



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

PERMIT MODIFICATION APPROVAL

June 14, 2016

EQT PRODUCTION COMPANY
120 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330

Re: Permit Modification Approval for API Number 9502318, Well #: 516539


Modified Azimuth

Oil and Gas Operator:

The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,


for Gene Smith
Assistant Chief of Permitting
Office of Oil and Gas

Promoting a healthy environment.

06/17/2016

4709502318

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: EQT Production Company 306686 Tyler Centerville West Union
Operator ID County District Quadrangle

2) Operator's Well Number: 516539 Well Pad Name: WEU4

3) Farm Name/Surface Owner: Donna J. Peter Public Road Access: WV-18

4) Elevation, current ground: 1079' Elevation, proposed post-construction: 1079'

5) Well Type (a) Gas Oil Underground Storage

Other

(b) If Gas Shallow Deep

Horizontal

6) Existing Pad: Yes or No Yes

*DMH
3-14-16*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 6680', 54', 2747 PSI

8) Proposed Total Vertical Depth: 6680

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 10500

11) Proposed Horizontal Leg Length: 2745

12) Approximate Fresh Water Strata Depths: 132, 175, 186, 204

13) Method to Determine Fresh Water Depths: By offset wells

14) Approximate Saltwater Depths: 1128, 1219, 1222

15) Approximate Coal Seam Depths: 230, 281, 696

16) Approximate Depth to Possible Void (coal mine, karst, other): None reported

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes No

(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

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MAR 18 2016

18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20	New	A-500	78.6	40	40	60 ft ³ / CTS
Fresh Water	13 3/8	New	J-55	54.5	750	750	668 ft ³ / CTS
Coal							
Intermediate	9 5/8	New	A-500	40	2865	2865	1126 ft ³ / CTS
Production	5 1/2	New	P-110	20	10500	10500	500' above top producing zone
Tubing	2 3/8		J-55	4.7		May not be run, if run set 40' above top perf or 80° inclination	
Liners							

*DMH
3-14-16*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	20	26	.375	1378	1102	Class A	1.18
Fresh Water	13 3/8	17 1/2	.38	2700	2160	See Variance	1.19
Coal							
Intermediate	9 5/8	12 3/8	.395	3950	3160	Class H	1.07
Production	5 1/2	8 1/2	.361	12640	10112	Class H	1.07/1.86
Tubing	2 3/8	NA	.19	7700			
Liners							

PACKERS

Kind:	n/a			
Sizes:	n/a			
Depths Set:	n/a			

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19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drill and complete a new horizontal well in the Marcellus Formation. Drill the vertical to an approximate depth of 4097'. Kick off and drill curve. Drill the lateral in the Marcellus. Cement casing.

*DmH
3-14-16*

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Hydraulic fracturing is completed in accordance with state regulations using water recycled from previously fractured wells and obtained from freshwater sources. This water is mixed with sand and a small percentage (less than 0.3%) of chemicals (including 15% Hydrochloric acid, gelling agent, gel breaker, friction reducer, biocide, and scale inhibitor), referred to in the industry as a "slickwater" completion. Maximum anticipated internal casing pressure is expected to be approximately 10000 psi, maximum anticipated treating rates are expected to average approximately 100 bpm. Stage lengths vary from 150 to 300 feet. Average approximately 200,000 barrels of water per stage. Sand sizes vary from 100 mesh to 20/40 mesh. Average approximately 200,000 pounds of sand per stage.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): no additional

22) Area to be disturbed for well pad only, less access road (acres): no additional

23) Describe centralizer placement for each casing string:

- Surface: Bow spring centralizers – One at the shoe and one spaced every 500'.
- Intermediate: Bow spring centralizers– One centralizer at the shoe and one spaced every 500'.
- Production: One solid body centralizer spaced every joint from production casing shoe to KOP

24) Describe all cement additives associated with each cement type:

Conductor: Class A no additives
 Surface (Type 1 Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries. .25% Flake Loss Circulation Material (LCM)
 Intermediate (Class H Cement): 0-3% Calcium Chloride. Used to speed the setting of cement slurries. 0.25% flake. Loss Circulation Material (LCM) .6% Super FL-300 (fluid loss/lengthens thickening time)
 Production:
 Lead (Type H Cement): 0.2% CD-20 (dispersant makes cement easier to mix). .15% SuperFL-300 (fluid loss/lengthens thickening time) .15% SEC-10 (fluid loss) 50:50 POZ (extender)
 Tail (Type H Cement): 0.2% Super CR-1 (Retarder). Lengthens thickening time. .3% Super FL-200 (fluid loss) .2% SEC-10 (Fluid loss). .2% SuperFL-350 (fluid loss) Reduces amount of water lost to formation.
 60 % Calcuim Carbonate. Acid solubility.

25) Proposed borehole conditioning procedures:

Surface: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
 Intermediate: Circulate hole clean while rotating & reciprocating the drill string until cuttings diminish at surface.
 Production: Pump marker sweep with nut plug to determine actual hole washout. Calculate a gauge holes bottoms up volume. Perform a cleanup cycle by pumping 3-5 bottoms up or until the shakers are clean. Check volume of cuttings coming across the shakers every 15 minutes.

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*Note: Attach additional sheets as needed.

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 MAR 18 2016

Well 516539(WEU4H12)
EQT Production
West Union Quad
Tyler County, WV

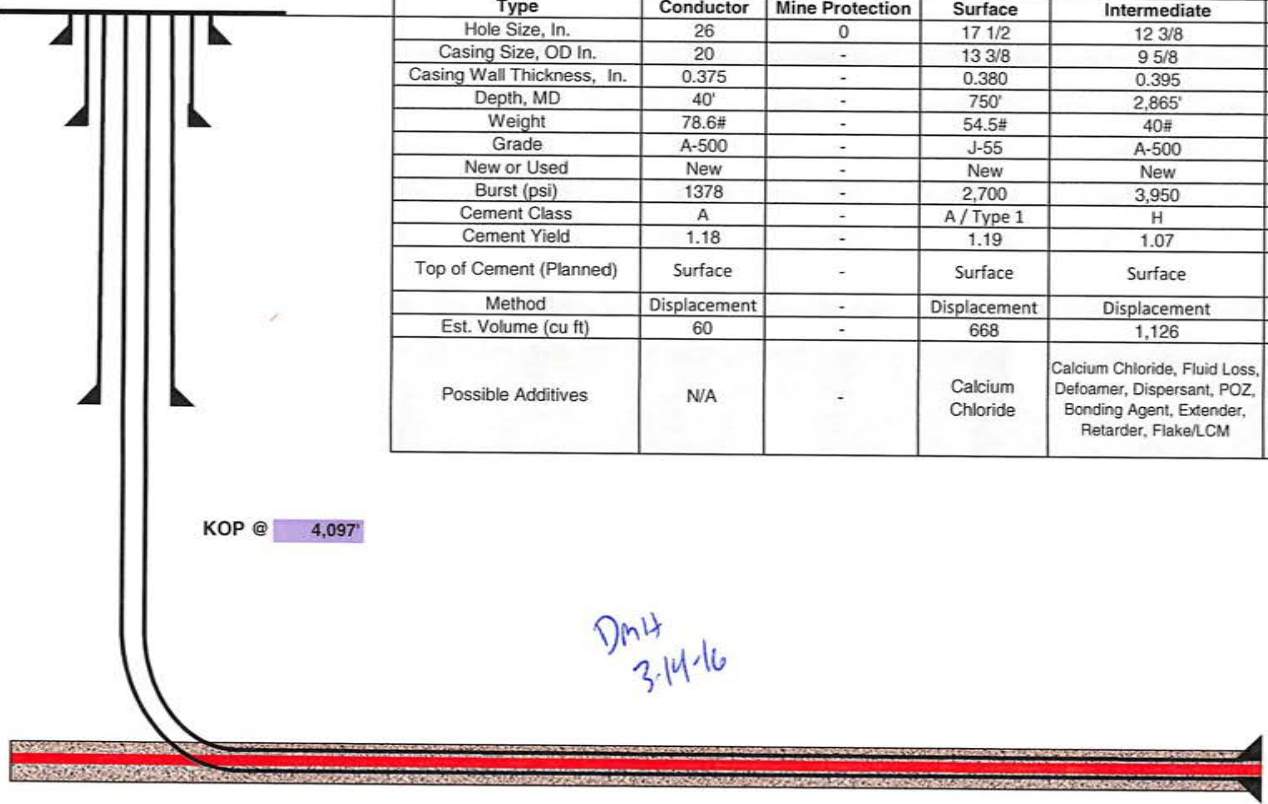
Azimuth 155
 Vertical Section 4164

MOD
 4709502318

Note: Diagram is not to scale

Formations	Top TVD	Base TVD
Conductor	40	
Base Fresh Water	204	
Surface Casing	750	
Base Red Rock	1101	
Maxton	1838	2037
Big Lime	2111	2395
Weir	2403	2450
Gantz	2490	2507
Fifty foot	2604	2659
Thirty foot	2690	2744
Gordon	2770	2815
Intermediate Casing	2865	
Forth Sand	2841	2903
Bayard	3011	3148
Warren	3374	3440
Speechley	3460	3574
Balltown A	3976	4088
Riley	4574	4864
Benson	4995	5058
Alexander	5242	5324
Sonyea	6328	6449
Middlesex	6449	6496
Genesee	6496	6570
Geneseo	6570	6605
Tully	6605	6626
Hamilton	6626	6649
Marcellus	6649	6702
Production Casing	10500	MD
Onondaga	6702	

Casing and Cementing				Deepest Fresh Water: 204'	
Type	Conductor	Mine Protection	Surface	Intermediate	Production
Hole Size, In.	26	0	17 1/2	12 3/8	8 1/2
Casing Size, OD In.	20	-	13 3/8	9 5/8	5 1/2
Casing Wall Thickness, In.	0.375	-	0.380	0.395	0.361
Depth, MD	40'	-	750'	2,865'	10,500'
Weight	78.6#	-	54.5#	40#	20#
Grade	A-500	-	J-55	A-500	P-110
New or Used	New	-	New	New	New
Burst (psi)	1378	-	2,700	3,950	12,640
Cement Class	A	-	A / Type 1	H	H
Cement Yield	1.18	-	1.19	1.07	1.07/1.86
Top of Cement (Planned)	Surface	-	Surface	Surface	500' above top Producing Zone
Method	Displacement	-	Displacement	Displacement	Displacement
Est. Volume (cu ft)	60	-	668	1,126	1,622
Possible Additives	N/A	-	Calcium Chloride	Calcium Chloride, Fluid Loss, Defoamer, Dispersant, POZ, Bonding Agent, Extender, Retarder, Flake/LCM	Calcium Carbonate, Fluid Loss, Extender, Dispersant, Viscosifier, Defoamer, POZ, Bonding Agent, Retarder, Anti-Settling/Suspension Agent



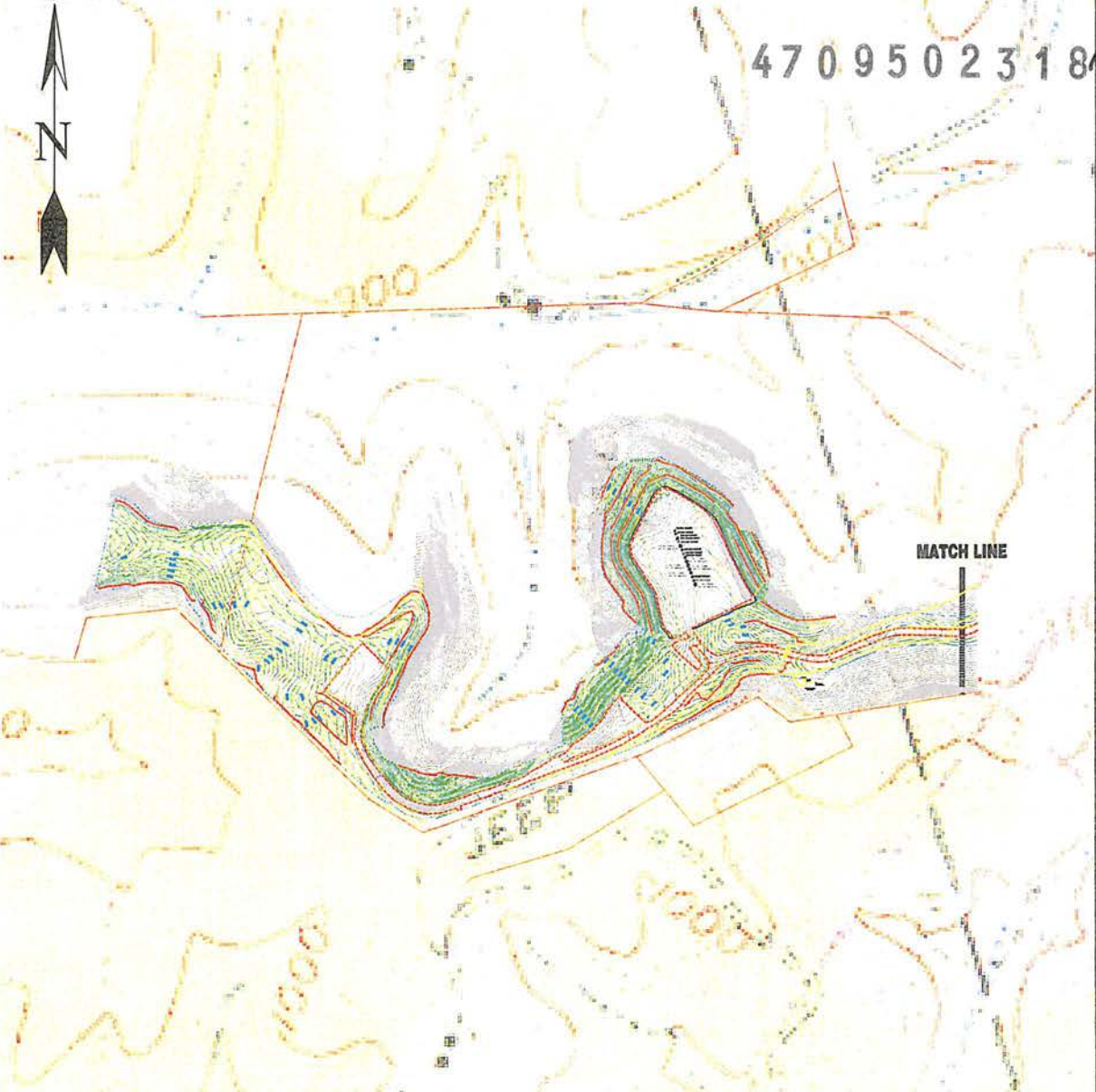
Land curve @ 6,680' ft TVD
 7,755' ft MD

Est. TD @ 6,680' ft TVD
 10,500' ft MD

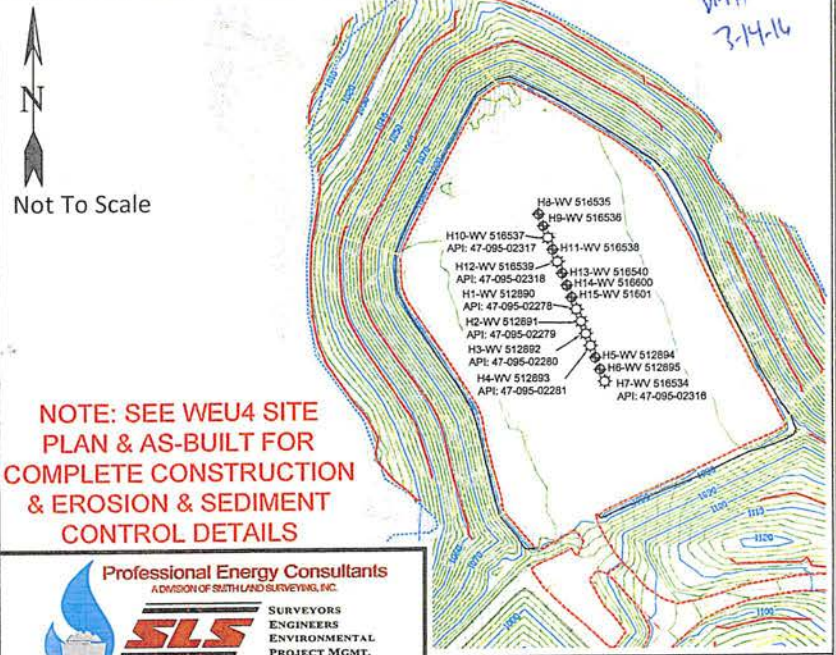
2,745' ft Lateral

Proposed Well Work:
 Drill and complete a new horizontal well in the Marcellus formation.
 Drill the vertical to an approximate depth of 4097'.
 Kick off and drill curve. Drill lateral in the Marcellus. Cement casing.

4709502318 MOD



Detail Sketch for Proposed WEU4 Wells



NOTE: SEE WEU4 SITE PLAN & AS-BUILT FOR COMPLETE CONSTRUCTION & EROSION & SEDIMENT CONTROL DETAILS.

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Professional Energy Consultants
 A DIVISION OF SOUTH LAND SURVEYING, INC.
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 ENGINEERS
 ENVIRONMENTAL
 PROJECT MGMT.
 (204) 452-6634
 WWW.SLSURVEYS.COM

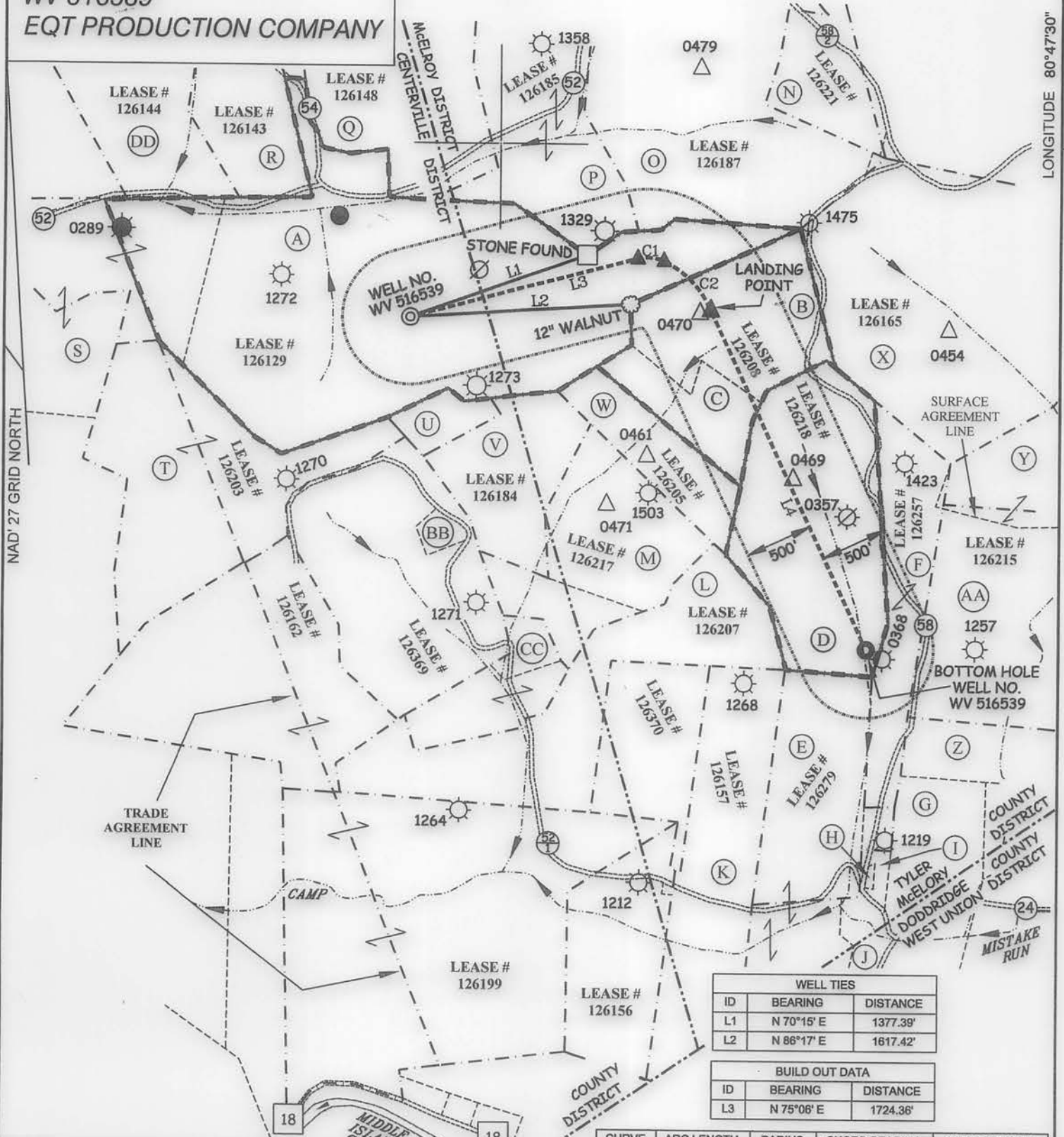
TOPO SECTIONS OF WEST UNION 7.5' TOPO QUADRANGLE

SHEET 2 OF 2
SCALE: 1"=500'
 0' 500' 1000'
 06/17/2016

RECEIVED
Office of
MAR 18 2016

DRAWN BY K.D.W.	FILE NO. 7701	DATE 03-03-16	CADD FILE: 7701RECLANR3.dwg
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WEU4
WV 516539
EQT PRODUCTION COMPANY



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°08' E	1724.36'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	197.70'	297.56'	S 85°02' E	194.09'
C2	510.04'	706.75'	S 43°53' E	499.05'

LATERAL		
ID	BEARING	DISTANCE
L4	S 25°00' E	2745.32'

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ENVIRONMENTAL
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(304) 462-5634
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(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. 4,357,528.45 E. 516,112.97

BOTTOM HOLE
 NAD'27 S.P.C.(FT) N. 315,998.96 E. 1,629,919.21
 NAD'27 GEO. LAT-(N) 39.360202 LONG-(W) 80.808891
 NAD'83 UTM (M) N. 4,356,776.34 E. 516,479.08



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

LEGEND

- LEASE LINE
- SURFACE LINE
- WELL LATERAL
- OFFSET LINE
- TIE LINE
- CREEK
- ROAD
- FENCE LINE
- COUNTY ROUTE
- PROPOSED WELL
- EXISTING WELL
- PERMITTED WELL
- ABANDONED WELL
- PLUGGED WELL
- STORAGE WELL
- CENTERTVILLE DISTRICT TAX MAP-PARCEL C-00-00
- MCELROY DISTRICT TAX MAP-PARCEL M-00-00
- WEST UNION DISTRICT TAX MAP-PARCEL WU-00-00

SCALE 1" = 1000'

DATE OCTOBER 1, 2015

REVISED MARCH 03, 2016

OPERATORS WELL NO. WV 516539

API WELL NO. 47

STATE COUNTY PERMIT

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

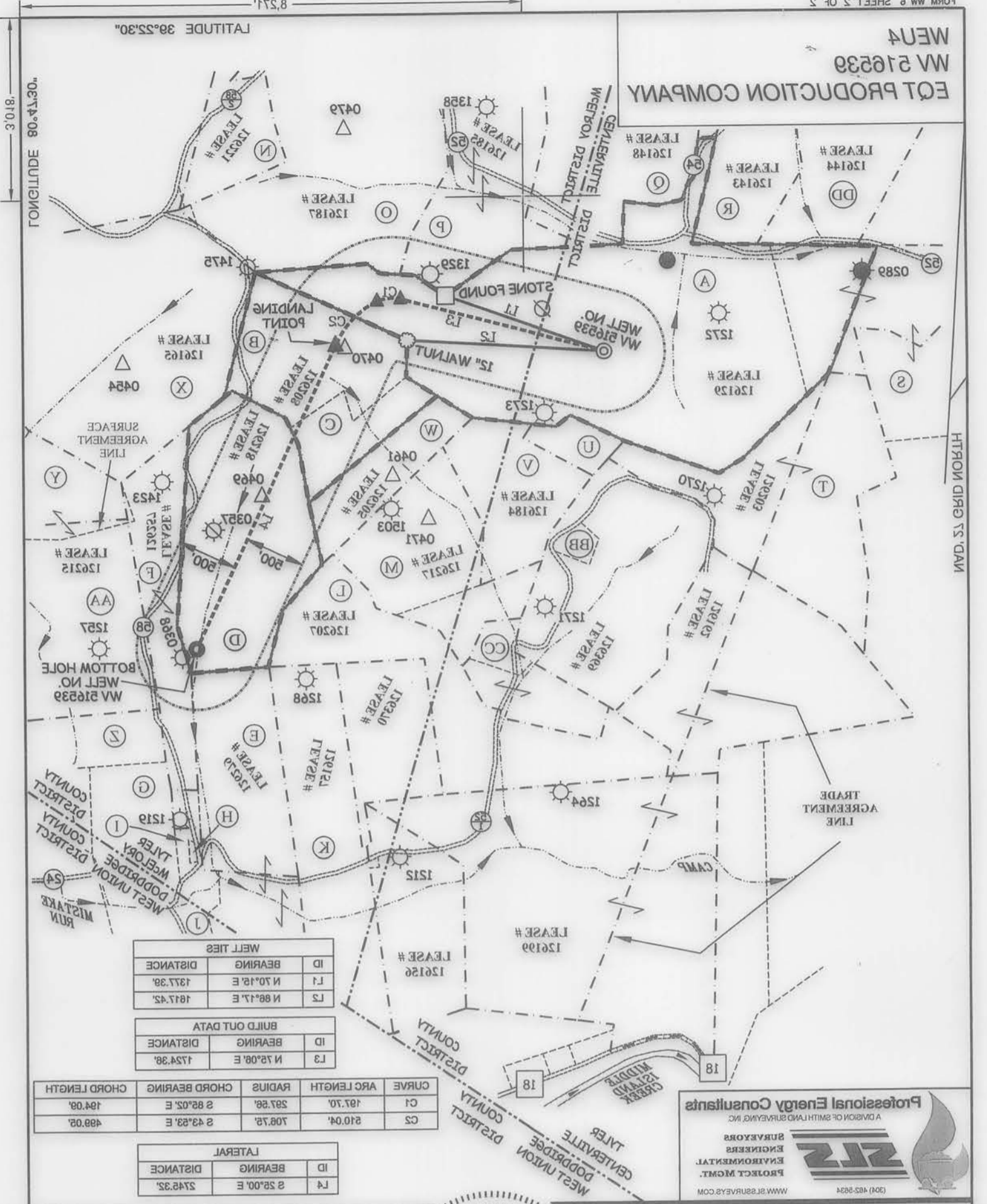
WELL OPERATOR EQT PRODUCTION COMPANY
 ADDRESS 115 PROFESSIONAL PLACE P.O. BOX 280 BRIDGEPORT, WV 26330

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

06/17/2016

COUNTY NAME PERMIT

WVA 516533
EQT PRODUCTION COMPANY



WELL TIES		
ID	BEARING	DISTANCE
L1	N 70° 18' E	1377.38
L2	N 88° 17' E	1817.45

BUILD OUT DATA		
ID	BEARING	DISTANCE
L3	N 75° 08' E	1724.38

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	187.70	287.86	S 88° 05' E	184.08
C2	210.04	708.78	S 43° 23' E	488.08

LATERAL		
ID	BEARING	DISTANCE
L4	S 28° 00' E	2748.35

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SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.
WWW.SLSURVEY.COM (304) 465-8834

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

NO. STATE COUNTY PERMIT
WELL 47 - OK - 05318 WVD
APR OPERATORS WELL NO. WVA 516533
REVISED MARCH 03 2016
DATE FEB 1 2016

SCALE 1" = 1000'

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

VICTOR MOYERS
LICENSED SURVEYOR
STATE OF WEST VIRGINIA
No. 849

LEGEND
 PLUGGED WELL
 ABANDONED WELL
 PERMITTED WELL
 PROPOSED WELL
 COUNTY ROUTE
 FENCE LINE
 ROAD
 CREEK
 TIE LINE
 OFFSET LINE
 WELL LATERAL
 SURFACE LINE
 LEASE LINE
 (+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

PERMIT
 WEST UNION DISTRICT TAX MAP-PARCEL WJ-00-00
 MCELROY DISTRICT TAX MAP-PARCEL M-00-00
 CENTERVILLE DISTRICT TAX MAP-PARCEL C-00-00

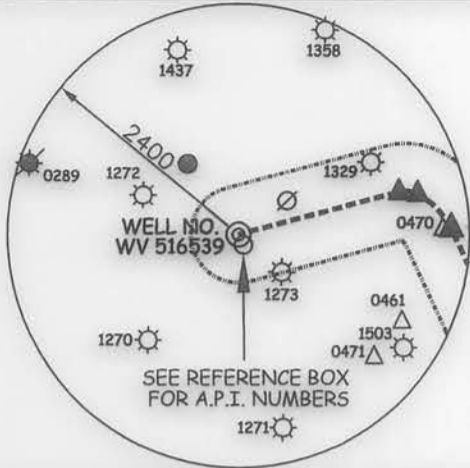
WVA 516533
EQT PRODUCTION COMPANY

WVA 516533
EQT PRODUCTION COMPANY

LATITUDE 39° 55' 30"
LONGITUDE 80° 41' 30"

WEST UNION DISTRICT
DODDRIDGE COUNTY
WV

**WEU4
WV 516539
EQT PRODUCTION COMPANY**



(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
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NAD'83 UTM (M)	N. 4,357,496.87	E. 515,441.34
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BOTTOM HOLE		
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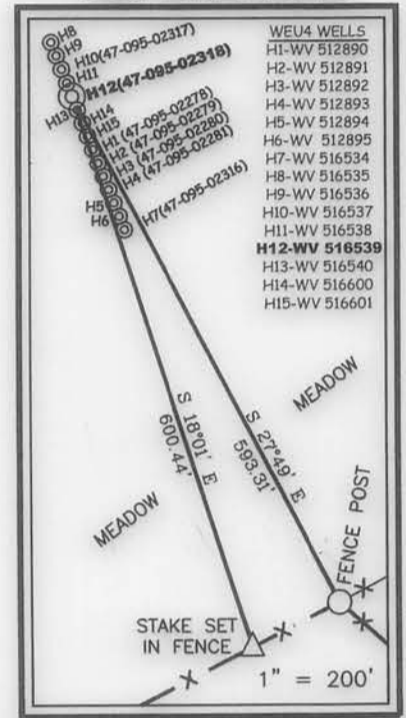
ROYALTY OWNERS		
ROXIE DAVIS ET AL	53 AC.±	LEASE NO. 126208
DARREN L. PARKS ET AL	50 AC.±	LEASE NO. 126218

A	DONNA PETER	113.4 ACRES±	TM C-16-22
B	EDWARD II & CAROLYN WHITE	40 ACRES±	TM M-21-38
C	EDWARD II & CAROLYN WHITE	12.5 ACRES±	TM M-21-39
D	CARL PERKINS	50.25 ACRES±	TM M-21-37
E	JAMES & KATHRYN McNULTY	50.18 ACRES±	TM M-23-3.1
F	THOMAS & RICHARD MARTIN	28.99 ACRES±	TM M-21-36
G	MYRON & BETTY WHITE	14.88 ACRES±	TM WU-01-01
H	KENDRA (COTTRILL) WYKE	0.5 ACRES±	TM WU-01-08
I	JASON & JENNIFER BAGLEY	1.42 ACRES±	TM WU-01-10.1
J	JUDITH BAGLEY	10.09 ACRES±	TM WU-01-10
K	RICHARD & LISA HENDRICKSON	44.68 ACRES±	TM M-23-02
L	ANZANETTA DRAIN HRS	46.88 ACRES±	TM C-18-03
M	JOHN McDONALD JR.	23 ACRES±	TM M-21-41
N	GARY DAVENPORT	16 ACRES±	TM M-21-25
O	BRUCE & SANDRA STONEKING	69.44 ACRES±	TM M-21-28
P	BRUCE & SANDRA STONEKING	42.86 ACRES±	TM M-21-29
Q	ELIZABETH ABRUZZINO	109.94 ACRES±	TM C-16-10
R	DAVID WOLFE	24.84 ACRES±	TM C-16-16
S	RICHARD & YVONNE METCALF	61.57 ACRES±	TM C-16-17
T	CHRIS BAUM ET AL	56.84 ACRES±	TM C-16-23
U	PAUL WEEKLEY (LIFE)	5 ACRES±	TM C-16-28
V	PAUL WEEKLEY (LIFE)	18 ACRES±	TM C-16-27
W	EDWARD II & CAROLYN WHITE	16 ACRES±	TM M-21-40
X	ASIA CUMBERLEDGE	75.75 ACRES±	TM M-21-32
Y	BRUCE BOLAND	35.43 ACRES±	TM M-21-34
Z	MYRON & BETTY WHITE	15.15 ACRES±	TM M-23-07
AA	BENTON E. KEYS	60.6 ACRES±	TM M-21-35
BB	STONEWALL GAS COMPANY	2 ACRES±	TM C-16-24.2
CC	PAUL WEEKLEY (LIFE)	3.37 ACRES±	TM C-16-29
DD	CONRAD COSTILOW	46.17 ACRES±	TM C-16-14

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.

REFERENCES



Professional Energy Consultants
A DIVISION OF SMITH LAND SURVEYING, INC.

SLS SURVEYORS
ENGINEERS
ENVIRONMENTAL
PROJECT MGMT.

(304) 462-5634 WWW.SLSURVEYS.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. 849 *C. Victor Moyers*

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
DATE OCTOBER 1, 20 15
REVISED MARCH 03, 20 16
OPERATORS WELL NO. WV 516539
API WELL NO. 47 - 095 - 02318
STATE COUNTY PERMIT MO

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 7701P516539R
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 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: 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

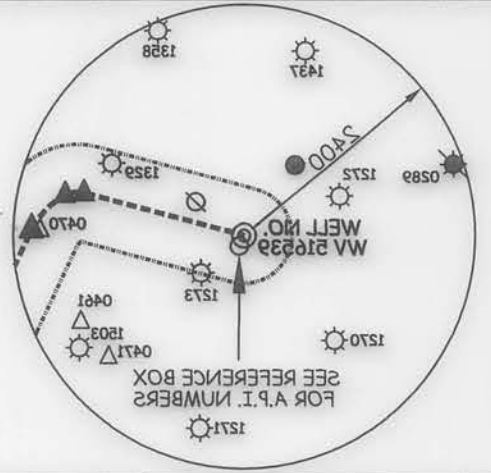
PHYSICAL CHANGE IN WELL (SPECIFY) TARGET FORMATION MARCELLUS
ESTIMATED DEPTH 6,649'

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

COUNTY NAME
PERMIT

06/17/2016

EQT PRODUCTION COMPANY
WV 516339
WELL



LATITUDE 39°25'30"

CONCLUIDE 80°41'30"

NAD83 UTM (M)	N. 4356,776.34	E. 516,473.08	NAD83 GEO.	LAT-(N) 39.360505	LONG-(W) 80.808881
NAD83 UTM (M)	N. 4357,528.45	E. 516,115.97	NAD83 GEO.	LAT-(N) 39.366888	LONG-(W) 80.813153
NAD83 UTM (M)	N. 4357,488.87	E. 516,441.34	NAD83 GEO.	LAT-(N) 39.366714	LONG-(W) 80.805050
LANDING POINT					
NAD83 UTM (M)	N. 4357,488.87	E. 516,441.34	NAD83 GEO.	LAT-(N) 39.366714	LONG-(W) 80.805050
NAD83 UTM (M)	N. 4357,488.87	E. 516,441.34	NAD83 GEO.	LAT-(N) 39.366714	LONG-(W) 80.805050
BOTTOM HOLE					
NAD83 UTM (M)	N. 4357,528.45	E. 516,115.97	NAD83 GEO.	LAT-(N) 39.366888	LONG-(W) 80.813153
NAD83 UTM (M)	N. 4357,488.87	E. 516,441.34	NAD83 GEO.	LAT-(N) 39.366714	LONG-(W) 80.805050
(S.P.C. WV NORTH ZONE) (UTM(M) ZONE 17 NORTH)					

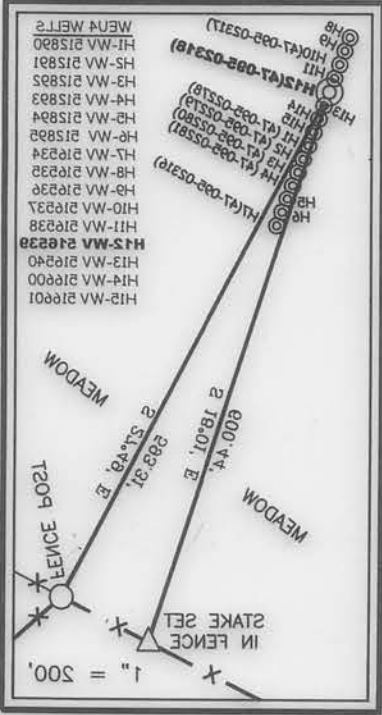
ROYALTY OWNERS		
DARREN L PARKS ET AL	50 AC ±	LEASE NO. 158218
ROXIE DAVIS ET AL	53 AC ±	LEASE NO. 158208

DD	CONRAD COSTLOW	46.17 ACRES±	TM C-16-14
CC	PAUL WEEKLEY (LIFE)	3.37 ACRES±	TM C-16-29
BB	STONEWALL GAS COMPANY	3 ACRES±	TM C-16-24
AA	BENTON E KEYS	60.6 ACRES±	TM M-21-32
Z	MYRON & BETTY WHITE	12.2 ACRES±	TM M-23-07
Y	BRUCE BOBAND	32.43 ACRES±	TM M-21-34
X	ASIA CUMBERLEDGE	72.72 ACRES±	TM M-21-32
W	EDWARD II & CAROLYN WHITE	16 ACRES±	TM M-21-40
V	PAUL WEEKLEY (LIFE)	18 ACRES±	TM C-16-27
U	PAUL WEEKLEY (LIFE)	2 ACRES±	TM C-16-28
T	CHRIS BAUM ET AL	26.84 ACRES±	TM C-16-23
S	RICHARD & YVONNE METCALF	61.21 ACRES±	TM C-16-17
R	DAVID WOLFE	24.84 ACRES±	TM C-16-16
Q	ELIZABETH ABRUZZINO	109.94 ACRES±	TM C-16-10
P	BRUCE & SANDRA STONKING	42.86 ACRES±	TM M-21-29
O	BRUCE & SANDRA STONKING	69.44 ACRES±	TM M-21-28
N	GARY DAVENPORT	16 ACRES±	TM M-21-22
M	JOHN McDONALD JR.	23 ACRES±	TM M-21-41
L	ANZNETTA DRAIN HRS	46.88 ACRES±	TM C-18-03
K	RICHARD & LISA HENDRICKSON	44.68 ACRES±	TM M-23-02
J	LUDITH BAGLEY	10.09 ACRES±	TM WU-01-10
I	JASON & JENNIFER BAGLEY	1.42 ACRES±	TM WU-01-10
H	KENRA (COTTRILL) WYKE	0.2 ACRES±	TM WU-01-08
G	MYRON & BETTY WHITE	14.88 ACRES±	TM WU-01-01
F	THOMAS & RICHARD MARTIN	28.99 ACRES±	TM M-21-36
E	JAMES & KATHRYN McJULTY	20.18 ACRES±	TM M-23-31
D	CARL PERKINS	20.22 ACRES±	TM M-21-37
C	EDWARD II & CAROLYN WHITE	12.2 ACRES±	TM M-21-39
B	EDWARD II & CAROLYN WHITE	40 ACRES±	TM M-21-38
A	DONNA PETER	113.4 ACRES±	TM C-16-22

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.

REFERENCES



Professional Energy Consultants
 A DIVISION OF SMITH LAND SURVEYING, INC.
 SURVEYORS
 ENGINEERS
 ENVIRONMENTAL
 PROJECT MGMT.
 WWW.SLSURVEYS.COM (304) 462-2624



BY THE DIVISION OF ENVIRONMENTAL PROTECTION THE REGULATIONS ISSUED AND PRESCRIBED THE INFORMATION REQUIRED BY LAW AND KNOWLEDGE AND BELIEF AND SHOWS ALL THIS PLAN IS CORRECT TO THE BEST OF MY I THE UNDERSIGNED, HEREBY CERTIFY THAT

Victor Moyers
 P.S. 849

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 DATE OCTOBER 1, 2016
 REVISED MARCH 03, 2016
 OPERATORS WELL NO. WV 516339
 COUNTY
 STATE
 WELL NO. 47
 PERMIT NO. 09318

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

HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK)
 FILE NO. 7701P516339R

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

PROPOSED WORK: 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) _____
 ESTIMATED DEPTH 8,649'
 TARGET FORMATION MARCELLUS

SURFACE OWNER: DONNA J. PETER
 COUNTY: TYLER
 DISTRICT: CENTERVILLE
 PAD ELEVATION: 1,079'

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

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

06/17/2016



March 8, 2015

Mr. Gene Smith
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Modification of 47-095-02318(516539)

Dear Mr. Smith,

Enclosed is an updated WW-6B, schematics, mylar plat and Rec plan. EQT would like to change the azimuth of the well. The top hole and casing plan has not changed.

If you have any questions, please do not hesitate to contact me at (304) 848-0076.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Vicki Roark'.

Vicki Roark
Permitting Supervisor-WV

Enc.

Received
Office of Oil & Gas
MAR 18 2016