	C-TM-36-21.2
Y	GARY COTTRILL	5.051 ACRES±	C-TM-36-11.4
Z	ROY DODD	2.51 ACRES±	C-TM-36-13
AA	GARY COTTRILL	40.847 ACRES±	C-TM-36-11.5
BB	GARY COTTRILL ET AL	23.322 ACRES±	C-TM-36-11
CC	ERNEST McATEE ET AL	48.88 ACRES±	C-TM-36-20
DD	PAUL HILVERS	90.70 ACRES±	C-TM-36-09
EE	POUSS FARMS LLC	19 ACRES±	C-TM-36-08
FF	JACK HARGIS ET AL	45.47 ACRES±	C-TM-36-04
GG	RANDALL LAMM	45.502 ACRES±	C-TM-36-03
HH	HEARTWOOD FORESTLAND FUND IV LP	168.20 ACRES±	C-TM-31-14.1
II	DONALD DEEM ET AL	133.07 ACRES±	C-TM-31-10
JJ	ANTERO TREATMENT LLC	175.85 ACRES±	C-TM-31-06

**AS DRILLED COORDINATES**  
**(PEN54 H2)**  
 (S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

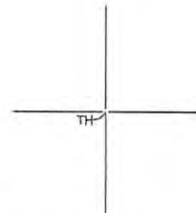
NAD27 S.P.C.(FT) N. 279,201.67 E. 1,595,781.38  
 NAD27 GEO. LAT-(N) 39.257758 LONG-(W) 80.927542  
 NAD83 UTM (M) N. 4,345,392.18 E. 506,266.12

**LANDING POINT**

NAD27 S.P.C.(FT) N. 279,330.88 E. 1,596,807.89  
 NAD27 GEO. LAT-(N) 39.258155 LONG-(W) 80.923924  
 NAD83 UTM (M) N. 4,345,436.77 E. 506,578.16

**BOTTOM HOLE**

NAD27 S.P.C.(FT) N. 269,373.48 E. 1,601,656.07  
 NAD27 GEO. LAT-(N) 39.231029 LONG-(W) 80.906255  
 NAD83 UTM (M) N. 4,342,427.97 E. 508,105.81

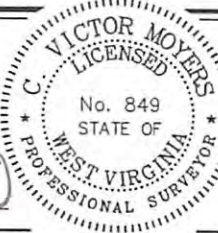


**NOTES ON SURVEY**

1. NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
2. WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
3. AS DRILLED INFORMATION PROVIDED BY EQT.

**SLS**  
**Land & Energy Development**  
 Solutions from the ground up.  
 P.O. Box 150 • 42 Vinton Drive • Clondike, WV 26031 • (204) 452-5634  
 www.slsenergy.com

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. *C. Victor Moyers*  
 849

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE JUNE 25, 20 15  
 REVISED 07/01/15, 06/23/16, 07/12/16 & 08/17/16  
 OPERATORS WELL NO. WV 514475  
 API WELL NO. 47 - 085 - 10227H  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8083AD514475.dwg  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE SEE NOTE 2

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 1,016' WATERSHED NORTH FORK HUGHES RIVER  
 DISTRICT CLAY COUNTY RITCHIE QUADRANGLES PENNSBORO & PULLMAN 7.5'

SURFACE OWNER JERRY MORTON ET AL ACREAGE 243.50±  
 ROYALTY OWNER ELLEN S. FRANCAVIGLIA ET AL ACREAGE 268±  
 PROPOSED WORK: LEASE NO. 105403  
 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 6,275'

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

BOTTOM HOLE LONGITUDE 80°52'30"  
 12.351'  
 BOTTOM HOLE LONGITUDE 80°55'00"  
 2.25'

**PEN54**  
**WV 514475**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°15'00" 8,855'

NAD 27 GRID NORTH

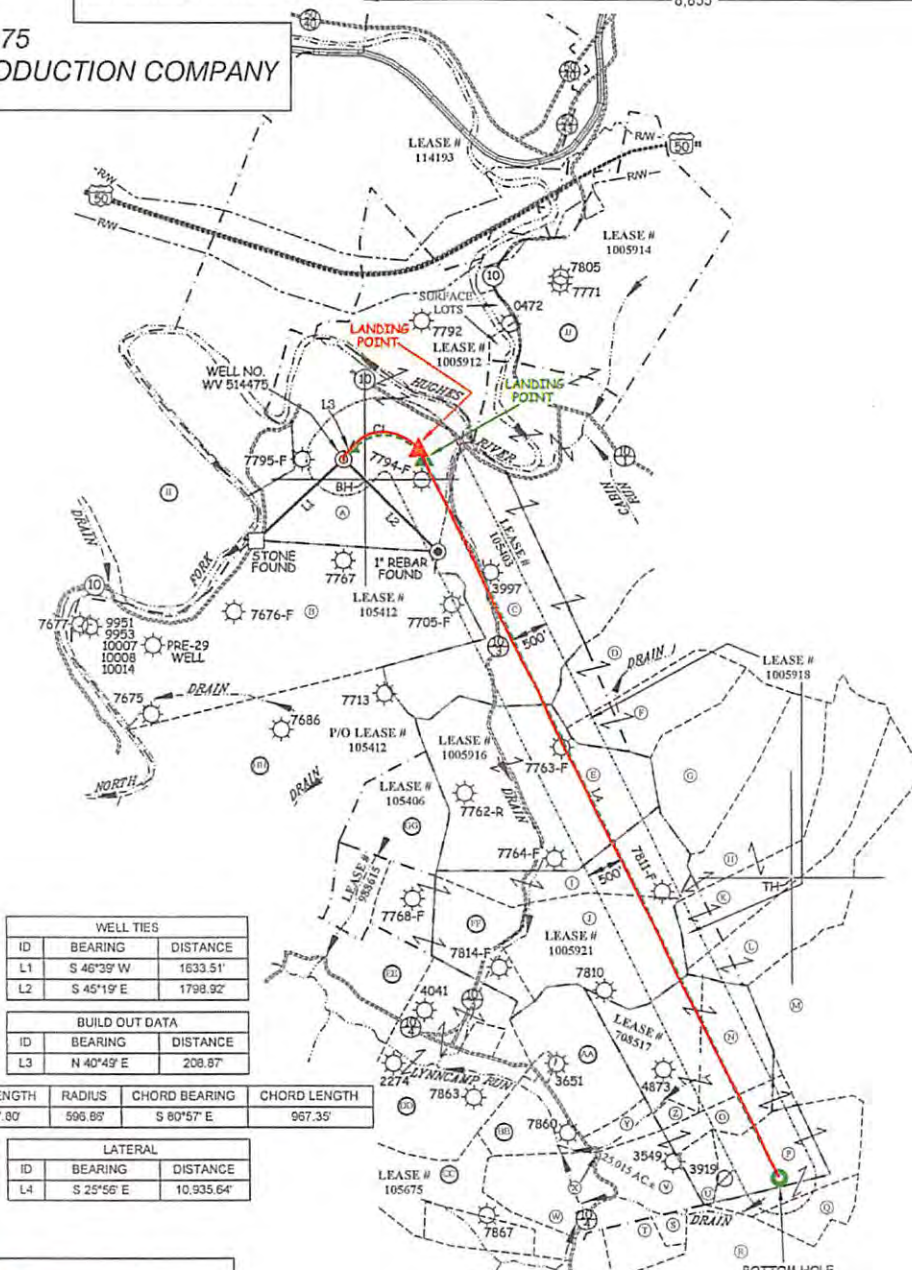
6,905'

12,351'

80°52'30"

BOTTOM HOLE LONGITUDE 80°55'00"

TOP HOLE LONGITUDE 80°55'00"



WELL TIES		
ID	BEARING	DISTANCE
L1	S 46°39' W	1633.51'
L2	S 45°19' E	1798.92'

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 40°49' E	208.87'

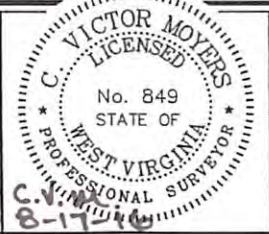
CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	1,127.80'	595.88'	S 80°57' E	967.35'

LATERAL		
ID	BEARING	DISTANCE
L4	S 25°56' E	10,935.64'



**AS DRILLED COORDINATES (PEN54 H2)**  
 (S.P.C. NORTH ZONE) (UTM) ZONE 17 NORTH)  
 NAD27 S.P.C. (FT) N. 279,201.87 E. 1,595,781.39  
 NAD27 GEO. LAT. (N) 39.257756 LONG. (W) 80.027942  
 NAD83 UTM (M) N. 4,345,392.18 E. 506,206.12  
**LANDING POINT**  
 NAD27 S.P.C. (FT) N. 279,330.86 E. 1,596,807.89  
 NAD27 GEO. LAT. (N) 39.258155 LONG. (W) 80.028324  
 NAD83 UTM (M) N. 4,345,436.77 E. 506,576.19  
**BOTTOM HOLE**  
 NAD27 S.P.C. (FT) N. 269,373.48 E. 1,601,254.07  
 NAD27 GEO. LAT. (N) 39.231029 LONG. (W) 80.300255  
 NAD83 UTM (M) N. 4,342,427.27 E. 508,105.81

SCALE 1" = 2000' FILE NO. 8083AD514475  
 DATE JUNE 25, 20 15  
 REVISED 07/01/15, 05/23/16, 07/12/16 & 08/17/16  
 OPERATORS WELL NO. WV 514475  
 API WELL NO. 47 — 085 — 10227H  
 NO. STATE COUNTY PERMIT



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

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

**LEGEND**

- LEASE LINE
- SURFACE LINE
- PROPOSED PATH
- AS DRILLED PATH
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- COUNTY ROUTE
- STATE ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- CLAY DISTRICT
- TAX MAP-PARCEL

C-TM-00-00

WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280  
 BRIDGEPORT, WV 26330 BRIDGEPORT, WV 26330

COUNTY NAME  
 PERMIT

05/19/2017



514475- 47-085-10227-0000 - Perforations

Stage Number	Perforation Date	Top Perf Depth (ftKB)	Bottom Perf Depth (ftKB)	Number of Shots	Formation
Initiation Sleeve	9/11/2016	18,070	18,096	10	MARCELLUS
1	10/4/2016	17,949	18,041	8	MARCELLUS
2	10/4/2016	17,799	17,921	8	MARCELLUS
3	10/26/2016	17,709	17,681	8	MARCELLUS
3.1	10/26/2016	17,664	17,726	8	MARCELLUS
4	10/27/2016	17,499	17,621	8	MARCELLUS
5	10/28/2016	17,349	17,471	8	MARCELLUS
6	10/28/2016	17,199	17,319	40	MARCELLUS
7	10/28/2016	17,049	17,169	40	MARCELLUS
8	10/29/2016	16,899	17,021	40	MARCELLUS
9	10/29/2016	16,749	16,871	40	MARCELLUS
10	10/29/2016	16,599	16,721	40	MARCELLUS
11	10/29/2016	16,449	16,569	40	MARCELLUS
12	10/30/2016	16,299	16,421	40	MARCELLUS
13	10/30/2016	16,149	16,271	40	MARCELLUS
14	10/30/2016	15,999	16,121	40	MARCELLUS
15	10/30/2016	15,849	15,971	40	MARCELLUS
16	10/30/2016	15,699	15,821	40	MARCELLUS
17	10/31/2016	15,549	15,671	40	MARCELLUS
18	10/31/2016	15,399	15,521	40	MARCELLUS
19	10/31/2016	15,247	15,371	40	MARCELLUS
20	10/31/2016	15,099	15,221	40	MARCELLUS
21	11/1/2016	14,949	15,071	40	MARCELLUS
22	11/1/2016	14,799	14,921	40	MARCELLUS
23	11/1/2016	14,648	14,771	40	MARCELLUS
24	11/2/2016	14,499	14,621	40	MARCELLUS
25	11/2/2016	14,349	14,471	40	MARCELLUS
26	11/2/2016	14,199	14,321	40	MARCELLUS
27	11/2/2016	14,049	14,171	40	MARCELLUS
28	11/3/2016	13,899	14,021	40	MARCELLUS
29	11/3/2016	13,749	13,871	40	MARCELLUS
30	11/3/2016	13,599	13,721	40	MARCELLUS
31	11/3/2016	13,449	13,569	40	MARCELLUS
32	11/4/2016	13,299	13,421	40	MARCELLUS
33	11/4/2016	13,149	13,271	40	MARCELLUS
34	11/4/2016	12,999	13,121	40	MARCELLUS
35	11/4/2016	12,849	12,987	40	MARCELLUS
36	11/4/2016	12,699	12,821	40	MARCELLUS
37	11/5/2016	12,549	12,671	40	MARCELLUS
38	11/5/2016	12,399	12,521	40	MARCELLUS
39	11/5/2016	12,249	12,368	40	MARCELLUS
40	11/5/2016	12,099	12,221	40	MARCELLUS
41	11/6/2016	11,949	12,071	40	MARCELLUS
42	11/6/2016	11,799	11,921	40	MARCELLUS
43	11/6/2016	11,649	11,771	40	MARCELLUS
44	11/6/2016	11,499	11,621	40	MARCELLUS
45	11/6/2016	11,349	11,471	40	MARCELLUS
46	11/7/2016	11,199	11,321	40	MARCELLUS
47	11/7/2016	11,049	11,168	40	MARCELLUS
48	11/7/2016	10,899	11,021	40	MARCELLUS
49	11/7/2016	10,749	10,871	40	MARCELLUS
50	11/8/2016	10,598	10,721	40	MARCELLUS
51	11/8/2016	10,449	10,571	40	MARCELLUS
52	11/8/2016	10,299	10,421	40	MARCELLUS
52.1	11/8/2016	10,269	10,346	24	MARCELLUS
53	11/8/2016	10,119	10,241	40	MARCELLUS
54	11/9/2016	9,969	10,091	40	MARCELLUS
55	11/9/2016	9,819	9,938	40	MARCELLUS
56	11/9/2016	9,669	9,791	40	MARCELLUS
57	11/9/2016	9,519	9,641	40	MARCELLUS
58	11/9/2016	9,369	9,491	40	MARCELLUS
59	11/10/2016	9,219	9,341	40	MARCELLUS
60	11/10/2016	9,069	9,191	40	MARCELLUS
61	11/10/2016	8,919	9,041	40	MARCELLUS
62	11/10/2016	8,769	8,891	40	MARCELLUS
63	11/10/2016	8,619	8,741	40	MARCELLUS
64	11/11/2016	8,469	8,591	40	MARCELLUS
65	11/11/2016	8,319	8,441	40	MARCELLUS
66	11/11/2016	8,169	8,291	40	MARCELLUS
67	11/11/2016	8,019	8,141	40	MARCELLUS
68	11/12/2016	7,869	7,988	40	MARCELLUS
69	11/12/2016	7,719	7,841	40	MARCELLUS
70	11/12/2016	7,569	7,691	40	MARCELLUS
71	11/12/2016	7,419	7,541	40	MARCELLUS
72	11/12/2016	7,269	7,391	40	MARCELLUS
73	11/12/2016	7,119	7,241	40	MARCELLUS
74	11/13/2016	6,969	7,091	40	MARCELLUS

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**514475-47-085-10227-0000 - 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)
Initiation Sleeve	10/4/2016	9	5,227	4,960	4,754	0	0	0
1	10/4/2016	88	8,498	8,333	3,825	250,847	1,831	0
2	10/4/2016	89	8,471	5,585	4,062	250,949	8,471	0
3	10/26/2016	n/a	n/a	n/a	n/a	0	9,729	0
4	10/27/2016	90	8,932	n/a	4,853	392,000	15,893	0
5	10/28/2016	88	8,970	5,799	3,650	253,680	7,380	0
6	10/28/2016	91	9,151	5,736	4,115	250,447	6,734	0
7	10/28/2016	95	9,183	5,810	5,018	247,300	6,871	0
8	10/29/2016	93	8,953	5,230	4,313	249,340	6,782	0
9	10/29/2016	93	9,005	5,514	4,695	252,127	7,220	0
10	10/29/2016	94	8,972	5,321	4,294	250,224	7,198	0
11	10/29/2016	89	9,049	5,421	5,282	249,400	7,102	0
12	10/30/2016	93	8,980	5,452	4,691	250,600	7,058	0
13	10/30/2016	94	9,087	5,530	4,763	250,995	7,111	0
14	10/30/2016	93	9,034	5,472	5,107	250,991	7,150	0
15	10/30/2016	100	9,091	5,666	4,855	248,550	7,122	0
16	10/30/2016	93	9,080	5,364	5,053	250,600	6,627	0
17	10/31/2016	96	8,933	5,863	3,922	251,171	7,035	0
18	10/31/2016	99	9,101	5,411	5,157	250,052	7,108	0
19	10/31/2016	97	8,715	5,438	4,460	248,500	7,101	0
20	10/31/2016	99	8,844	5,448	4,410	249,500	7,001	0
21	11/1/2016	98	8,914	5,484	4,562	249,840	7,002	0
22	11/1/2016	97	8,991	5,697	4,841	250,190	6,837	0
23	11/1/2016	100	9,011	5,563	4,152	250,480	6,627	0
24	11/2/2016	100	9,160	5,359	4,567	250,240	6,422	0
25	11/2/2016	98	9,121	5,474	4,145	252,202	6,927	0
26	11/2/2016	100	8,931	5,668	5,463	250,330	6,936	0
27	11/2/2016	101	9,004	5,390	4,549	250,300	6,309	0
28	11/3/2016	100	9,030	5,535	4,712	251,310	6,093	0
29	11/3/2016	101	8,992	5,628	4,442	249,089	6,893	0
30	11/3/2016	101	8,766	5,485	4,512	250,183	6,835	0
31	11/3/2016	100	8,762	5,553	4,146	251,070	6,064	0
32	11/4/2016	101	8,919	5,366	4,677	249,501	6,109	0
33	11/4/2016	101	8,777	5,799	4,014	248,784	6,650	0
34	11/4/2016	101	8,605	5,613	4,353	248,782	6,281	0
35	11/4/2016	101	8,905	5,772	3,873	250,749	6,142	0
36	11/4/2016	100	9,043	5,778	4,323	250,973	6,270	0
37	11/5/2016	101	8,872	5,429	4,154	250,290	5,975	0
38	11/5/2016	97	9,033	5,579	4,619	251,711	6,296	0
39	11/5/2016	101	8,510	5,570	4,685	249,251	6,172	0
40	11/5/2016	100	8,736	5,664	4,339	250,889	5,977	0
41	11/6/2016	94	9,063	5,661	4,306	250,626	6,059	0
42	11/6/2016	101	8,526	5,568	4,985	250,720	5,998	0
43	11/6/2016	100	8,446	5,444	3,965	249,400	6,219	0
44	11/6/2016	101	8,544	5,385	4,115	249,563	6,147	0
45	11/6/2016	100	8,532	5,739	4,707	250,838	6,093	0
46	11/7/2016	100	8,319	5,299	4,577	250,531	6,012	0
47	11/7/2016	100	8,910	5,693	3,844	249,740	5,963	0
48	11/7/2016	101	8,335	5,638	3,910	248,180	6,171	0
49	11/7/2016	101	8,241	6,010	4,873	249,050	6,095	0
50	11/8/2016	100	8,007	5,307	4,611	251,047	5,973	0
51	11/8/2016	101	7,851	5,539	4,015	249,340	6,006	0
52	11/8/2016	1	7,752	5,447	4,925	330	2,272	0
52.1	11/8/2016	100	8,486	n/a	3,691	249,024	7,263	0
53	11/8/2016	101	8,132	5,443	4,311	250,711	5,870	0
54	11/9/2016	101	7,844	5,578	4,559	250,787	6,392	0
55	11/9/2016	101	7,810	5,426	4,860	249,720	5,879	0
56	11/9/2016	101	7,639	5,370	4,379	250,640	6,069	0
57	11/9/2016	101	8,015	5,489	4,867	201,850	5,864	0
58	11/9/2016	100	7,697	5,329	4,066	249,412	6,522	0
59	11/10/2016	101	7,489	5,320	3,932	248,019	5,659	0
60	11/10/2016	101	7,745	6,161	4,246	247,780	5,929	0
61	11/10/2016	101	7,447	5,733	3,938	249,220	6,254	0
62	11/10/2016	100	7,598	5,788	4,155	249,389	6,137	0
63	11/10/2016	100	8,014	5,366	4,066	250,541	5,812	0
64	11/11/2016	100	8,363	5,184	4,157	249,219	5,816	0
65	11/11/2016	98	8,473	5,327	4,033	249,580	5,655	0
66	11/11/2016	100	8,566	5,771	4,301	248,202	5,657	0
67	11/11/2016	100	8,668	5,684	4,076	248,513	5,661	0
68	11/12/2016	100	8,971	5,856	4,424	248,371	5,562	0
69	11/12/2016	100	8,690	5,596	4,583	247,928	5,615	0
70	11/12/2016	92	8,733	5,370	4,061	250,374	5,878	0
71	11/12/2016	95	8,725	5,536	4,035	250,430	6,562	0
72	11/12/2016	92	8,391	5,295	5,259	250,447	5,788	0
73	11/12/2016	100	8,499	5,439	5,130	253,058	5,583	0
74	11/13/2016	101	8,287	5,460	4,381	254,508	5,778	0

05/19/2017

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/3/2016
Job End Date:	11/13/2016
State:	West Virginia
County:	Ritchie
API Number:	47-085-10227-00-00
Operator Name:	EQT Production
Well Name and Number:	514475
Latitude:	39.25775600
Longitude:	-80.92754100
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,279
Total Base Water Volume (gal):	20,309,268
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	FTS International	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	89.86612	None
	FTS International	Scale inhibitor					
			Water	7732-18-5	50.00000	0.02865	None

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			Water	7732-18-5	80.00000	0.00064	None
Other Chemical (s)	Listed Above	See Trade Name (s) List					
			Water	7732-18-5	80.00000	0.00064	
			Water	7732-18-5	50.00000	0.02865	
EMC Surf 200	ECM Supply	Enhancer					
				Listed Below			
Hydrochloric Acid (15%)	FTS International	Acidizing					
				Listed Below			
MC MX 8-2544	Multi-Chem Group	Live Culture - Nitrate Reducing Bacteria					
				Listed Below			
APB-1	FTS International	Gel Breaker					
				Listed Below			
CI-150	FTS International	Acid corrosion inhibitor					
				Listed Below			
MC MX 5-3886	Multi-Chem Group	Specialty Brine					
				Listed Below			
Sand (Proppant)	FTS International	Proppant					

				Listed Below			
CS-500-SI	FTS International	Scale inhibitor					
				Listed Below			
HVG-1 4.0	FTS International	Water gelling agent					
				Listed Below			
ECM FR NI 200	ECM Supply	Friction Reducing Agent					
				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	9.73025	None
			Calcium Nitrate.4H2O	13477-34-4	100.00000	0.10987	None
			Hydrochloric Acid	7647-01-0	15.00000	0.02947	None
			Copolymer of Two Propenamide	69418-26-4	30.00000	0.01719	
			Copolymer of Two Propenamide	69418-26-4	30.00000	0.01719	None
			Petroleum Distillate	64742-47-8	20.00000	0.01146	None
			Petroleum Distillate	64742-47-8	20.00000	0.01146	
			Sodium chloride	7647-14-5	100.00000	0.00994	
			Sodium chloride	7647-14-5	100.00000	0.00994	None
			Ethylene glycol	107-21-1	10.00000	0.00241	None
			Diethylene glycol monobutyl ether	112-34-5	30.00000	0.00142	None
			Diethylene glycol monobutyl ether	112-34-5	30.00000	0.00142	
			Alcohols, C-12-16, Ethoxylated	68551-12-2	2.00000	0.00115	
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00115	None

			Alcohols, C-12-16, Ethoxylated	68551-12-2	2.00000	0.00115	None
			Oleic Acid Diethanolamide	93-83-4	2.00000	0.00115	
			Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00057	None
			Ammonium Chloride ((NH4)Cl)	12125-02-9	1.00000	0.00057	
			Sodium nitrate	7631-99-4	5.00000	0.00050	None
			Sodium nitrate	7631-99-4	5.00000	0.00050	
			Organic Phosphonic Acid	Proprietary	20.00000	0.00016	None
			Organic Phosphonic Acid	Proprietary	20.00000	0.00016	
			Ethylene glycol	107-21-1	30.00000	0.00011	None
			Isopropanol	67-63-0	30.00000	0.00011	None
			Organic amine resin salt	Proprietary	30.00000	0.00011	None
			Methanol	67-56-1	10.00000	0.00008	None
			Methanol	67-56-1	10.00000	0.00008	
			Dimethylformamide	68-12-2	10.00000	0.00004	None
			Quaternary ammonium compound	Proprietary	10.00000	0.00004	None
			Aromatic aldehyde	Proprietary	10.00000	0.00004	None
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00001	None
			Raffinates, Sorption Process	64741-85-1	55.00000	0.00001	
			Guar gum	9000-30-0	50.00000	0.00001	
			Guar gum	9000-30-0	50.00000	0.00001	None
			Quartz	14808-60-7	4.00000	0.00000	None
			Quartz	14808-60-7	4.00000	0.00000	
			Ammonium Persulfate	7727-54-0	95.00000	0.00000	None
			Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00000	None
			Isotridecanol, ethoxylated	9043-30-5	2.00000	0.00000	

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\* 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)

**PEN54**  
**WV 514475**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°15'00"

8,855'

ROYALTY OWNERS		
DONALD R. REYNOLDS ET AL	126 AC.±	LEASE NO. 1005916
DEAN E. FLANAGAN ET AL	163 AC.±	LEASE NO. 1005921
EQT PRODUCTION COMPANY ET AL	156 AC.±	LEASE NO. 708517

A	JERRY MORTON ET AL	243.50 ACRES±	C-TM-31-05
B	HEARTWOOD FORESTLAND FUND IV LP	185.30 ACRES±	C-TM-31-14
C	HEARTWOOD FORESTLAND FUND IV LP	196.90 ACRES±	C-TM-31-11
D	HEARTWOOD FORESTLAND FUND IV LP	53 ACRES±	C-TM-31-15
E	RANDALL LAMM	126.32 ACRES±	C-TM-31-19
F	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	42.51 ACRES±	C-TM-32-02
G	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	56.14 ACRES±	C-TM-32-03
H	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	57 ACRES±	C-TM-32-04
I	RANDALL LAMM	44 ACRES±	C-TM-36-5.1
J	RONNIE WAGES	66.95 ACRES±	C-TM-36-05
K	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	66.45 ACRES±	BH C-TM-32-05
L	COASTAL FOREST RESOURCES COMPANY d/b/a COASTAL TIMBERLANDS COMPANY	57.60 ACRES±	C-TM-32-07
M	JACK MACKAY ET AL	235.03 ACRES±	C-TM-37-03
N	RONALD DODD ET AL	70.40 ACRES±	C-TM-37-02
O	JEFFERY JETT	18.31 ACRES±	C-TM-37-04
P	EDWIN G. WILLIAMS	40.77 ACRES±	C-TM-37-05
Q	EDWIN G. WILLIAMS	23 ACRES±	C-TM-37-5.1
R	MARY SIMMONS (LIFE) ET AL	30 ACRES±	C-TM-37-07
S	REBECCA COTTRILL ET AL	4.3 ACRES±	C-TM-37-08
T	CHARLES E. COTTRILL ET AL	16.15 ACRES±	C-TM-36-25
U	ROGER & MARY WILLIAMS	8.068 ACRES±	C-TM-37-5.2
V	JEFFERY JETT	25.015 ACRES±	C-TM-36-21.1
W	JUNIOR COTTRILL ET AL	33.065 ACRES±	C-TM-36-21
X	JEFFERY JETT	0.472 ACRES±	C-TM-36-21.2
Y	GARY COTTRILL	5.051 ACRES±	C-TM-36-11.4
Z	ROY DODD	2.51 ACRES±	C-TM-36-13
AA	GARY COTTRILL	40.847 ACRES±	C-TM-36-11.5
BB	GARY COTTRILL ET AL	23.322 ACRES±	C-TM-36-11
CC	ERNEST McATEE ET AL	48.88 ACRES±	C-TM-36-20
DD	PAUL HILVERS	90.70 ACRES±	C-TM-36-09
EE	FOUSS FARMS LLC	19 ACRES±	C-TM-36-08
FF	JACK HARGIS ET AL	45.47 ACRES±	C-TM-36-04
GG	RANDALL LAMM	45.502 ACRES±	C-TM-36-03
HH	HEARTWOOD FORESTLAND FUND IV LP	168.20 ACRES±	C-TM-31-14.1
II	DONALD DEEM ET AL	133.07 ACRES±	C-TM-31-10
JJ	ANTERO TREATMENT LLC	175.85 ACRES±	C-TM-31-06

**AS DRILLED COORDINATES**  
**(PEN54 H2)**

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

NAD'27 S.P.C.(FT) N. 279,201.67 E. 1,595,781.38  
 NAD'27 GEO. LAT-(N) 39.257756 LONG-(W) 80.927542  
 NAD'83 UTM (M) N. 4,345,392.18 E. 506,266.12

LANDING POINT

NAD'27 S.P.C.(FT) N. 279,330.86 E. 1,596,807.89  
 NAD'27 GEO. LAT-(N) 39.258155 LONG-(W) 80.923924  
 NAD'83 UTM (M) N. 4,345,436.77 E. 506,578.18

BOTTOM HOLE

NAD'27 S.P.C.(FT) N. 269,373.48 E. 1,601,656.07  
 NAD'27 GEO. LAT-(N) 39.231029 LONG-(W) 80.906255  
 NAD'83 UTM (M) N. 4,342,427.97 E. 508,105.81



**NOTES ON SURVEY**

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. OR DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- AS DRILLED INFORMATION PROVIDED BY EQT.

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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.



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.  
 DATE JUNE 25, 20 15  
 REVISED 07/01/15, 06/23/16, 07/12/16 & 08/17/16  
 OPERATORS WELL NO. WV 514475  
 API WELL NO. 47 - 085 - 10227H  
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8083AD514475.dwg  
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE SEE NOTE 2

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 1,016' WATERSHED NORTH FORK HUGHES RIVER  
 DISTRICT CLAY COUNTY RITCHIE QUADRANGLES PENNSBORO & PULLMAN 7.5'

SURFACE OWNER JERRY MORTON ET AL ACREAGE 243.50±  
 ROYALTY OWNER ELLEN S. FRANCAVIGLIA ET AL ACREAGE 268±

PROPOSED WORK: LEASE NO. 105403 05/19/2017  
 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 6,275'

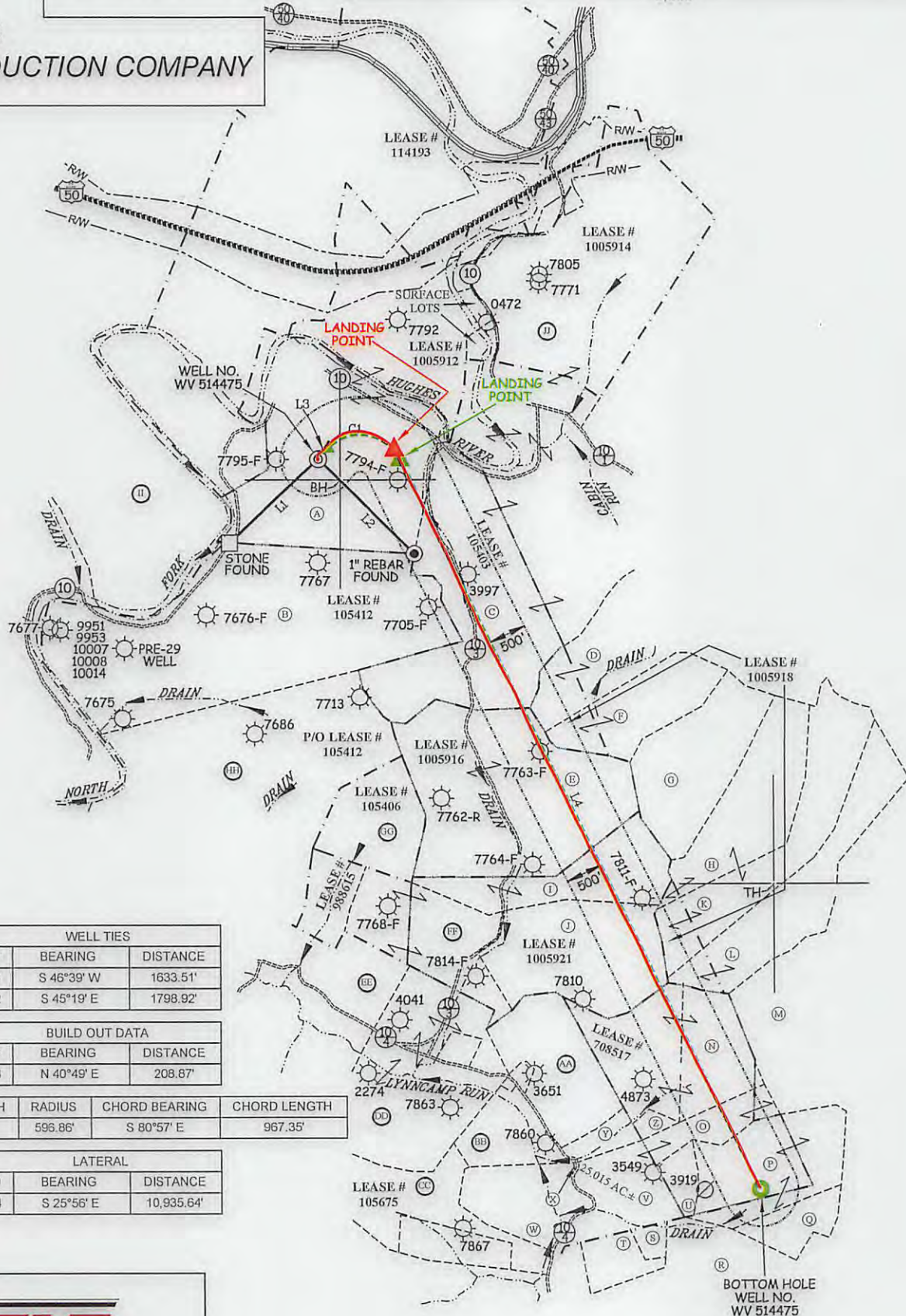
WELL OPERATOR EQT PRODUCTION COMPANY DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

6,066'  
12,351'  
BOTTOM HOLE LONGITUDE 80°52'30"  
TOP HOLE LONGITUDE 80°55'00"



**PEN54**  
**WV 514475**  
**EQT PRODUCTION COMPANY**

BOTTOM HOLE LATITUDE 39°15'00" 8,855'



NAD'27 GRID NORTH

6,906'

12,351'

BOTTOM HOLE LONGITUDE 80°52'30"

TOP HOLE LONGITUDE 80°55'00"

COUNTY NAME

PERMIT

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 NAD27 S.P.C.(FT) N. 279,201.67 E. 1,595,781.38  
 NAD27 GEO. LAT-(N) 39.257756 LONG-(W) 80.927542  
 NAD83 UTM (M) N. 4,345,392.18 E. 506,266.12  
**LANDING POINT**  
 NAD27 S.P.C.(FT) N. 279,330.95 E. 1,596,807.69  
 NAD27 GEO. LAT-(N) 39.258155 LONG-(W) 80.923924  
 NAD83 UTM (M) N. 4,345,436.77 E. 506,578.18  
**BOTTOM HOLE**  
 NAD27 S.P.C.(FT) N. 289,373.48 E. 1,601,656.07  
 NAD27 GEO. LAT-(N) 39.231029 LONG-(W) 80.906255  
 NAD83 UTM (M) N. 4,342,427.97 E. 508,105.81



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

**LEGEND**

- LEASE LINE
  - SURFACE LINE
  - PROPOSED PATH
  - AS DRILLED PATH
  - OFFSET LINE
  - TIE LINE
  - CREEK
  - ROAD
  - COUNTY ROUTE
  - STATE ROUTE
  - PROPOSED WELL
  - EXISTING WELL
  - PERMITTED WELL
  - CLAY DISTRICT
  - TAX MAP-PARCEL
- C-TM-00-00

SCALE 1" = 2000' FILE NO. 8083AD514475  
 DATE JUNE 25, 20 15  
 REVISED 07/01/15, 06/23/16, 07/12/16 & 08/17/16  
 OPERATORS WELL NO. WV 514475  
 API WELL NO. 47 — 085 — 10227H  
 NO. STATE COUNTY PERMIT

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

DESIGNATED AGENT REX C. RAY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

WELL OPERATOR EQT PRODUCTION COMPANY  
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330