

EQT Production
exception

Docket 238-228
2/23/2016



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
dep.wv.gov

**BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

**IN THE MATTER OF THE REQUEST BY EQT
PRODUCTION COMPANY TO RULE 4.2 REGARDING
THE DRILLING OF THE PROPOSED WELL
IDENTIFIED AS 516341 (BIG 133) TO BE LOCATED
IN BIG RUN DISTRICT, WETZEL COUNTY, WEST
VIRGINIA AND ALSO THE OBJECTION FROM
MITCHELL P. WILCOX REGARDING THE
INTENTION DEVIATION OF THE BIG 333 WELL.**

**DOCKET NO. 238-228
ORDER NO. 1**

REPORT OF THE COMMISSION

This cause came before the Commission on February 23, 2016, at the Department of Environmental Protection, Charleston, West Virginia, after giving notice as required by law, at the request of EQT Production Company ("EQT"), on the previously filed application seeking approval for an exception to W.Va. C.S.R. § 39-1-4.2 for the drilling of a proposed deep well, identified as Big 333, Well No. 516341 (API # 47-103-03136) (referred to hereinafter as the "Big 333 well"). EQT proposes to drill the Big 333 well with a top hole location within 3,000 feet of EQT's previously permitted well identified as API No. 47-103-03137, and has requested approval from the Commission for a variance pursuant to W.Va. C.S.R. § 39-1-4.2. In addition, on September 1, 2015, an objection was received from Mitchell P. Wilcox as to EQT's request to intentionally deviate the Big 333 well.

There being a quorum of the Commission present, a hearing was commenced. Present for EQT were Matthew S. Casto, appearing as counsel and Wayne Bowman, Christopher Promoting a healthy environment.

Buchanan and John Damato of EQT. No opposing or noticed parties entered an appearance at the hearing.

The Commission heard testimony from two witnesses, Wayne Bowman and Christopher Buchanan. Their testimony and response to questions by members of the Commission included the reasoning for spacing the Big 333 well top hole location within 3,000 feet of another permitted deep well – API # 47-103-03137; characteristics of the Point Pleasant formation in which the Big 333 well will be drilled; discussion of existing core data from other Utica/Point Pleasant wells in the area; issues related to potential drainage; expected pressures; leasing information and compliance with setback distances. Documents submitted as exhibits, including specifically, EQT permit application for the Big 333 well and a map showing the distance between the wells, established that EQT submitted all the necessary statutory information for a deep well permit application, including proof that all requisite notices were provided.

Following the witness testimony, there being no other witnesses or interested parties present, the Commission adjourned for an executive session. Following an executive session, a member of the Commission made a motion to grant EQT's request to allow the drilling of the Big 333 well within 3,000 feet of API # 47-103-03137. The motion was properly seconded and a vote was taken without objection. The motion passed by unanimous vote and EQT's request was granted. Thereupon, the Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. Members of the Commission present at the hearing were Barry Lay, Chair, Robert Radabaugh, Anthony Gum, and ex officio members, James Martin and Lisa McClung as proxy for Randy Huffman. Greg Foster, Counsel for the Commission and Cindy Raines were also present.

2. EQT is an operator within the meaning of paragraph (4) subsection (a) of West Virginia Code § 22C-9-2.

3. EQT proposes to drill the Big 333 well into the Point Pleasant formation, making the well a deep well as defined by West Virginia Code § 22C-9-2.

4. The top hole location of the Big 333 well is within 3,000 feet of a previously permitted well, specifically API # 47-103-03137, thus requiring a variance to W.Va. C.S.R. § 39-1-4.2.

5. An objection was received from Mitchell P. Wilcox regarding the drilling of the Big 333 well. Despite being properly noticed, no one appeared on behalf of Mr. Wilcox. Testimony presented indicated that Mr. Wilcox's property would not be affected by the drilling of the Big 333 well.

6. A motion to grant EQT's spacing variance request was made and seconded.

7. The motion passed by unanimous vote of the Commission.

CONCLUSIONS OF LAW

1. That W.Va. C.S.R. § 39-1-4.2 requires that all deep wells drilled shall be not less than 3,000 feet from a permitted deep well location and that W.Va. C.S.R. § 39-1-4.3 allows for an exception to that requirement upon notice and hearing.

2. That due notice of time, place and purpose of the hearing has been given in all respects as required by law.

3. That pursuant to Chapter 22C, Article 9, of the West Virginia Code, as amended, the Commission has jurisdiction over the subject matter embraced in said notice, and the persons interested therein, and jurisdiction to promulgate the hereinafter prescribed Order, and that a quorum of the Commission was present at the hearing.

4. That in order to grant the well work permit for the Big 333 well, a spacing variance is required pursuant to W.Va. C.S.R. § 39-1-4.2.

5. The requested spacing variance and the location of the Big 333 well's top hole location within 3,000 feet of previously permitted well API # 47-103-03137 is necessary to promote the efficient development of oil and gas resources, prohibit waste, and encourage the maximum recovery of oil and gas resources. See W.Va. Code § 22C-9-1.

ORDER

Upon presentation of evidence at a hearing before the West Virginia Oil and Gas Conservation Commission on February 23, 2016, and based upon the Findings of Fact and Conclusions of Law contained herein, the Commission hereby grants a variance from the requirements in W.Va. C.S.R. § 39-1-4.2 that states in relevant part, "each deep well drilled shall not be less than 3,000 feet from a permitted deep well location" The spacing variance granted hereby applies only to the Big 333 well (API No. 47-103-03136) and permits EQT to drill the Big 333 well within 3,000 feet of API # 47-103-03137 as depicted on the map as shown as Exhibit 3 admitted at the hearing. Within 90 days of the respective completion of the Big 333 well, EQT is hereby directed to provide well records and drilling logs to the West Virginia Department of Environmental Protection, Oil and Gas Conservation Commission.

IT IS SO ORDERED.

IN THE NAME OF THE STATE OF WEST VIRGINIA

**OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

By: Barry K. Lay
Barry K. Lay, Chairman

Dated this 16th day of March, 2016, at Charleston, West Virginia.

BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA

DOCKET NO. 238
CAUSE NO. 228

IN THE MATTER OF THE REQUEST BY
EQT PRODUCTION COMPANY FOR AN
EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE
PROPOSED WELL IDENTIFIED AS THE
BIG 333 #516341 TO BE LOCATED IN
GRANT DISTRICT, WETZEL COUNTY,
WEST VIRGINIA.

Transcript of a hearing had on the 23rd day of
February, 2016, at 10:00 a.m., in the Dolly Sods
Conference Room in the West Virginia Department of Natural
Resources located at 601 57th Street, Southeast,
Charleston, West Virginia, pursuant to the West Virginia
Rules of Civil Procedure.

BEFORE: Barry Lay, Chairman
Robert Radabaugh, Commissioner
Anthony Gum, Commissioner
James Martin, Commissioner
Lisa McClung, Commissioner
Cindy Raines, Staff

BONNIE K. WOLFE
Certified Court Reporter
1211 Ellen Drive
South Charleston, West Virginia 25303
(304) 744-4318

APPEARANCES:

ON BEHALF OF THE OIL AND GAS CONSERVATION
COMMISSION OF THE STATE OF WEST VIRGINIA:

Greg Foster, Assistant Attorney General

ON BEHALF OF THE PETITIONER, EQT:

Matt Casto, Esquire
Babst Calland, Attorneys at Law
300 Summers Street, Suite 1000
Charleston, West Virginia 25301

ALSO PRESENT:

John Damato, EQT Representative

INDEX

<u>PETITIONER'S WITNESSES</u>	<u>DIRECT</u>	<u>EXAMINATION</u>
B. Wayne Bowman, II	5	11 (Radabaugh) 12 (Lay) 15 (Martin) 16 (Lay) 18 (Martin)
Christopher Buchanan	19	27 (Lay) 30 (Radabaugh) 31 (Lay) 31 (Radabaugh) 32 (Lay) 32 (Martin)
<u>EXHIBITS</u>		<u>IDENTIFIED</u>
No. 1 (Notice)		3
No. 2 (Legal Advertisement)		4
No. 3 (Request for Hearing/Map)		4
No. 4 (Wilcox Objection)		4
No. 5 (Well Permit Application)		4
No. 6 (Map)		9
Reporter's Certificate		40

1 CHAIRMAN LAY: Before the Oil and Gas
2 Conservation Commission of the State of West Virginia in
3 the matter of the request by EQT Production Company for an
4 exception to Rule 39 CSR.1-4.2 regarding the drilling of
5 the proposed well identified as the BIG 333 #516341.

6 Also to be heard is an objection to notice
7 of deviation of said well which is to be located in Grant
8 District, Wetzel County, West Virginia. This is Docket
9 No. 238, Cause No. 228.

10 Let the record show that present are
11 members of the Commission, Lisa McClung, James Martin,
12 Anthony Gum, Robert Radabaugh, Barry Lay. Also present in
13 Greg Foster, Counsel, and Cindy Raines of Staff.

14 I'd like to place of record as Exhibit 1 a
15 copy of the Notice of Hearing along with the return
16 receipts, if you'll pass that that (indicating) direction,
17 please.

18 (WHEREUPON, said document was
19 identified as Exhibit No. 1 and
20 is attached hereto and made a part
21 hereof.)

22 CHAIRMAN LAY: Exhibit 2 is a copy of the
23 Request for Publication for a Class II Legal Advertisement
24 along with the Notice of the Secretary of State

1 Publication. That's 2.

2 (WHEREUPON, said document was
3 identified as Exhibit No. 2 and
4 is attached hereto and made a part
5 hereof.)

6 CHAIRMAN LAY: Exhibit 3 is a Request for
7 Hearing with an attached map.

8 (WHEREUPON, said document was
9 identified as Exhibit No. 3 and
10 is attached hereto and made a part
11 hereof.)

12 CHAIRMAN LAY: Exhibit 4 is a copy of an
13 objection received by the Commission from Mitchell P.
14 Wilcox.

15 (WHEREUPON, said document was
16 identified as Exhibit No. 4 and
17 is attached hereto and made a part
18 hereof.)

19 CHAIRMAN LAY: And 5 is the information needed
20 from the deep well application.

21 (WHEREUPON, said document was
22 identified as Exhibit No. 5 and
23 is attached hereto and made a part
24 hereof.)

1 CHAIRMAN LAY: At this time, the Commission will
2 take appearances.

3 MR. CASTO: Matthew Casto, Attorney on behalf of
4 EQT. With me, I also have Wayne Bowman with EQT, Chris
5 Buchanan with EQT and John Damato with EQT.

6 CHAIRMAN LAY: Okay. If that's the case, do you
7 want to call your first witness?

8 MR. CASTO: Yes. The first witness will be
9 Wayne Bowman.

10 CHAIRMAN LAY: The court reporter will please
11 swear Mr. Bowman in.

12 (Witness sworn.)

13 THEREUPON came

14 BRIAN WAYNE BOWMAN, II
15 called as a witness by the Petitioner herein, being first
16 duly sworn according to law, testified as follows:

17 DIRECT EXAMINATION

18 BY MR. CASTO:

19 Q Please state your name for the record, please.

20 A Brian Wayne Bowman, II.

21 Q And Mr. Bowman, can you take me through your
22 educational background and work history?

23 A I have a Bachelor of Science in Agriculture,
24 Environmental Protection option with a specialization in

1 the reclamation of disturbed lands from West Virginia
2 University in 1991.

3 In 1997, I went to work for Eastern States
4 Oil and Gas. In February of 2000, EQT purchased all of
5 the assets of Eastern States.

6 Q And who is your current employer?

7 A EQT Production Company.

8 Q And what is your current job with EQT?

9 A Regional Land Manager, Northern West Virginia.

10 Q And as the Regional Land Manager for Northern
11 West Virginia, what are your job duties?

12 A My group is responsible for the surface
13 operations associated with the well planning process,
14 contact with landowners, coal owners, et cetera.

15 Q And as part of your duties in your job, do you
16 also review information in order for EQT to submit
17 applications for deep wells?

18 A Yes.

19 Q And horizontal wells as well?

20 A Yes.

21 Q The hearing that we're here today about, the Big
22 333, did you review the information provided in order for
23 EQT to submit the permit for that well?

24 A Yes.

1 Q And are you familiar with the proposed location
2 for the Big 333?

3 A Yes.

4 MR. CASTO: All right. Mr. Lay, the map that
5 you introduced-- I don't know if it's the same one as
6 this (indicating). --as Exhibit 3--

7 CHAIRMAN LAY: It looks like it.

8 MR. CASTO: This is just a larger copy, I think.

9 CHAIRMAN LAY: Okay. As long as it's-- It
10 looks like the same map, just a larger scale.

11 MR. CASTO: Okay. All right.

12 CHAIRMAN LAY: We can work off of that one.
13 This (indicating) will be fine.

14 MR. CASTO: We've got several larger copies if
15 you guys want them.

16 CHAIRMAN LAY: Okay.

17 MR. CASTO: I'm going to ask him a few questions
18 about the map.

19 BY MR. CASTO:

20 Q Mr. Bowman, are you familiar with the map that
21 was previously admitted as part of Exhibit 3?

22 A Yes.

23 Q Okay. And what does this map shows a two-mile
24 radius circle from the proposed deep well in question. To

1 the east is API #47-103-03137, which is a permitted Point
2 Pleasant well that we permitted late last year.

3 To the north shows the bottom hole portion
4 and portion of the lateral of another deep well that's
5 permitted.

6 And to the east, proposed 47-103-03136,
7 which is the well subject to this hearing, shows the top
8 hole location, the build-out and the proposed lateral and
9 its relative distances from the permitted well.

10 Q My understanding, based on looking at this map,
11 is that the proposed top hole location for the BIG 333 is
12 closer than three thousand feet to the existing well which
13 is also known as the BIG 192?

14 A Yes. It's about 2,836 feet.

15 Q And that's the top hole. Correct?

16 A Yes.

17 Q Okay. And what about the bottom hole? How
18 close is the bottom?

19 A It's three thousand feet. It basically runs
20 parallel with the permitted well.

21 Q Okay. So the top hole is closer than three
22 thousand feet, but the bottom hole is three thousand feet
23 away?

24 A Yes.

1 MR. CASTO: Now, let me show you another map.
2 I'd like to mark this as Exhibit 6.

3 (WHEREUPON, said document was
4 identified as Exhibit No. 6 and
5 is attached hereto and made a part
6 hereof.)

7 BY MR. CASTO:

8 Q Mr. Bowman, I've shown you what I've marked as
9 Exhibit No. 6. Can you describe to me what Exhibit 6 is?

10 A This is an aerial view of the existing BIG 333
11 pad from which several Marcellus wells -- several
12 horizontal Marcellus wells had previously been drilled and
13 the pad on which the proposed well in question and subject
14 to the hearing is proposed.

15 Q And does this aerial view show the proposed
16 location for the BIG 333 that we're here today about?

17 A Yes. It does.

18 Q And where is that located?

19 A In the central portion of the map just north of
20 the flow-back pit shows the existing pad and production
21 facilities and the proposed top hole location.

22 Q The dotted yellow line, is that pointing to
23 those?

24 A The dotted yellow line is the proposed bore path

1 build-out and the horizontal portion. The top hole's
2 represented by a circle with clear spaces and red spaces,
3 cross hairs.

4 Q Now, I note there are some notes, Note 1, Note
5 2, Note 3 on this map. Can you describe for me what those
6 are?

7 A Sure. But first, there's a gray radius that is
8 shown on the map. That represents the three thousand foot
9 radius from the existing deep well. Note 1 is a potential
10 spot that's outside the three thousand foot radius. It's
11 on a pretty steep hillside, not build-able, so not
12 suitable for a surface location for a deep well.

13 Note 2 represents another location that's
14 just outside the three thousand foot radius. It's located
15 on a steep ridge portion that is south of the existing
16 wells and the existing well pad, on the other side of the
17 flow bank pit and a soil stockpile area.

18 And Note 3 is also an area that's outside
19 the three thousand feet. That's encumbered with the
20 access road to the pad and an existing pipeline. These
21 spots were shown to indicate locations that would be legal
22 under the regulations but locations where we cannot drill
23 the proposed well.

24 Q So the notes are possible locations that in your

1 estimation are not feasible to build in those locations.
2 Correct?

3 A Correct.

4 Q Okay. And that's the reason EQT has chosen the
5 location as part of the permit application?

6 A Yes.

7 Q Now, the bottom hole producing formations, I
8 notice that the three thousand foot marker follows that
9 gray radius. Is that correct?

10 A It does for a portion and continues on to the
11 bottom hole.

12 Q All right. Now, does EQT have all the
13 properties under lease for the BIG 333 well?

14 A Yes.

15 Q And to your knowledge, does the proposed BIG 333
16 location meet all the requirements of the deep well
17 statutes and regulations in West Virginia?

18 A Yes.

19 MR. CASTO: That's all the questions I have for
20 this witness.

21 CHAIRMAN LAY: Questions?

22 EXAMINATION

23 BY COMMISSIONER RADABAUGH:

24 Q Did you all provide a unit map by any chance?

1 A A unit map has not yet been prepared.

2 EXAMINATION

3 BY CHAIRMAN LAY:

4 Q On the plat, it shows a highlighted area.

5 A Yeah.

6 Q Is that the proposed unit?

7 A That would not necessarily be the proposed unit.
8 And I can't tell from here. That would either be-- That
9 may indicate the radius of five hundred feet or fifteen
10 hundred feet.

11 Q Five hundred feet.

12 A Five hundred feet. As of yet, our title group
13 has not created a unit map for the proposed well. As we
14 get closer to operations, I'm sure that will occur at that
15 time.

16 Q But this would be a voluntary unit. You have
17 the right to unitize all the tracts--

18 A Yes, sir.

19 Q --along this radius?

20 A Yes, sir.

21 CHAIRMAN LAY: Sorry, Bob. I didn't mean to
22 jump in.

23 COMMISSIONER RADABAUGH: That's fine.

24 CHAIRMAN LAY: Any other questions? I have one,

1 but go ahead, anybody--

2 COMMISSIONER McCLUNG: I just want to know where
3 the Wilcox--

4 BY CHAIRMAN LAY:

5 Q That's my question, too. Where is Mr. Wilcox's
6 property?

7 A If you look at the bottom hole of the well, that
8 fifteen hundred foot radius would barely clip the corner
9 of the property that he owns. Members of our organization
10 actually have a meeting, I think, this evening with Mr.
11 Wilcox to discuss--

12 Q Can you identify on here as to which tract it is
13 the--

14 A if I can get a copy of the plat.

15 Q It looks like these are partial numbers.

16 A Right. I don't want to try to say from memory.
17 It's 28-61, I believe.

18 Q 28-61, you said?

19 A Yes. I believe that's correct. Our staff's
20 been attempting to make contact with Mr. Wilcox since week
21 before last, and I believe a meeting is set up for this
22 evening.

23 COMMISSIONER GUM: But you did talk to him
24 before?

1 THE WITNESS: We have taken leases from him on
2 other parcels previously. And efforts have been made to
3 set up a meeting ideally prior to today. But apparently
4 based on his schedule, today was when he could meet with
5 our--

6 COMMISSIONER GUM: Okay.

7 THE WITNESS: --our folks.

8 BY CHAIRMAN LAY:

9 Q Based on what I'm seeing here (indicating), it
10 looks like that you have included what is at least, from
11 what I see of the plat, that three are three separate
12 leases embraced in this location, Lease 190015, Lease
13 104225 and Lease 991903. Is that what you have
14 identified?

15 A The first two, yes. I don't see-- 991903?

16 Q It's to the north.

17 A Yes.

18 Q But it's not-- It may not be affected. I don't
19 know the distance.

20 A It is very close. The top hole's about fourteen
21 hundred and eighty feet away from the southernmost point
22 of that lease.

23 CHAIRMAN LAY: Okay. Any other questions before
24 I go?

EXAMINATION

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BY COMMISSIONER MARTIN:

Q Mr. Chairman, I have a question. Mr. Bowman, I think you testified to this, but I just missed it. The exception we're here to address is regarding three thousand foot spacing?

A Yes, sir.

Q And what wells are affected in that way?

A There's one well currently permitted. It's API #47-103-03137. That's our BIG 192 pad. It's an existing Marcellus pad, and we have a permitted Point Pleasant well there. It has not yet been drilled.

Q So it's just that one well?

A Yes.

Q And that's an issue primarily with the two surface locations. Right?

A Yes.

Q The laterals otherwise are--

A Legal locations.

Q --are legal?

A Yes, sir.

Q And that's the only well really impacted--

A Yes, sir.

Q --in terms of the spacing?

1 near the heal but outside or right at the three thousand
2 foot radius.

3 Q That's what I mean. Do you have a well
4 schematic?

5 A I'm looking through the application. We have a
6 casing schematic, but I don't think it in its present form
7 would indicate exactly where we would penetrate the Point
8 Pleasant related to the three thousand feet from the
9 existing permitted well.

10 Q Okay. You said that Mr. Wilcox's property was
11 just barely touched. From what distance of your terminus
12 of your toe would it be from there to the beginning of
13 Mr. Wilcox's property?

14 A I don't have the precise distance, but it's very
15 near the fifteen hundred foot radius from the toe of the
16 well. But it's fourteen hundred something, but I don't
17 know the exact number.

18 Q So you don't have any schematics?

19 A No. We have the diagram, but it doesn't
20 delineate the exact intersection.

21 Q In the future, please provide that information.

22 A Yes, sir.

23 Q Looks like it's-- Looks like I understand it.
24 And in this particular case, the distances aren't that

1 critical. For the record, however, the surface location
2 and all of the existing bore holes from surface to
3 terminus are at least four hundred feet from all of the
4 unit or lease boundaries?

5 A Yes.

6 CHAIRMAN LAY: Okay. I think that's-- Any
7 other questions?

8 EXAMINATION

9 BY COMMISSIONER MARTIN:

10 Q Mr. Chairman, I do have one more, and it may not
11 be for Mr. Bowman. Your well bore schematic shows an
12 estimate of the lateral length of right at thirty-two
13 hundred feet. Is that a common footage for this type of
14 development?

15 A It's a little outside of my bailiwick, but I
16 would say at this point we don't have a common length
17 based on these wells.

18 Q So is there somebody else that might testify to
19 that?

20 MR. BUCHANAN: We don't have a specific length.

21 MR. CASTO: Mr. Buchanan can possibly address
22 that. Yes.

23 CHAIRMAN LAY: Any other questions? Okay. If
24 there are no other questions, witness may be excused.

1 (Witness excused.)

2 CHAIRMAN LAY: You can call your next witness,
3 Mr. Casto.

4 MR. CASTO: Okay. For the record initially,
5 given the fact that the surface location was closer than
6 three thousand but the bottom hole was further, I intended
7 to just use Mr. Bowman. But once I saw the objections
8 from Mr. Wilcox, that's why I have Mr. Buchanan here, to
9 talk about the drainage aspects. So I would call Chris
10 Buchanan.

11 (Witness sworn.)

12 THEREUPON came

13 CHRISTOPHER BUCHANAN

14 called as a witness by the Petitioner herein, being first
15 duly sworn according to law, testified as follows:

16 DIRECT EXAMINATION

17 BY MR. CASTO:

18 Q Can you state your name for the record, please?

19 A Christopher William Buchanan.

20 Q And can you take me through your educational
21 background?

22 A I have a Bachelor's in Geology, Petroleum
23 Geology, from the University of Aberdeen in Scotland and a
24 Master's in reservoir evaluation and management from the

1 Petroleum Engineering Department of Heriot-Watt University
2 in Scotland.

3 Q And can you take me through your work history
4 and experience?

5 A I started with Occidental in California in 2001
6 as a Reservoir Engineer, worked there for nine years, then
7 moved to Appalachia or to the Pittsburgh area and worked
8 with EXCO Resources as Senior Reservoir Engineer for two
9 years and then joined EQT in 2013.

10 Q And are you currently a Reservoir Engineer for
11 EQT?

12 A I joined them as a Reservoir Engineer. Now I'm
13 Manager of Reservoir Engineering.

14 Q What does a Reservoir Engineer do?

15 A We generally provide assessments of performance
16 of wells and estimates of reserves and recoverable
17 reserves.

18 Q And you also study different shale formations
19 and pools?

20 A Yes.

21 Q And as part of your duties, are you familiar
22 with the porosity and permeability of differing shale
23 formations in West Virginia?

24 A Yes.

1 Q And can you describe porosity and permeability
2 for me and explain the difference?

3 A Porosity in terms of in rock and porosity are
4 essentially the holes in the rock, the spaces. They're
5 not naturally connected. Permeability is the degree of
6 connectivity between these pores and how it connected.

7 Q And as part of your job, do you determine how
8 much area a potential gas well will drain?

9 A Yes.

10 Q And do you do so for both shallow wells and deep
11 wells as defined by West Virginia law?

12 A Yes. I do.

13 Q Are you familiar with the location for the BIG
14 333 well--

15 A Yes.

16 Q --that we're here today about? What is the
17 target formation of that well?

18 A The Point Pleasant.

19 Q And do you know what the proposed depth is for
20 that well?

21 A Thirteen thousand feet.

22 Q And is the well being drilled from a new or
23 existing pad?

24 A An existing pad as proposed.

1 Q With respect to the well that we're here today
2 about, the BIG 333, how close is it to the nearest
3 producing well that's drilled into the Point Pleasant
4 formation?

5 A To the nearest permitted well?

6 Q Permitted well, yes.

7 A Three thousand feet.

8 Q And is that the BIG 192 well which is shown as
9 47-103-03037?

10 A Yes.

11 Q And you've seen the map which was marked as
12 Exhibit 3 that we talked about during Mr. Bowman's
13 testimony?

14 A Yes.

15 Q And can you-- Mr. Bowman talked about the top
16 hole being 2,835 feet away. Are you familiar with the
17 bottom hole and how close it is to the BIG 192?

18 A Yes. I am. It's three thousand feet.

19 Q Three thousand feet. So it's my understanding
20 the proposed top hole is roughly 2,880 feet from the BIG
21 192. Is that correct?

22 A That's my understanding.

23 Q What about the producing formation? Is that
24 three thousand feet?

1 A Three thousand feet.

2 Q Now, as part of your duties as a Reservoir
3 Engineer for EQT, are you able to calculate how large of
4 an area that this particular well will drain?

5 A Yes.

6 Q And how do you do that?

7 A For the most part and since this formation is in
8 its infancy, we're studying other producers' wells that
9 we've traded data from. And we make models of those
10 wells, simulation models, and populate them with the pad
11 physical properties.

12 And we have our completions design team
13 provide a frac model, and we input these into our
14 simulation model and determine how much it will drain over
15 how long a time.

16 Q And do you do comparisons with different shale
17 formations?

18 A We do.

19 Q And do you compare like the Marcellus and the
20 Point Pleasant?

21 A Yes. One of the big inputs into these
22 simulation models is core data. We look at the core data
23 of the Marcellus, Point Pleasant and production history.

24 Q Can you discuss the comparison between the

1 Marcellus and Point Pleasant in terms of permeability?

2 A They're very, very similar, although the
3 mineralogy is different. Porosity and permeability of the
4 two formations are very similar. We have data sets from
5 our Core Lab Consortium. There is a band into the data,
6 but they plat more or less on top of each other.

7 Q Are you able to determine what the frac zone
8 area for the BIG 333 well will be?

9 A Yes.

10 Q And based on this, can you calculate the
11 potential drainage for the BIG 333 well?

12 A Yes.

13 Q And how large of an area could the BIG 333 well
14 potentially drain?

15 A Well, right now our completion design team are
16 modeling anything from three hundred to six hundred feet
17 fracture half-length. That would be six hundred feet to
18 one side, six hundred to the other or three hundred to one
19 side and three hundred to the other, somewhere in between.
20 We haven't got that done yet, and we really have to drill
21 it and produce it to determine everything.

22 Q Is the BIG 333 well outside of the drainage area
23 of the BIG 192?

24 A Yes.

1 Q Assuming these wells were closer than three
2 thousand feet, what is the reason for spacing them closer
3 together than three thousand feet?

4 A Ideally, if we wanted to drill-- I mean, if we
5 wanted to produce the well efficiently, we would be able
6 to make the fractures grow much, much longer. We can't.

7 We spaced the fractures in our design sixty
8 feet apart, and it takes a long time for the rock between
9 those two fractures that are sixty feet apart to drain.

10 So anything that is beyond the end -- the
11 tip of the fractures, the time to drain that rock is not
12 in our lifetimes.

13 Q So if you were to follow the three thousand foot
14 spacing for Point Pleasant wells, is there potential for
15 waste?

16 A Yes, absolutely.

17 Q In your opinion, can the well bore be
18 effectively drained by drilling the laterals three
19 thousand feet apart?

20 A No. It cannot.

21 Q Okay. Now, with respect to the objection by
22 Mr. Wilcox, are you familiar with that?

23 A I am.

24 Q Okay. Are you familiar with how far the well

1 bore for the BIG 333 will be in terms of the property
2 owned by Mr. Wilcox?

3 A Yes. I am.

4 Q And how far is that?

5 A It's a little over fourteen hundred feet. I
6 can't tell you the precise number.

7 Q Based on your opinions and studies, will there
8 be any drainage to the property of Mr. Wilcox from the BIG
9 333 well?

10 A I don't believe so. As I said, we don't drill
11 much beyond the face of the fracture. And any feasible
12 time frame-- And the fractures actually grow
13 perpendicular to the well bore. And so, you know, we're
14 trying to drain the rock between the fractures.

15 We're going along this well bore. Anything
16 beyond the toe, significantly beyond the toe, like again
17 Mr. Wilcox's leases, will not be impacted by the depletion
18 from this well.

19 Q Based on your experience and the information
20 from today, is it your understanding that the well could
21 be safely and efficiently drilled in the proposed
22 location?

23 A I believe that's the best location for it.

24 MR. CASTO: That's all the questions I have.

EXAMINATION

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BY CHAIRMAN LAY: §

Q I have a couple of follow-ups then. You mentioned that you used core data from the Coring--

A Consortium.

Q --Consortium. Exactly where are your closest cores to this location that were utilized in your evaluation?

A There is not a lot of core available near here. However, we do have open hole logs near here in our PET Physical Model that we use to interpret those logs as ties to the core data throughout the basin.

We have on this well-- What is it? --4710343109, we have open hole logs from a well that we drilled a month or so ago. Although we don't have core, we have a good interpretation of what the rock properties are here.

Q Okay. Then how did you arrive at your probability value?

A Okay. Let me go back. We do have core, I believe, from a Gascar [sic] well in this county. We have several cores in Monroe County in Ohio and, also, in Belmont County, Ohio. I believe we have Range Resources' core in Washington County. We're dotted around. We have

1 one core in Green County in Pennsylvania.

2 Q How consistent are your perm values from those
3 multiple cores that you mentioned?

4 A I guess the best way to describe it is there's--
5 Well, there's a cloud of data that is quite tight from a
6 plotting porosity versus permeability. It's pretty
7 consistent. It's a large data set. It has some data
8 points on it that have been sampled by the consortium.
9 And we're using a correlation to that or a best-fit line
10 to that data.

11 Q What was the-- I assume then that you took an
12 average permeability across the thickness of the
13 formation. What was that permeability value?

14 A We expect it here to be around a hundred and
15 twenty nanodarcys.

16 Q A hundred and twenty?

17 A Hundred and twenty nanodarcys. The porosity
18 we've measured here is on the order of six percent
19 porosity. And as I described, there is a range to that
20 permeability value, but it best fits about a hundred and
21 twenty, I guess. The low point's closer to eighty, and
22 the high point is one-sixty to two hundred.

23 Q So that is the range, eighty to one-sixty?

24 A Eighty to two hundred is probably the range.

1 Q Eighty to two hundred nanodarcys?

2 A Yes. That's consistent with another direct
3 measurement that we have which is not core data, but it's
4 a de-fit which is a leap-off test on this well to the
5 north here. We measured a hundred and eighty nanodarcys.
6 We calculated.

7 Q When you did the de-fit, what did you determine?
8 Did you determine an ultimate bottom hole pressure?

9 A Yes. The pressure gradient, I know offhand, is
10 .95 in sample fit.

11 Q How large was your de-fit test?

12 A In terms of time or water volume?

13 Q Both.

14 A Okay. It was-- I don't know the precise
15 number. Normally, you'd pump a small one, pump a little
16 bit larger one on this, because we had seen results that
17 suggested that's what we should do. So I believe it was
18 around thirty barrels total volume that was pumped.

19 Sorry. What was the second part of that
20 question?

21 Q And your time.

22 A We saw closure very quickly. We saw linear
23 flow-out for about three days, had radial flow in about
24 twelve days.

1 Q So three- to twelve-day recovery?

2 A Yes.

3 Q At a .95 gradient, you'd get an extremely high
4 pressure well?

5 A Yes.

6 CHAIRMAN LAY: All right. I think that's all
7 the questions I have.

8 EXAMINATION

9 BY COMMISSIONER RADABAUGH:

10 Q Can you tell us a little bit about the lateral
11 length?

12 A We don't have a specific target lateral length.
13 Obviously, we're not trying to make uneconomic wells, but
14 we don't know what the economic length is just now. Just
15 know we're testing, and this is essentially spacing
16 testing with confer interference. Basically, we have two
17 wells parallel and fifty-one hundred is the lateral
18 length. I'm sure we'd be happy with longer or a little
19 bit shorter.

20 Q That's your lateral length, is fifty-one
21 hundred?

22 MR. BOWMAN: No. This is thirty-two hundred.

23 THE WITNESS: Thirty-two hundred. Sorry.

24 CHAIRMAN LAY: I'm sorry. I don't mean to

1 interrupt, but I want to go back and ask one question.

2

EXAMINATION

3

BY CHAIRMAN LAY:

4

Q So you're modeling-- You determined that you believe your half-length is between three and six hundred feet?

5

6

A That's what the completion design team are telling me.

7

8

Q Based on your proposed pump?

9

A Based on the proposed pump. And we haven't got anything to history-match that to yet.

10

11

Q So in your economic model with your proposed completion and proposed lateral length, does this well generate an economic return?

12

13

A I believe so. The model we have just in our type curve is on the order of four BCF per thousand for the lateral. These wells are very sensitive to high run chief and you produce them up front. You may have heard some operator's choking them back for a long period of time. And that's not what you would do with such a short lateral to make it pay out quicker.

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EXAMINATION

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BY COMMISSIONER RADABAUGH:

22

Q I understand this is kind of fiddling around

23

24

1 with process here and test wells, and so on and so forth,
2 but depending upon what your results would be of both of
3 these wells, would there be the possibility of somewhere
4 in the future, if they're successful, coming back and
5 possibly putting another one or two in between them, if
6 you see the reserves are still there that you're not
7 recovering?

8 A I think we'd be very comfortable with one well
9 in between. I don't think there's any interest in tighter
10 spacing than that at this point. And we've seen operators
11 in Ohio that started off-- Gulfport's a good example.
12 They were developing at one point a six-fifty foot
13 spacing, then eight hundred. And their most recent IS
14 THAT RIGHT? material's saying they've changed to one
15 thousand feet of spacing.

16 EXAMINATION

17 BY CHAIRMAN LAY:

18 Q That brings another point here to my question in
19 this area. If I recall, this is probably high thermal
20 maturation, therefore, dry gas?

21 A Very dry gas, yes.

22 CHAIRMAN LAY: Any other questions?

23 EXAMINATION

24 BY COMMISSIONER MARTIN:

1 Q Mr. Buchanan, where's the closest Point Pleasant
2 well that your company operates? How far away is it?

3 A Well, it's on this map. It's flowing back
4 today. I can't tell you any more than that. But it's
5 this one here, 47103109. It's up there to the north.

6 Q That's a Point Pleasant well?

7 A Point Pleasant.

8 CHAIRMAN LAY: You're guessing that's forty-five
9 hundred plus?

10 THE WITNESS: I believe that's the one that
11 fifty-one hundred there on this spot.

12 BY COMMISSIONER MARTIN:

13 Q There's no core data from that or there was?

14 A There is not core on this one.

15 Q So the core that you were talking about earlier,
16 is some of that Marcellus core, too, or was that just
17 Point Pleasant core?

18 A I was referring to Marcellus core and Point
19 Pleasant core, seeing that both data sets overlay each
20 other. We have on the order of three thousand individual
21 core plug samples or access to that data from our Core Lab
22 Consortium.

23 Q And that would be a mix of the two formations?

24 A No. That would be Point Pleasant only.

1 Q What's the lateral length on the 3109?

2 A I can get back to you in about twenty minutes to
3 tell you exactly. I believe it's around fifty-one
4 hundred.

5 Q That's the length of the lateral or the spacing?

6 A That's the length of the lateral.

7 Q So it's roughly two thousand feet longer than
8 the one you're proposing?

9 A Yes.

10 Q Is there a reason for that much difference
11 between the two?

12 A I think it's more related to our acreage
13 position than anything else. We pretty much have most of
14 this (indicating) area leased out. That's (indicating)
15 kind of the southern limit of our lease on here.

16 Q You commented that-- Mr. Radabaugh asked about
17 drilling in between this well and the 031370--

18 A Yeah.

19 Q --potentially down the road if things pan out.

20 A Mm-hum.

21 Q Those two right now, the laterals are roughly
22 three thousand feet apart?

23 A Yes.

24 Q If your fracture half-lengths are between three

1 and six hundred feet, I think your answer to his question
2 was you might see the need to drill one well in between--

3 A Mm-hum.

4 Q --but maybe no more than that.

5 A Yeah.

6 Q So how is that-- I'm not following that. If
7 the half-lengths are three to six hundred feet, I didn't
8 do the math, but I guess I was expecting a tighter spacing
9 than every fifteen hundred feet. Does that get you to
10 where you're being able to drain everything in between?

11 A I mean, I--

12 Q You can only draw it to see the--

13 A Every area is different. This is an area where
14 we don't have 3D seismic, so we don't know anything about
15 it. We have 2D lines through here. We know there's no
16 major structures, but we don't know if there's any natural
17 fractures or any--

18 CHAIRMAN LAY: Faults.

19 THE WITNESS: --thing like that that would not
20 show up on a 2D. When we analyzed this -- this first part
21 was coming on line today. When we get a few months there,
22 we'll get a feel for were our estimates on the fracture
23 half-length correct. And if they're shorter, then, you
24 know, maybe we would be looking at a tighter spacing than

1 fifteen hundred.

2 CHAIRMAN LAY: I would assume that your
3 computation is that your frac length is three to six
4 hundred feet and then you would have a multiple of a
5 couple, two or three hundred feet additional drainage
6 because of natural drainage within the rock.

7 THE WITNESS: There'd be some fracture support
8 from beyond the test of the fractures. I mean, all the
9 fractures aren't exactly the same lengths. Some will be
10 slightly longer. Some will be slightly shorter.

11 In this natural gas price environment, it
12 makes more sense-- In the service company price
13 environment, it makes more sense to drill one well and
14 spend the extra money on sand and water and try a longer
15 frac. At these depths, thirteen hundred feet, drilling an
16 extra well is very expensive.

17 CHAIRMAN LAY: So it sound like, and correct me
18 if I'm wrong, but it sounds like you're trying to
19 determine the economic limits of different-size lengths
20 within this reservoir--

21 THE WITNESS: Yep.

22 CHAIRMAN LAY: --and what your drainage radiuses
23 are, in fact. Any other questions? Okay. Witness may be
24 excused.

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(Witness excused.)

CHAIRMAN LAY: Mr. Casto, any other witness?

MR. CASTO: Unless the Commission has additional questions, that's all. I think our position's clear. The top hole's closer than three, but the bottom hole is at the three thousand mark. To the extent Mr. Wilcox is impacted, as far as his objection, I believe the testimony of Mr. Buchanan was sufficient on that point. Unless the Board wants anything further, I think that's all I have.

CHAIRMAN LAY: Okay. That being the case, we'll go off the record.

(WHEREUPON, a discussion was had off the record.)

CHAIRMAN LAY: We'll go back on the record. Do we have a motion?

COMMISSIONER RADABAUGH: Mr. Chairman, I'd like to make a motion to grant EQT their request for an exception to the Rule 39 CSR.1-4.2 with the proposed BIG 333 #516341 to reduce the spacing of the top hole between the BIG 333 and BIG 192 with a permit number of 4710303137.

COMMISSIONER GUM: Mr. Chairman, I'd like to second that motion.

CHAIRMAN LAY: We have a motion and a proper

1 second. Any discussion?

2 COMMISSIONER RADABAUGH: I'd like to add one
3 thing. Basically, the spacing that we're allowing is
4 what's depicted on the--

5 CHAIRMAN LAY: On the plat?

6 COMMISSIONER RADABAUGH: --on the plat.

7 CHAIRMAN LAY: So noted. Any other discussion?
8 All those in favor of the motion, aye. Opposed, nay.
9 Motion carried.

10 We'll grant deep well approval and forward
11 it to the Office of Oil and Gas. A couple things, in the
12 future, we would love to see a schematic, both plan and
13 profile--

14 MR. BOWMAN: Yes, sir.

15 CHAIRMAN LAY: --of the well bore itself. In
16 this particular case, the distances between the wells are
17 sufficient, so that's not necessary. But in tight
18 spacing, it would definitely be helpful.

19 Also, I commend you on your preparation
20 with regard to the geophysical portion. However, if we do
21 have an amended application, we would probably best be
22 served to see your model, your actual data points, your
23 actual assumptions. I think that's sufficient. Anything
24 else for the record?

1 COMMISSIONER RADABAUGH: I need to make one
2 correction for the plat to the evidence.

3 CHAIRMAN LAY: Okay. What's your correction?

4 COMMISSIONER RADABAUGH: The distance between
5 the top holes is what's depicted in the evidence
6 presented.

7 CHAIRMAN LAY: Anybody have an objection to
8 that? He's changing the motion to say that the distance
9 between the top holes is what was entered in evidence
10 today.

11 COMMISSIONER GUM: I'll accept that and second
12 it.

13 CHAIRMAN LAY: Any further discussion on
14 amending the motion? All those in favor, aye? Opposed,
15 nay? Okay.

16 (WHEREUPON, the motion carried.)

17 CHAIRMAN LAY: Nothing else? Okay. We'll close
18 the record. Thank you.

19

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REPORTER'S CERTIFICATE

STATE OF WEST VIRGINIA

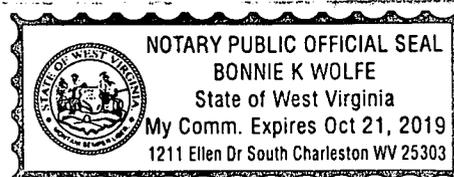
COUNTY OF KANAWHA, to wit:

I, BONNIE K. WOLFE, Certified Court Reporter and Notary Public of West Virginia, do hereby certify that the foregoing is, to the best of my skill and ability, a true and accurate transcript of the proceedings set forth in the caption hereof.

Given under my hand this 23rd day of February, 2016.

My commission expires October 21, 2019.

Bonnie K Wolfe
Certified Court Reporter





west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
www.wvdep.org

**BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

IN THE MATTER OF THE REQUEST BY EQT PRODUCTION
COMPANY FOR AN EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE PROPOSED WELL
IDENTIFIED AS THE BIG 333 #516341. ALSO TO BE HEARD
IS THE OBJECTION TO NOTICE OF DEVIATION OF SAID
WELL WHICH IS TO BE LOCATED IN GRANT DISTRICT,
WETZEL COUNTY, WEST VIRGINIA.

DOCKET NO. 238
CAUSE NO. 228

NOTICE OF HEARING

EQT Production Company ("EQT") has requested the WV Oil and Gas Conservation Commission review and approve a request for an exception to the spacing requirements as set forth in CSR §39-1-4.2; for a well identified as BIG 333 #516341. The OGCC has also received an objection to deviation which will be heard during the proceedings.

The matter is scheduled as stated below:

DATE: February 23, 2016
TIME: 10:00 am
PLACE: Department of Environmental Protection
Oil and Gas Conservation Commission
601 57th Street, SE
Charleston, WV 25304

IN THE NAME OF THE STATE OF WEST VIRGINIA

OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA

By: Barry K Lay
Barry K. Lay, Chairman

Dated this 29th day of January, 2016, at Charleston, West Virginia.

Promoting a healthy environment.

Docket # 238-228
Certified Mail

EQT Production Company
Attention: Wayne Bowman
Post Office Box 280
Bridgeport, WV 26330

91 7199 9991 7035 6612 6374

Richard and Jaynee Dallison
28855 Shortline Hwy
Folsom, WV 26348-6021

91 7199 9991 7035 6612 6350

Mitchell P. Wilcox
Post Office Box 189
Middlebourne, WV 26149

91 7199 9991 7035 6612 6206

Coastal Forest Resources
Post Office Box 709
Buckhannon, WV 26201

91 7199 9991 7035 6612 6367

Murray American Energy Inc.
1 Bridge St
Monongah, WV 26554

91 7199 9991 7035 6612 6343

Raines, Cindy J

From: Raines, Cindy J
Sent: Monday, February 01, 2016 11:29 AM
To: 'office@wetzelschronicle.com'
Subject: ~~Class II Legal Ad Docket 238-228~~
Attachments: OGCC 238-228 stamped.pdf

Please print the attached as a Class II Legal Ad and send invoice and certification to:

Oil and Gas Conservation Commission
601 57th Street, SE
Charleston, WV 25304

304-926-0499

Thank you!

Cindy Raines
Env Res Program Administrator

**BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

IN THE MATTER OF THE REQUEST BY EQT PRODUCTION
COMPANY FOR AN EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE PROPOSED WELL
IDENTIFIED AS THE BIG 333 #516341 TO BE LOCATED
IN GRANT DISTRICT, WETZEL COUNTY, WEST VIRGINIA.

DOCKET NO. 238
CAUASE NO. 228

NOTICE OF HEARING

EQT Production Company ("EQT") has requested the WV Oil and Gas Conservation Commission review and approve a request for an exception to the spacing requirements as set forth in CSR §39-1-4.2; for a well identified as BIG 333 #516341.

The matter is scheduled as stated below:

ry 23, 2016
DATE: Februa
TIME: 10:00 am
PLACE: Department of Environmental Protection
Oil and
Gas Conservation Commission 601
57th Street, SE

Charleston, WV 25304

Ch

IN THE NAME OF THE STATE OF WEST VIRGINIA

AND GAS CONSERVATION COMMISSION

OIL

THE STATE OF WEST VIRGINIA

OF

By: _____

Barry K. Lay, Chairman

Dated this 29th day of January, 2016, at Charleston, West Virginia.

Raines, Cindy J

From: adlaw@wvsos.com
Sent: Friday, January 29, 2016 10:20 AM
To: Raines, Cindy J
Subject: Meeting Notice Approval



Secretary of State
Bldg. 1, Suite 157-K
1900 Kanawha Blvd. East
Charleston, WV 25305-0770

Natalie E. Tennant
Secretary of State
State Of West Virginia

Phone: 304-558-6000
866-767-8683
Visit us online:
www.wvsos.com

Your meeting notice has been approved.

You may view it online here.

If you have any questions, please contact our office during normal business hours for assistance.



January 25, 2016

West Virginia Oil and Gas Conservation Commission
c/o Ms. Cindy Raines
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Request for hearing for spacing variance for BIG333 (516341), API 47-103-03136

Dear Ms. Raines,

In conjunction with its well work permit application for the BIG333 (516341) well, EQT Production Company (EQT) is requesting a variance to the 3,000 ft. spacing requirement set forth in W. Va. CSR §39-1-4.2. In accordance with W. Va. CSR §39-1-4.3, EQT submits to a hearing to offer the reasons and basis supporting its request for such variance.

The BIG333 (516341) well will be located within 3,000 feet of issued well, BIG192 (515950), API 47-103-03137. Because of the horizontal drilling method that is being used to drill the aforementioned wells, EQT offers that spacing the wells closer than 3,000 feet apart will result in the best and most efficient use of the resource and to minimize the potential for waste.

If the Commission desires any further information from EQT prior to the scheduled hearing, please do not hesitate to ask. I can be reached at (304)848-0076.

Sincerely,

Vicki Roark
Permitting Supervisor-WV

Enc.

Ex. 4

109 Batalion Ave., PO Box 189

Middlebourne, WV 26149

September 1, 2015

RE: Intentional Deviation of New Deep Well

EQT Production Company

Big 333 - #516335 and #516341

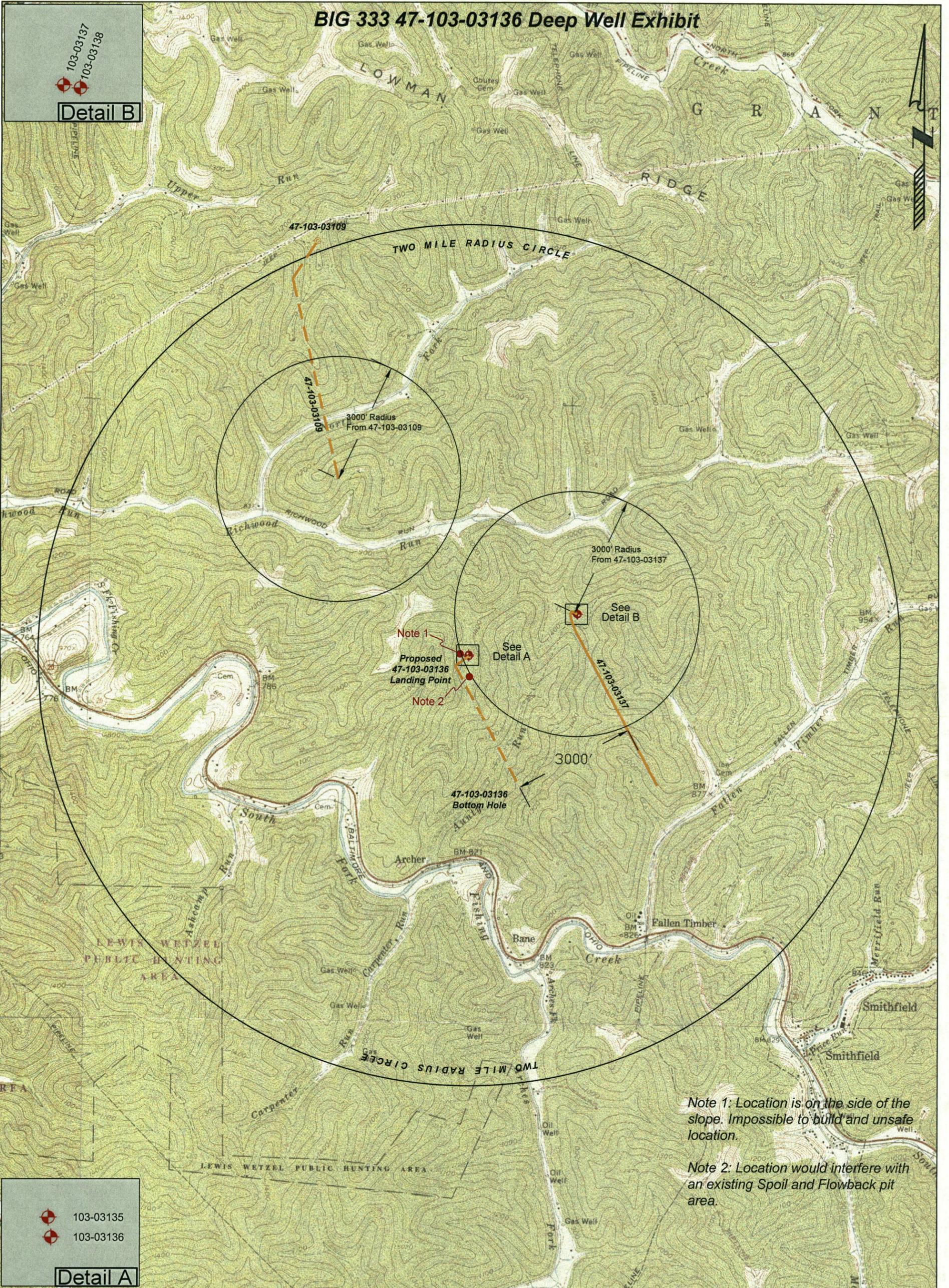


Please note my objection to EQT's request to intentionally deviate this new deep well. This will have an effect on the future production of my mineral rights on the aforesaid area. At no time has EQT approached me to consider leasing my mineral rights for their drilling and production, of which I would lease to them. Permitting this action on EQT's part not only will make my mineral rights areas worthless to future leasing or production, but also is downright dishonest & in my mind, theft. If an effort by EQT had been made to lease my mineral rights, this action would be unnecessary and forthright. I ask that you deny them this action until they properly approach me to lease my rights.

A handwritten signature in black ink, appearing to read 'Mitchell P. Wilcox', written in a cursive style.

Mitchell P. Wilcox

BIG 333 47-103-03136 Deep Well Exhibit



103-03137
103-03138

Detail B

Detail A

Note 1: Location is on the side of the slope. Impossible to build and unsafe location.

Note 2: Location would interfere with an existing Spoil and Flowback pit area.

Notes:
Location of any deep wells within a two mile radius.

DRAWN BY: Gary Johnson DATE: January 7, 2016 PROJECT NO: 33-34-G-15

Coordinates:
103-03135 LAT: 39.524819 LON: -80.591953
103-03136 LAT: 39.524739 LON: -80.591937
103-03137 LAT: 39.527659 LON: -80.582618
103-03138 LAT: 39.527648 LON: -80.582531

Location:
Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Big Run District of Wetzel County, West Virginia.

CAD FILE: BIG 333 Deep Well Spacing WELL NO.: 47-103-03136

PREPARED FOR:
EQT PRODUCTION COMPANY, INC.
P.O. Box 280
Bridgeport, WV 26330



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

WW - 6B
(4/15)

EX. 5
API NO. 47 - 103
OPERATOR WELL NO. 516341
Well Pad Name: BIG333

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

1) Well Operator: EQT Production Company
Operator ID 306686 County 103 District 04 Quadrangle 254

2) Operator's Well Number: 516341 Well Pad Name: BIG333
Coastal Forest Resources Co. dba Coastal

3) Farm Name/Surface Owner: Timberlands Co Public Road Access: Co Rt. 20

4) Elevation, current ground: 1,452.0 Elevation, proposed post-construction: 1,452.0

5) Well Type: (a) Gas Oil Underground Storage
Other _____

(b) If Gas: Shallow Deep
Horizontal

6) Existing Pad? Yes or No: yes

DmH
8-24-15

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):
Target formation is Point Pleasant at a depth of 13073 with the anticipated thickness to be 102 feet and anticipated target pressure of 10856 PSI
Top of Point Pleasant 13024

8) Proposed Total Vertical Depth: 13326

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 16,313

11) Proposed Horizontal Leg Length: 3,212

12) Approximate Fresh Water Strata Depths: 581, 753

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

14) Approximate Saltwater Depths: 2257, 2370, 2657

15) Approximate Coal Seam Depths: 743, 883, 919, 1011, 1240, 1333

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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AUG 31 2015

WV Department of Environmental Protection
Page 1 of 3

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AUG 31 2015
WV Department of Environmental Protection

CASING AND TUBING PROGRAM

18)

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.)
Conductor	26	New	A-252	.375w	60	60	114 C.T.S.
Fresh Water	18 5/8	New	J-55 BTC	87.5	969	969	1,764 C.T.S.
Coal	-	-	-	-	-	-	-
Intermediate 1	13 3/8	New	J-55 BTC	68	3,100	3,100	2,679 C.T.S.
Intermediate 2	9 5/8	New	HC P-110 EIP BTC	47	11,950	11,950	4853 CTS
Production	5 1/2	New	P-110 CYHP	26	16,313	16,313	See Note 1
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

DMH 8-24-15

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	26	32	0.438	880		Construction	
Fresh Water	18 5/8	24	0.48	2,250	610	* See Note 2	1.22
Coal							
Intermediate 1	13 3/8	17 1/2	0.472	3,450	1953	* See Note 2	1.26
Intermediate 2	9 5/8	12 3/8	0.476	11,000	10,158		1.22
Production	5 1/2	8 1/2	0.361	18,900	11,112	-	0.94
Tubing							
Liners							

Packers

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

Note 1: EQT plans to bring the TOC on the production casing cement job 1,000' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.

Note 2: Reference Variance 2014-17. (Attached)

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

Drill a vertical well down to an approximate depth of 13,326 tagging the Trenton, run logs, then plug back vertical portion of wellbore with a solid cement plug, to approximately 12,020 then kick off the horizontal leg into the Point Pleasant using a slick water frac.

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 treating pressures are expected to average approximately 8500 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 disturbance

22) Area to be disturbed for well pad only, less access road (acres):

no additional disturbance

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 cent at the shoe and one spaced every 500'.
- Production: One spaced every 1000' from KOP to Int csg shoe

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

Surface (Type 1 Cement): 0-3% Calcium Chloride

Used to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries. 0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) to a thief zone.

Production:

DMH
8-24-15

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcium Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

25) Proposed borehole conditioning procedures.

Surface: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating

one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5

minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on

and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at

surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance

hole cleaning use a soap sweep or increase injection rate & foam concentration.

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.

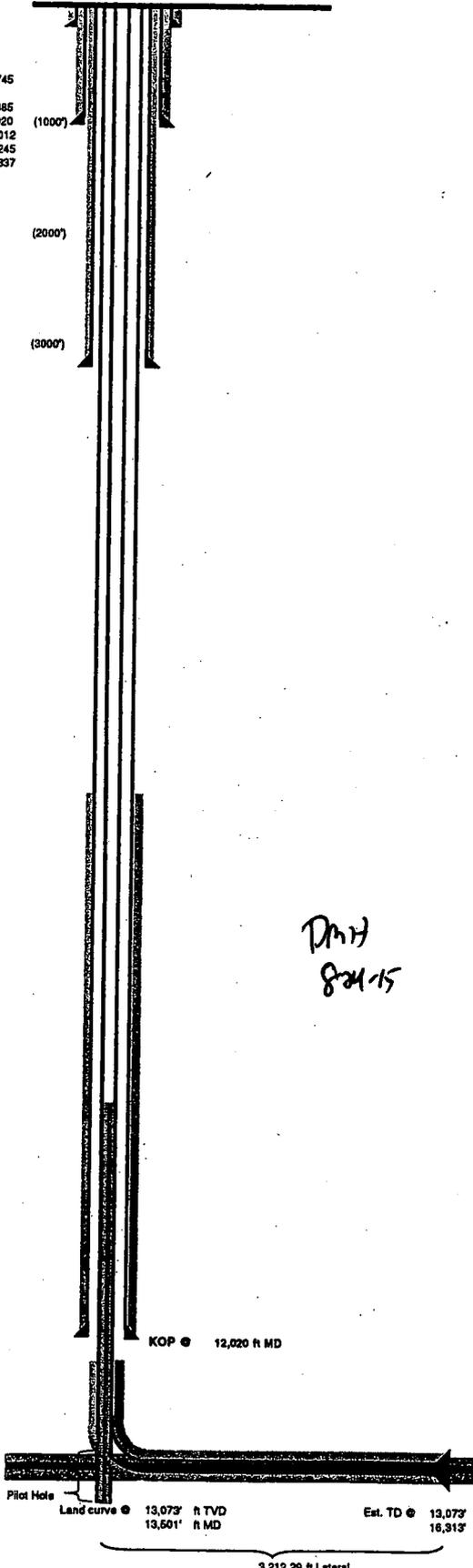
*Note: Attach additional sheets as needed.

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TVD Depth (feet) or	Formation Tops (TVD)
250'	
500'	
750'	Washington 743 - 745
	Freshwater Zone (From MRC) 753
1,000'	Waynesburg 883 - 885
	Coal 919 - 920 (1000')
1,250'	Uniontown 1,011 - 1012
	Pittsburgh 1,240 - 1245
1,500'	Coal 1,333 - 1337
1,750'	
2,000'	(2000')
2,250'	
2,500'	Maxton 2443
	Big Lime 2484
2,750'	Big Injun 2623
	Base Big Injun 2739
3,000'	Watr 2873
	Base Watr 2975
3,250'	Gantz 3082
	Fifty foot 3107
3,500'	Thirty foot 3194
	Gordon 3309
3,750'	Gordon Base 3341
	Forth Sand 3380
4,000'	Bayard 3469
	Bayard Base 3687
4,250'	Warren 3965
	Speechley 4115
4,500'	
4,750'	
5,000'	Riley 5007
5,250'	
5,500'	
5,750'	Benson 5637
6,000'	Alexander 5961
6,250'	
6,500'	
6,750'	
7,000'	Rhinestreet 7135
	Sonyes 7189
7,250'	Middlesex 7343
	Genesee 7392
7,500'	Genesee 7478
	Tully 7505
7,750'	Hamilton 7526
	Marcellus 7613
8,000'	Onondaga/Huntersville 7664
	Oriskany 7891
8,250'	Heiderberg 7987
8,500'	Salina 8421
8,750'	
9,000'	
9,250'	
9,500'	
9,750'	Lockport/Newburg 9657
10,000'	
10,250'	Rose Hill 10117
10,500'	Packer Shell 10482
	Clinton/Medina 10639
10,750'	Queenston/Juniata/Lorraine 10741
11,000'	
11,250'	
11,500'	Reedsville 11413
11,750'	
12,000'	Red/Grey Shale Transition 11850
12,250'	
12,500'	
12,750'	
13,000'	Utica 12914
	Point Pleasant 13024
13,250'	Trenton 13128
	Black River 13339
13,500'	
13,750'	



Hole Size (inches)	Casing Type	Casing Size (inches)	Wt (ppf)/Grade
32	Conductor	26	
24	Surface	18 5/8	87.5# J-55 BTC
17 1/2	Intermediate Casing 1	13 3/8	68# J-55 BTC
12 1/4	Intermediate Casing 2	9 5/8	47# HC P-110 EIP BTC
8 1/2	Production Casing	5 1/2	28# P-110 CYP

*DMH
8/24/15*

Proposed Well Work:
 Drill a vertical well down to an approximate depth of 13,326'
 Plug back vertical portion of wellbore with cement plug.
 Then kick off the horizontal leg into the Point Pleasant.

3,212.29 ft Lateral

Est. TD @ 13,073' R TVD
 16,313' R MD

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WV Department of
 Environmental Protection



August 11, 2015

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

Re: Casing on Wells (BIG333 – Utica Wells)

Dear Mr. Smith,

EQT is requesting the 18 5/8" surface casing be set at 969' KB, 50' below the coal at 919' KB without setting below elevation. This will be 216' below the deepest FW. The previous wells drilled on this pad set 13-3/8" surface casing at approximately 1000' KB. We will set the 13 3/8" intermediate string at 3100' KB, below the porosity zone in the Weir formation. The previous wells drilled on this pad set 13-3/8" intermediate casing at approximately 3000' KB. We will set the 9 5/8" second intermediate string at 11950' KB, 100' below the red/grey transition in the Reedsville.

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

Sincerely,

Vicki Roark
Permitting Supervisor

DMH
8-24-15

Enc.

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
Fluids/Cuttings Disposal & Reclamation Plan

Operator Name EQT Production Company OP Code 306686
Watershed (HUC10) Aunty Run of South Fork Fishing Creek Quadrangle Big Run
Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes x No

Will a pit be used? Yes: X No:
If so please describe anticipated pit waste: flowback water & residual solids
Will a synthetic liner be used in the pit? Yes X No If so, what ml.? 60

Proposed Disposal Method For Treated Pit Wastes:
Land Application
• Underground Injection (UIC Permit Number 0014, 8462, 4037)
• Reuse (at API Number Various)
• Off Site Disposal (Supply form WW-9 for disposal location)
Other (Explain)

Will closed loop system be used? Yes, The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.
Air is used to drill the top-hole sections of the wellbore (surface, intermediate, and pilot). Water based mud may be necessary depending on hole conditions to stabilize and drill the intermediate section. The pilot hole, curve, and lateral sections will be drilled with either air, water based mud, or oil based mud.

*DM4
F24-15*

- If oil based, what type? Synthetic, petroleum, etc Synthetic mud
Additives to be used in drilling medium? Air - biodegradable oil lubricant, detergent, defoaming, water. Water based mud - Barite, viscosifier, alkalinity control, lime, filtration control, deflocculates, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates.
Oil based mud - synthetic base oil, emulsifier, salt, lime, viscosifier, alkalinity control, filtration control, deflocculates, biodegradable oil lubricant, defoaming, carbonates.

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill
If left in pit and plan to solidify what medium will be used? (Cement, Lime, sawdust) n/a
Landfill or offsite name/permit number? See Attached List

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Victoria J. Roark*
Company Official (Typed Name) Victoria J. Roark
Company Official Title Permitting Supervisor

Subscribed and sworn before me this 18 day of Aug, 2015

My commission expires 8-24-22

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Office of Oil and Gas
OFFICIAL SEAL
STATE OF WEST VIRGINIA
NOTARY PUBLIC
Pamela S. Adams
EQT Production
PO Box 630
Bridgeport, WV 26330
My Commission Expires Aug. 24, 2022

Proposed Revegetation Treatment: Acres Disturbed no additional disturbance Prevegetation pH 6

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 1/3 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	40	Orchard Grass	15
Alsike Clover	5	Alsike Clover	5
Annual Rye	15		

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

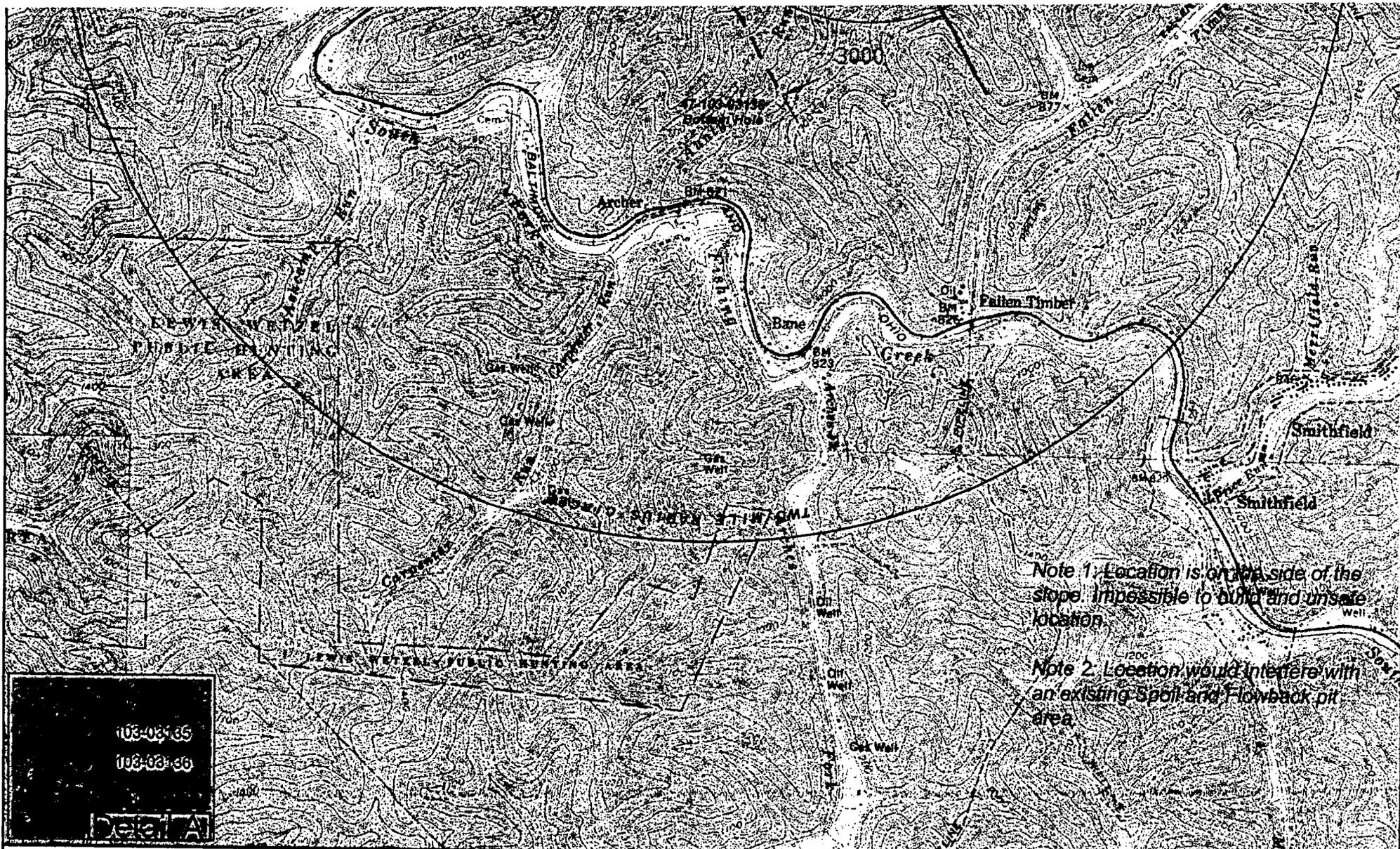
Plan Approved by: [Signature]

Comments: _____

Title: Oil & Gas Inspector Date: 8-24-15

Field Reviewed? () Yes () No

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Note 1: Location is on the side of the slope. Impossible to build and unsafe location.

Note 2: Location would interfere with an existing Spoil and Flowback pit area.

103-03-65
103-03-66
Detail A

Notes:
Location of any deep wells within a two mile radius.



DRAWN BY: Gary Johnson DATE: January 7, 2016 PROJECT NO: 33-34-G-15



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8808
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8808
FAX: (304) 649-8808

Coordinates:
103-03135 LAT: 39.524819 LON: -80.591953
103-03136 LAT: 39.524739 LON: -80.591937
103-03137 LAT: 39.527859 LON: -80.582618
103-03138 LAT: 39.527848 LON: -80.582531

Location:
Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Big Run District of Wetzel County, West Virginia.

CAD FILE: BIG 333 Deep Well Spacing WELL NO.: 47-103-03136

PREPARED FOR:
EQT PRODUCTION COMPANY, INC.
P.O. Box 280
Bridgeport, WV 26330

EQT PRODUCTION COMPANY
115 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330-4509

510341

CERTIFICATE OF CONSENT AND EASEMENT

I, Edward G. Kraynok, Vice-President of Coastal Forest Resources Company, a Virginia Corporation, d/b/a Coastal Timberlands Company the undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being all the owners of the surface of that certain lot, tract or parcel of land located in Grant District, Wetzel County, State of West Virginia, shown on plat or survey attached hereto, and referred to as Coastal tract W-Wet-642 Evans Aunty Run, and further identified as being Parcel 13 on Tax Map 23; hereby acknowledge and agree to and grant this Certificate of Consent and Easement, pursuant to West Virginia Code, Section 22C-9-7(b) (4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to EQT Production Company, its successors or assigns, for the drilling and operation of a deep well on the BIG333 pad for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 2nd day of APRIL, 2015.

Edward G. Kraynok

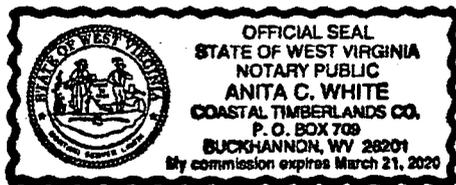
STATE OF WEST VIRGINIA

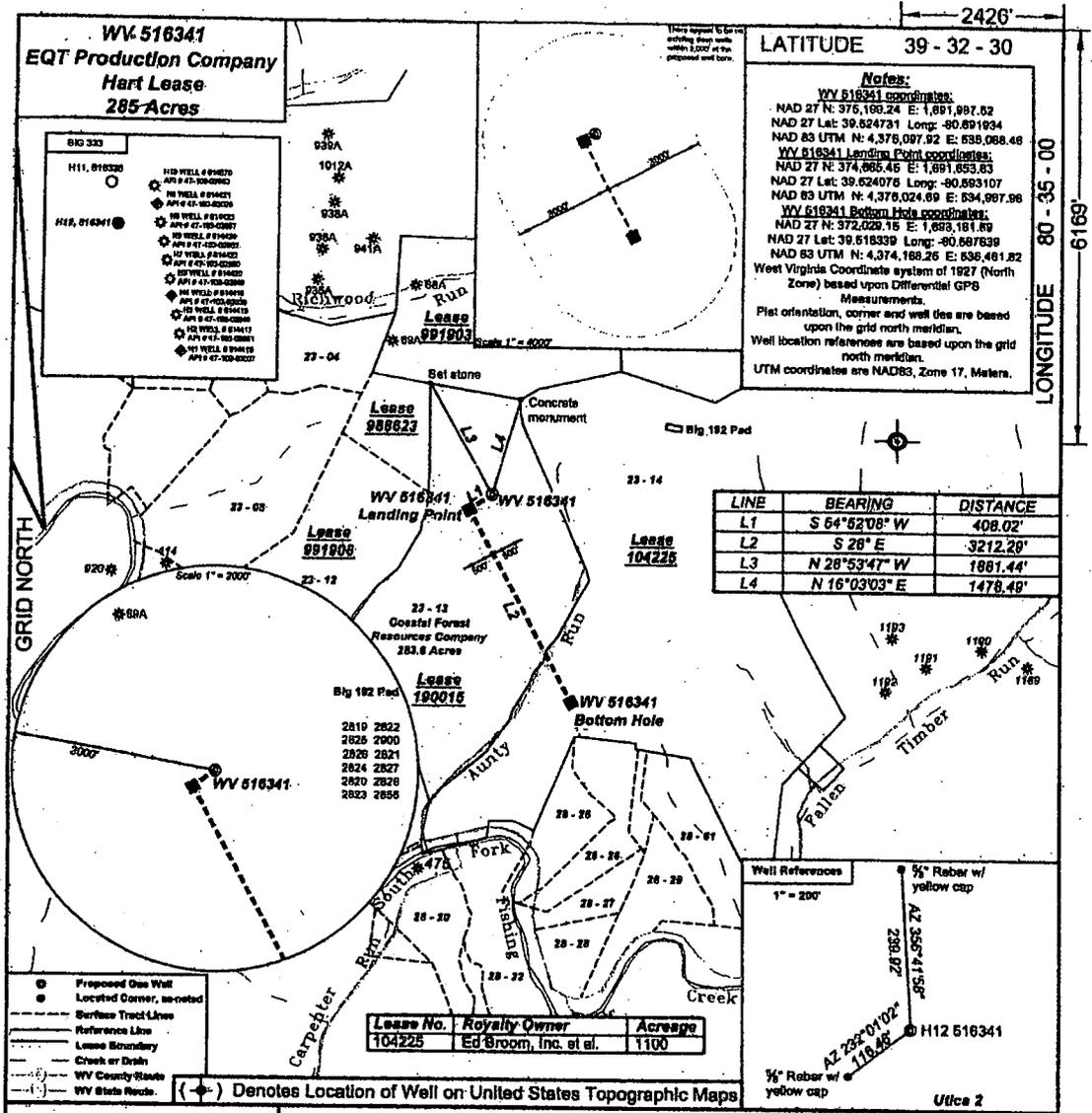
COUNTY OF Upshur To-Wit

I, Anita C. White a Commissioner in and for the aforesaid County and State, do hereby certify that Edward G. Kraynok, Vice-President of Coastal Forest Resources Company, a Virginia Corporation, d/b/a Coastal Timberlands Company, whose name is signed to the writing above, bearing date on the 2nd day of April, 2015, has this day acknowledged the same before me, in my said County and State. Given under my hand this 2nd day of April, 2015.

My Commission expires on: 3.21.2020

Anita C. White

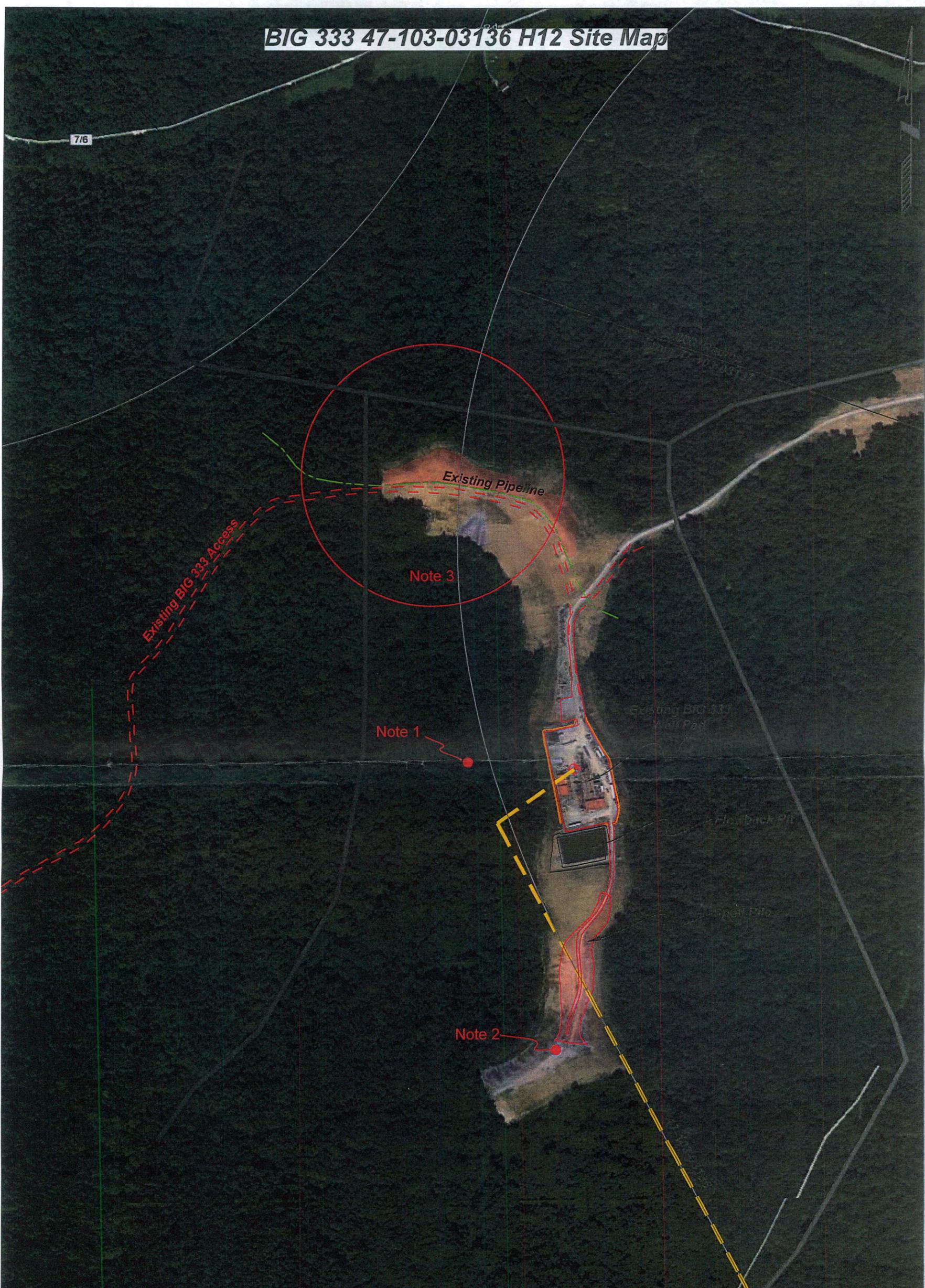




WV 516341
EQT Production Company
Hart Lease
285 Acres

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 - H358, 816687
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 - H713, 817042
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BIG 333 47-103-03136 H12 Site Map



Note 1: Location is on the side of the slope. Impossible to build and unsafe location.

Note 2: Difficult location due to narrow ridge with steep slopes.

Note 3: Location is currently occupied by existing well pad access road, newly constructed gas pipeline and spoil.

Notes:
Location of any deep wells within a two mile radius.

DRAWN BY: Tim Rutledge DATE: February 3, 2016 PROJECT NO: 33-34-G-15

Coordinates:
 103-03135 LAT: 39.524819 LON: -80.591953
 103-03136 LAT: 39.524739 LON: -80.591937
 103-03137 LAT: 39.527659 LON: -80.582618
 103-03138 LAT: 39.527648 LON: -80.582531

Location:
 Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Grant District of Wetzel County, West Virginia.

CAD FILE: BIG 333 H12 Site Map WELL NO.: 47-103-03136



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
 1-800-482-8606
 P.O. BOX 438
 BIRCH RIVER, WV 26610
 PH: (304) 649-8606
 FAX: (304) 649-8608

PREPARED FOR:

EQT PRODUCTION COMPANY, INC.
 P.O. Box 280
 Bridgeport, WV 26330

PEWGAID 800-631-8889
EXHIBIT
 6
 (EQT)

BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA

DOCKET NO. 238
CAUSE NO. 228

IN THE MATTER OF THE REQUEST BY
EQT PRODUCTION COMPANY FOR AN
EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE
PROPOSED WELL IDENTIFIED AS THE
BIG 333 #516341 TO BE LOCATED IN
GRANT DISTRICT, WETZEL COUNTY,
WEST VIRGINIA.

Transcript of a hearing had on the 23rd day of
February, 2016, at 10:00 a.m., in the Dolly Sods
Conference Room in the West Virginia Department of Natural
Resources located at 601 57th Street, Southeast,
Charleston, West Virginia, pursuant to the West Virginia
Rules of Civil Procedure.

BEFORE: Barry Lay, Chairman
Robert Radabaugh, Commissioner
Anthony Gum, Commissioner
James Martin, Commissioner
Lisa McClung, Commissioner
Cindy Raines, Staff

Page 2

APPEARANCES:

ON BEHALF OF THE OIL AND GAS CONSERVATION
COMMISSION OF THE STATE OF WEST VIRGINIA:

Greg Foster, Assistant Attorney General

ON BEHALF OF THE PETITIONER, EQT:

Matt Casto, Esquire
Babst Calland, Attorneys at Law
300 Summers Street, Suite 1000
Charleston, West Virginia 25301

ALSO PRESENT:

John Damato, EQT Representative

INDEX

<u>PETITIONER'S WITNESSES</u>	<u>DIRECT</u>	<u>EXAMINATION</u>
B. Wayne Bowman, II	5 11 (Radabaugh) 12 (Lay) 15 (Martin) 16 (Lay) 18 (Martin)	
Christopher Buchanan	19 27 (Lay) 30 (Radabaugh) 31 (Lay) 31 (Radabaugh) 32 (Lay) 32 (Martin)	

<u>EXHIBITS</u>	<u>IDENTIFIED</u>
No. 1 (Notice)	3
No. 2 (Legal Advertisement)	4
No. 3 (Request for Hearing/Map)	4
No. 4 (Wilcox Objection)	4
No. 5 (Well Permit Application)	4
No. 6 (Map)	9
Reporter's Certificate	40

Page 4

1 Publication. That's 2.
2 (WHEREUPON, said document was
3 identified as Exhibit No. 2 and
4 is attached hereto and made a part
5 hereof.)
6 CHAIRMAN LAY: Exhibit 3 is a Request for
7 Hearing with an attached map.
8 (WHEREUPON, said document was
9 identified as Exhibit No. 3 and
10 is attached hereto and made a part
11 hereof.)
12 CHAIRMAN LAY: Exhibit 4 is a copy of an
13 objection received by the Commission from Mitchell P.
14 Wilcox.
15 (WHEREUPON, said document was
16 identified as Exhibit No. 4 and
17 is attached hereto and made a part
18 hereof.)
19 CHAIRMAN LAY: And 5 is the information needed
20 from the deep well application.
21 (WHEREUPON, said document was
22 identified as Exhibit No. 5 and
23 is attached hereto and made a part
24 hereof.)

Page 3

1 CHAIRMAN LAY: Before the Oil and Gas
2 Conservation Commission of the State of West Virginia in
3 the matter of the request by EQT Production Company for an
4 exception to Rule 39 CSR.1-4.2 regarding the drilling of
5 the proposed well identified as the BIG 333 #516341.
6 Also to be heard is an objection to notice
7 of deviation of said well which is to be located in Grant
8 District, Wetzel County, West Virginia. This is Docket
9 No. 238, Cause No. 228.
10 Let the record show that present are
11 members of the Commission, Lisa McClung, James Martin,
12 Anthony Gum, Robert Radabaugh, Barry Lay. Also present in
13 Greg Foster, Counsel, and Cindy Raines of Staff.
14 I'd like to place of record as Exhibit 1 a
15 copy of the Notice of Hearing along with the return
16 receipts, if you'll pass that that (indicating) direction,
17 please.
18 (WHEREUPON, said document was
19 identified as Exhibit No. 1 and
20 is attached hereto and made a part
21 hereof.)
22 CHAIRMAN LAY: Exhibit 2 is a copy of the
23 Request for Publication for a Class II Legal Advertisement
24 along with the Notice of the Secretary of State

Page 5

1 CHAIRMAN LAY: At this time, the Commission will
2 take appearances.
3 MR. CASTO: Matthew Casto, Attorney on behalf of
4 EQT. With me, I also have Wayne Bowman with EQT, Chris
5 Buchanan with EQT and John Damato with EQT.
6 CHAIRMAN LAY: Okay. If that's the case, do you
7 want to call your first witness?
8 MR. CASTO: Yes. The first witness will be
9 Wayne Bowman.
10 CHAIRMAN LAY: The court reporter will please
11 swear Mr. Bowman in.
12 (Witness sworn.)
13 THEREUPON came
14 BRIAN WAYNE BOWMAN, II
15 called as a witness by the Petitioner herein, being first
16 duly sworn according to law, testified as follows:
17 DIRECT EXAMINATION
18 BY MR. CASTO:
19 Q Please state your name for the record, please.
20 A Brian Wayne Bowman, II.
21 Q And Mr. Bowman, can you take me through your
22 educational background and work history?
23 A I have a Bachelor of Science in Agriculture,
24 Environmental Protection option with a specialization in

Page 6

1 the reclamation of disturbed lands from West Virginia
 2 University in 1991.
 3 In 1997, I went to work for Eastern States
 4 Oil and Gas. In February of 2000, EQT purchased all of
 5 the assets of Eastern States.
 6 Q And who is your current employer?
 7 A EQT Production Company.
 8 Q And what is your current job with EQT?
 9 A Regional Land Manager, Northern West Virginia.
 10 Q And as the Regional Land Manager for Northern
 11 West Virginia, what are your job duties?
 12 A My group is responsible for the surface
 13 operations associated with the well planning process,
 14 contact with landowners, coal owners, et cetera.
 15 Q And as part of your duties in your job, do you
 16 also review information in order for EQT to submit
 17 applications for deep wells?
 18 A Yes.
 19 Q And horizontal wells as well?
 20 A Yes.
 21 Q The hearing that we're here today about, the Big
 22 333, did you review the information provided in order for
 23 EQT to submit the permit for that well?
 24 A Yes.

Page 7

1 Q And are you familiar with the proposed location
 2 for the Big 333?
 3 A Yes.
 4 MR. CASTO: All right. Mr. Lay, the map that
 5 you introduced-- I don't know if it's the same one as
 6 this (indicating). --as Exhibit 3--
 7 CHAIRMAN LAY: It looks like it.
 8 MR. CASTO: This is just a larger copy, I think.
 9 CHAIRMAN LAY: Okay. As long as it's-- It
 10 looks like the same map, just a larger scale.
 11 MR. CASTO: Okay. All right.
 12 CHAIRMAN LAY: We can work off of that one.
 13 This (indicating) will be fine.
 14 MR. CASTO: We've got several larger copies if
 15 you guys want them.
 16 CHAIRMAN LAY: Okay.
 17 MR. CASTO: I'm going to ask him a few questions
 18 about the map.
 19 BY MR. CASTO:
 20 Q Mr. Bowman, are you familiar with the map that
 21 was previously admitted as part of Exhibit 3?
 22 A Yes.
 23 Q Okay. And what does this map shows a two-mile
 24 radius circle from the proposed deep well in question. To

Page 8

1 the east is API #47-103-03137, which is a permitted Point
 2 Pleasant well that we permitted late last year.
 3 To the north shows the bottom hole portion
 4 and portion of the lateral of another deep well that's
 5 permitted.
 6 And to the east, proposed 47-103-03136,
 7 which is the well subject to this hearing, shows the top
 8 hole location, the build-out and the proposed lateral and
 9 its relative distances from the permitted well.
 10 Q My understanding, based on looking at this map,
 11 is that the proposed top hole location for the BIG 333 is
 12 closer than three thousand feet to the existing well which
 13 is also known as the BIG 192?
 14 A Yes. It's about 2,836 feet.
 15 Q And that's the top hole. Correct?
 16 A Yes.
 17 Q Okay. And what about the bottom hole? How
 18 close is the bottom?
 19 A It's three thousand feet. It basically runs
 20 parallel with the permitted well.
 21 Q Okay. So the top hole is closer than three
 22 thousand feet, but the bottom hole is three thousand feet
 23 away?
 24 A Yes.

Page 9

1 MR. CASTO: Now, let me show you another map.
 2 I'd like to mark this as Exhibit 6.
 3 (WHEREUPON, said document was
 4 identified as Exhibit No. 6 and
 5 is attached hereto and made a part
 6 hereof.)
 7 BY MR. CASTO:
 8 Q Mr. Bowman, I've shown you what I've marked as
 9 Exhibit No. 6. Can you describe to me what Exhibit 6 is?
 10 A This is an aerial view of the existing BIG 333
 11 pad from which several Marcellus wells -- several
 12 horizontal Marcellus wells had previously been drilled and
 13 the pad on which the proposed well in question and subject
 14 to the hearing is proposed.
 15 Q And does this aerial view show the proposed
 16 location for the BIG 333 that we're here today about?
 17 A Yes. It does.
 18 Q And where is that located?
 19 A In the central portion of the map just north of
 20 the flow-back pit shows the existing pad and production
 21 facilities and the proposed top hole location.
 22 Q The dotted yellow line, is that pointing to
 23 those?
 24 A The dotted yellow line is the proposed bore path

Page 10

1 build-out and the horizontal portion. The top hole's
 2 represented by a circle with clear spaces and red spaces,
 3 cross hairs.
 4 Q Now, I note there are some notes, Note 1, Note
 5 2, Note 3 on this map. Can you describe for me what those
 6 are?
 7 A Sure. But first, there's a gray radius that is
 8 shown on the map. That represents the three thousand foot
 9 radius from the existing deep well. Note 1 is a potential
 10 spot that's outside the three thousand foot radius. It's
 11 on a pretty steep hillside, not build-able, so not
 12 suitable for a surface location for a deep well.
 13 Note 2 represents another location that's
 14 just outside the three thousand foot radius. It's located
 15 on a steep ridge portion that is south of the existing
 16 wells and the existing well pad, on the other side of the
 17 flow bank pit and a soil stockpile area.
 18 And Note 3 is also an area that's outside
 19 the three thousand feet. That's encumbered with the
 20 access road to the pad and an existing pipeline. These
 21 spots were shown to indicate locations that would be legal
 22 under the regulations but locations where we cannot drill
 23 the proposed well.
 24 Q So the notes are possible locations that in your

Page 11

1 estimation are not feasible to build in those locations.
 2 Correct?
 3 A Correct.
 4 Q Okay. And that's the reason EQT has chosen the
 5 location as part of the permit application?
 6 A Yes.
 7 Q Now, the bottom hole producing formations, I
 8 notice that the three thousand foot marker follows that
 9 gray radius. Is that correct?
 10 A It does for a portion and continues on to the
 11 bottom hole.
 12 Q All right. Now, does EQT have all the
 13 properties under lease for the BIG 333 well?
 14 A Yes.
 15 Q And to your knowledge, does the proposed BIG 333
 16 location meet all the requirements of the deep well
 17 statutes and regulations in West Virginia?
 18 A Yes.
 19 MR. CASTO: That's all the questions I have for
 20 this witness.
 21 CHAIRMAN LAY: Questions?
 22 EXAMINATION
 23 BY COMMISSIONER RADABAUGH:
 24 Q Did you all provide a unit map by any chance?

Page 12

1 A A unit map has not yet been prepared.
 2 EXAMINATION
 3 BY CHAIRMAN LAY:
 4 Q On the plat, it shows a highlighted area.
 5 A Yeah.
 6 Q Is that the proposed unit?
 7 A That would not necessarily be the proposed unit.
 8 And I can't tell from here. That would either be-- That
 9 may indicate the radius of five hundred feet or fifteen
 10 hundred feet.
 11 Q Five hundred feet.
 12 A Five hundred feet. As of yet, our title group
 13 has not created a unit map for the proposed well. As we
 14 get closer to operations, I'm sure that will occur at that
 15 time.
 16 Q But this would be a voluntary unit. You have
 17 the right to unitize all the tracts--
 18 A Yes, sir.
 19 Q --along this radius?
 20 A Yes, sir.
 21 CHAIRMAN LAY: Sorry, Bob. I didn't mean to
 22 jump in.
 23 COMMISSIONER RADABAUGH: That's fine.
 24 CHAIRMAN LAY: Any other questions? I have one,

Page 13

1 but go ahead, anybody--
 2 COMMISSIONER McCLUNG: I just want to know where
 3 the Wilcox--
 4 BY CHAIRMAN LAY:
 5 Q That's my question, too. Where is Mr. Wilcox's
 6 property?
 7 A If you look at the bottom hole of the well, that
 8 fifteen hundred foot radius would barely clip the corner
 9 of the property that he owns. Members of our organization
 10 actually have a meeting, I think, this evening with Mr.
 11 Wilcox to discuss--
 12 Q Can you identify on here as to which tract it is
 13 the--
 14 A if I can get a copy of the plat.
 15 Q It looks like these are partial numbers.
 16 A Right. I don't want to try to say from memory.
 17 It's 28-61, I believe.
 18 Q 28-61, you said?
 19 A Yes. I believe that's correct. Our staff's
 20 been attempting to make contact with Mr. Wilcox since week
 21 before last, and I believe a meeting is set up for this
 22 evening.
 23 COMMISSIONER GUM: But you did talk to him
 24 before?

Page 14

1 THE WITNESS: We have taken leases from him on
 2 other parcels previously. And efforts have been made to
 3 set up a meeting ideally prior to today. But apparently
 4 based on his schedule, today was when he could meet with
 5 our--
 6 COMMISSIONER GUM: Okay.
 7 THE WITNESS: --our folks.
 8 BY CHAIRMAN LAY:
 9 Q Based on what I'm seeing here (indicating), it
 10 looks like that you have included what is at least, from
 11 what I see of the plat, that three are three separate
 12 leases embraced in this location, Lease 190015, Lease
 13 104225 and Lease 991903. Is that what you have
 14 identified?
 15 A The first two, yes. I don't see-- 991903?
 16 Q It's to the north.
 17 A Yes.
 18 Q But it's not-- It may not be affected. I don't
 19 know the distance.
 20 A It is very close. The top hole's about fourteen
 21 hundred and eighty feet away from the southernmost point
 22 of that lease.
 23 CHAIRMAN LAY: Okay. Any other questions before
 24 I go?

Page 15

1 EXAMINATION
 2 BY COMMISSIONER MARTIN:
 3 Q Mr. Chairman, I have a question. Mr. Bowman, I
 4 think you testified to this, but I just missed it. The
 5 exception we're here to address is regarding three
 6 thousand foot spacing?
 7 A Yes, sir.
 8 Q And what wells are affected in that way?
 9 A There's one well currently permitted. It's API
 10 #47-103-03137. That's our BIG 192 pad. It's an existing
 11 Marcellus pad, and we have a permitted Point Pleasant well
 12 there. It has not yet been drilled.
 13 Q So it's just that one well?
 14 A Yes.
 15 Q And that's an issue primarily with the two
 16 surface locations. Right?
 17 A Yes.
 18 Q The laterals otherwise are--
 19 A Legal locations.
 20 Q --are legal?
 21 A Yes, sir.
 22 Q And that's the only well really impacted--
 23 A Yes, sir.
 24 Q --in terms of the spacing?

Page 16

1 A Yes, sir.
 2 COMMISSIONER MARTIN: Thank you.
 3 CHAIRMAN LAY: Do you have someone who can
 4 testify with regard to the design layout of the well path
 5 itself? Is that you, Mr. Bowman?
 6 MR. CASTO: We've got the Reservoir Engineer to
 7 talk about drainage if the Board desires. But as far as
 8 design and layout of the pad, I don't know if that would
 9 be you, Wayne, or if that would be--
 10 CHAIRMAN LAY: No, no. The well bore itself.
 11 MR. CASTO: The well bore itself would be--
 12 CHAIRMAN LAY: You're starting on a surface
 13 location. I wanted to know when you're going to intersect
 14 your target, at what point.
 15 MR. CASTO: Can you do that, Chris?
 16 MR. BUCHANAN: Depends on the question.
 17 EXAMINATION
 18 BY CHAIRMAN LAY:
 19 Q Do you have anything that identifies the heal
 20 and actual intersection point with-- What are you
 21 targeting, the Point Pleasant?
 22 A Point Pleasant. This map shows the build-out
 23 portion of the well and then the starting of the lateral
 24 itself. We should be intersecting the Point Pleasant very

Page 17

1 near the heal but outside or right at the three thousand
 2 foot radius.
 3 Q That's what I mean. Do you have a well
 4 schematic?
 5 A I'm looking through the application. We have a
 6 casing schematic, but I don't think it in its present form
 7 would indicate exactly where we would penetrate the Point
 8 Pleasant related to the three thousand feet from the
 9 existing permitted well.
 10 Q Okay. You said that Mr. Wilcox's property was
 11 just barely touched. From what distance of your terminus
 12 of your toe would it be from there to the beginning of
 13 Mr. Wilcox's property?
 14 A I don't have the precise distance, but it's very
 15 near the fifteen hundred foot radius from the toe of the
 16 well. But it's fourteen hundred something, but I don't
 17 know the exact number.
 18 Q So you don't have any schematics?
 19 A No. We have the diagram, but it doesn't
 20 delineate the exact intersection.
 21 Q In the future, please provide that information.
 22 A Yes, sir.
 23 Q Looks like it's-- Looks like I understand it.
 24 And in this particular case, the distances aren't that

1 critical. For the record, however, the surface location
2 and all of the existing bore holes from surface to
3 terminus are at least four hundred feet from all of the
4 unit or lease boundaries?

5 A Yes.

6 CHAIRMAN LAY: Okay. I think that's-- Any
7 other questions?

8 EXAMINATION

9 BY COMMISSIONER MARTIN:

10 Q Mr. Chairman, I do have one more, and it may not
11 be for Mr. Bowman. Your well bore schematic shows an
12 estimate of the lateral length of right at thirty-two
13 hundred feet. Is that a common footage for this type of
14 development?

15 A It's a little outside of my bailiwick, but I
16 would say at this point we don't have a common length
17 based on these wells.

18 Q So is there somebody else that might testify to
19 that?

20 MR. BUCHANAN: We don't have a specific length.

21 MR. CASTO: Mr. Buchanan can possibly address
22 that. Yes.

23 CHAIRMAN LAY: Any other questions? Okay. If
24 there are no other questions, witness may be excused.

1 Petroleum Engineering Department of Heriot-Watt University
2 in Scotland.

3 Q And can you take me through your work history
4 and experience?

5 A I started with Occidental in California in 2001
6 as a Reservoir Engineer, worked there for nine years, then
7 moved to Appalachia or to the Pittsburgh area and worked
8 with EXCO Resources as Senior Reservoir Engineer for two
9 years and then joined EQT in 2013.

10 Q And are you currently a Reservoir Engineer for
11 EQT?

12 A I joined them as a Reservoir Engineer. Now I'm
13 Manager of Reservoir Engineering.

14 Q What does a Reservoir Engineer do?

15 A We generally provide assessments of performance
16 of wells and estimates of reserves and recoverable
17 reserves.

18 Q And you also study different shale formations
19 and pools?

20 A Yes.

21 Q And as part of your duties, are you familiar
22 with the porosity and permeability of differing shale
23 formations in West Virginia?

24 A Yes.

1 (Witness excused.)

2 CHAIRMAN LAY: You can call your next witness,
3 Mr. Casto.

4 MR. CASTO: Okay. For the record initially,
5 given the fact that the surface location was closer than
6 three thousand but the bottom hole was further, I intended
7 to just use Mr. Bowman. But once I saw the objections
8 from Mr. Wilcox, that's why I have Mr. Buchanan here, to
9 talk about the drainage aspects. So I would call Chris
10 Buchanan.

11 (Witness sworn.)

12 THEREUPON came

13 CHRISTOPHER BUCHANAN

14 called as a witness by the Petitioner herein, being first
15 duly sworn according to law, testified as follows:

16 DIRECT EXAMINATION

17 BY MR. CASTO:

18 Q Can you state your name for the record, please?

19 A Christopher William Buchanan.

20 Q And can you take me through your educational
21 background?

22 A I have a Bachelor's in Geology, Petroleum
23 Geology, from the University of Aberdeen in Scotland and a
24 Master's in reservoir evaluation and management from the

1 Q And can you describe porosity and permeability
2 for me and explain the difference?

3 A Porosity in terms of in rock and porosity are
4 essentially the holes in the rock, the spaces. They're
5 not naturally connected. Permeability is the degree of
6 connectivity between these pores and how it connected.

7 Q And as part of your job, do you determine how
8 much area a potential gas well will drain?

9 A Yes.

10 Q And do you do so for both shallow wells and deep
11 wells as defined by West Virginia law?

12 A Yes. I do.

13 Q Are you familiar with the location for the BIG
14 333 well--

15 A Yes.

16 Q --that we're here today about? What is the
17 target formation of that well?

18 A The Point Pleasant.

19 Q And do you know what the proposed depth is for
20 that well?

21 A Thirteen thousand feet.

22 Q And is the well being drilled from a new or
23 existing pad?

24 A An existing pad as proposed.

1 Q With respect to the well that we're here today
 2 about, the BIG 333, how close is it to the nearest
 3 producing well that's drilled into the Point Pleasant
 4 formation?
 5 A To the nearest permitted well?
 6 Q Permitted well, yes.
 7 A Three thousand feet.
 8 Q And is that the BIG 192 well which is shown as
 9 47-103-03037?
 10 A Yes.
 11 Q And you've seen the map which was marked as
 12 Exhibit 3 that we talked about during Mr. Bowman's
 13 testimony?
 14 A Yes.
 15 Q And can you-- Mr. Bowman talked about the top
 16 hole being 2,835 feet away. Are you familiar with the
 17 bottom hole and how close it is to the BIG 192?
 18 A Yes. I am. It's three thousand feet.
 19 Q Three thousand feet. So it's my understanding
 20 the proposed top hole is roughly 2,880 feet from the BIG
 21 192. Is that correct?
 22 A That's my understanding.
 23 Q What about the producing formation? Is that
 24 three thousand feet?

1 Marcellus and Point Pleasant in terms of permeability?
 2 A They're very, very similar, although the
 3 mineralogy is different. Porosity and permeability of the
 4 two formations are very similar. We have data sets from
 5 our Core Lab Consortium. There is a band into the data,
 6 but they plat more or less on top of each other.
 7 Q Are you able to determine what the frac zone
 8 area for the BIG 333 well will be?
 9 A Yes.
 10 Q And based on this, can you calculate the
 11 potential drainage for the BIG 333 well?
 12 A Yes.
 13 Q And how large of an area could the BIG 333 well
 14 potentially drain?
 15 A Well, right now our completion design team are
 16 modeling anything from three hundred to six hundred feet
 17 fracture half-length. That would be six hundred feet to
 18 one side, six hundred to the other or three hundred to one
 19 side and three hundred to the other, somewhere in between.
 20 We haven't got that done yet, and we really have to drill
 21 it and produce it to determine everything.
 22 Q Is the BIG 333 well outside of the drainage area
 23 of the BIG 192?
 24 A Yes.

1 A Three thousand feet.
 2 Q Now, as part of your duties as a Reservoir
 3 Engineer for EQT, are you able to calculate how large of
 4 an area that this particular well will drain?
 5 A Yes.
 6 Q And how do you do that?
 7 A For the most part and since this formation is in
 8 its infancy, we're studying other producers' wells that
 9 we've traded data from. And we make models of those
 10 wells, simulation models, and populate them with the pad
 11 physical properties.
 12 And we have our completions design team
 13 provide a frac model, and we input these into our
 14 simulation model and determine how much it will drain over
 15 how long a time.
 16 Q And do you do comparisons with different shale
 17 formations?
 18 A We do.
 19 Q And do you compare like the Marcellus and the
 20 Point Pleasant?
 21 A Yes. One of the big inputs into these
 22 simulation models is core data. We look at the core data
 23 of the Marcellus, Point Pleasant and production history.
 24 Q Can you discuss the comparison between the

1 Q Assuming these wells were closer than three
 2 thousand feet, what is the reason for spacing them closer
 3 together than three thousand feet?
 4 A Ideally, if we wanted to drill-- I mean, if we
 5 wanted to produce the well efficiently, we would be able
 6 to make the fractures grow much, much longer. We can't.
 7 We spaced the fractures in our design sixty
 8 feet apart, and it takes a long time for the rock between
 9 those two fractures that are sixty feet apart to drain.
 10 So anything that is beyond the end -- the
 11 tip of the fractures, the time to drain that rock is not
 12 in our lifetimes.
 13 Q So if you were to follow the three thousand foot
 14 spacing for Point Pleasant wells, is there potential for
 15 waste?
 16 A Yes, absolutely.
 17 Q In your opinion, can the well bore be
 18 effectively drained by drilling the laterals three
 19 thousand feet apart?
 20 A No. It cannot.
 21 Q Okay. Now, with respect to the objection by
 22 Mr. Wilcox, are you familiar with that?
 23 A I am.
 24 Q Okay. Are you familiar with how far the well

1 bore for the BIG 333 will be in terms of the property
 2 owned by Mr. Wilcox?
 3 A Yes. I am.
 4 Q And how far is that?
 5 A It's a little over fourteen hundred feet. I
 6 can't tell you the precise number.
 7 Q Based on your opinions and studies, will there
 8 be any drainage to the property of Mr. Wilcox from the BIG
 9 333 well?
 10 A I don't believe so. As I said, we don't drill
 11 much beyond the face of the fracture. And any feasible
 12 time frame-- And the fractures actually grow
 13 perpendicular to the well bore. And so, you know, we're
 14 trying to drain the rock between the fractures.
 15 We're going along this well bore. Anything
 16 beyond the toe, significantly beyond the toe, like again
 17 Mr. Wilcox's leases, will not be impacted by the depletion
 18 from this well.
 19 Q Based on your experience and the information
 20 from today, is it your understanding that the well could
 21 be safely and efficiently drilled in the proposed
 22 location?
 23 A I believe that's the best location for it.
 24 MR. CASTO: That's all the questions I have.

1 one core in Green County in Pennsylvania.
 2 Q How consistent are your perm values from those
 3 multiple cores that you mentioned?
 4 A I guess the best way to describe it is there's--
 5 Well, there's a cloud of data that is quite tight from a
 6 plotting porosity versus permeability. It's pretty
 7 consistent. It's a large data set. It has some data
 8 points on it that have been sampled by the consortium.
 9 And we're using a correlation to that or a best-fit line
 10 to that data.
 11 Q What was the-- I assume then that you took an
 12 average permeability across the thickness of the
 13 formation. What was that permeability value?
 14 A We expect it here to be around a hundred and
 15 twenty nanodarcys.
 16 Q A hundred and twenty?
 17 A Hundred and twenty nanodarcys. The porosity
 18 we've measured here is on the order of six percent
 19 porosity. And as I described, there is a range to that
 20 permeability value, but it best fits about a hundred and
 21 twenty, I guess. The low point's closer to eighty, and
 22 the high point is one-sixty to two hundred.
 23 Q So that is the range, eighty to one-sixty?
 24 A Eighty to two hundred is probably the range.

1 EXAMINATION
 2 BY CHAIRMAN LAY:
 3 Q I have a couple of follow-ups then. You
 4 mentioned that you used core data from the Coring--
 5 A Consortium.
 6 Q --Consortium. Exactly where are your closest
 7 cores to this location that were utilized in your
 8 evaluation?
 9 A There is not a lot of core available near here.
 10 However, we do have open hole logs near here in our PET
 11 Physical Model that we use to interpret those logs as ties
 12 to the core data throughout the basin.
 13 We have on this well-- What is it?
 14 --4710343109, we have open hole logs from a well that we
 15 drilled a month or so ago. Although we don't have core,
 16 we have a good interpretation of what the rock properties
 17 are here.
 18 Q Okay. Then how did you arrive at your
 19 probability value?
 20 A Okay. Let me go back. We do have core, I
 21 believe, from a Gaspar [sic] well in this county. We have
 22 several cores in Monroe County in Ohio and, also, in
 23 Belmont County, Ohio. I believe we have Range Resources'
 24 core in Washington County. We're dotted around. We have

1 Q Eighty to two hundred nanodarcys?
 2 A Yes. That's consistent with another direct
 3 measurement that we have which is not core data, but it's
 4 a de-fit which is a leap-off test on this well to the
 5 north here. We measured a hundred and eighty nanodarcys.
 6 We calculated.
 7 Q When you did the de-fit, what did you determine?
 8 Did you determine an ultimate bottom hole pressure?
 9 A Yes. The pressure gradient, I know offhand, is
 10 .95 in sample fit.
 11 Q How large was your de-fit test?
 12 A In terms of time or water volume?
 13 Q Both.
 14 A Okay. It was-- I don't know the precise
 15 number. Normally, you'd pump a small one, pump a little
 16 bit larger one on this, because we had seen results that
 17 suggested that's what we should do. So I believe it was
 18 around thirty barrels total volume that was pumped.
 19 Sorry. What was the second part of that
 20 question?
 21 Q And your time.
 22 A We saw closure very quickly. We saw linear
 23 flow-out for about three days, had radial flow in about
 24 twelve days.

1 Q So three- to twelve-day recovery?

2 A Yes.

3 Q At a .95 gradient, you'd get an extremely high
4 pressure well?

5 A Yes.

6 CHAIRMAN LAY: All right. I think that's all
7 the questions I have.

8 EXAMINATION

9 BY COMMISSIONER RADABAUGH:

10 Q Can you tell us a little bit about the lateral
11 length?

12 A We don't have a specific target lateral length.
13 Obviously, we're not trying to make uneconomic wells, but
14 we don't know what the economic length is just now. Just
15 know we're testing, and this is essentially spacing
16 testing with confer interference. Basically, we have two
17 wells parallel and fifty-one hundred is the lateral
18 length. I'm sure we'd be happy with longer or a little
19 bit shorter.

20 Q That's your lateral length, is fifty-one
21 hundred?

22 MR. BOWMAN: No. This is thirty-two hundred.

23 THE WITNESS: Thirty-two hundred. Sorry.

24 CHAIRMAN LAY: I'm sorry. I don't mean to

1 with process here and test wells, and so on and so forth,
2 but depending upon what your results would be of both of
3 these wells, would there be the possibility of somewhere
4 in the future, if they're successful, coming back and
5 possibly putting another one or two in between them, if
6 you see the reserves are still there that you're not
7 recovering?

8 A I think we'd be very comfortable with one well
9 in between. I don't think there's any interest in tighter
10 spacing than that at this point. And we've seen operators
11 in Ohio that started off-- Gulfport's a good example.
12 They were developing at one point a six-fifty foot
13 spacing, then eight hundred. And their most recent IS
14 THAT RIGHT? material's saying they've changed to one
15 thousand feet of spacing.

16 EXAMINATION

17 BY CHAIRMAN LAY:

18 Q That brings another point here to my question in
19 this area. If I recall, this is probably high thermal
20 maturation, therefore, dry gas?

21 A Very dry gas, yes.

22 CHAIRMAN LAY: Any other questions?

23 EXAMINATION

24 BY COMMISSIONER MARTIN:

1 interrupt, but I want to go back and ask one question.

2 EXAMINATION

3 BY CHAIRMAN LAY:

4 Q So you're modeling-- You determined that you
5 believe your half-length is between three and six hundred
6 feet?

7 A That's what the completion design team are
8 telling me.

9 Q Based on your proposed pump?

10 A Based on the proposed pump. And we haven't got
11 anything to history-match that to yet.

12 Q So in your economic model with your proposed
13 completion and proposed lateral length, does this well
14 generate an economic return?

15 A I believe so. The model we have just in our
16 type curve is on the order of four BCF per thousand for
17 the lateral. These wells are very sensitive to high run
18 chief and you produce them up front. You may have heard
19 some operator's choking them back for a long period of
20 time. And that's not what you would do with such a short
21 lateral to make it pay out quicker.

22 EXAMINATION

23 BY COMMISSIONER RADABAUGH:

24 Q I understand this is kind of fiddling around

1 Q Mr. Buchanan, where's the closest Point Pleasant
2 well that your company operates? How far away is it?

3 A Well, it's on this map. It's flowing back
4 today. I can't tell you any more than that. But it's
5 this one here, 47103109. It's up there to the north.

6 Q That's a Point Pleasant well?

7 A Point Pleasant.

8 CHAIRMAN LAY: You're guessing that's forty-five
9 hundred plus?

10 THE WITNESS: I believe that's the one that
11 fifty-one hundred there on this spot.

12 BY COMMISSIONER MARTIN:

13 Q There's no core data from that or there was?

14 A There is not core on this one.

15 Q So the core that you were talking about earlier,
16 is some of that Marcellus core, too, or was that just
17 Point Pleasant core?

18 A I was referring to Marcellus core and Point
19 Pleasant core, seeing that both data sets overlay each
20 other. We have on the order of three thousand individual
21 core plug samples or access to that data from our Core Lab
22 Consortium.

23 Q And that would be a mix of the two formations?

24 A No. That would be Point Pleasant only.

1 Q What's the lateral length on the 3109?
 2 A I can get back to you in about twenty minutes to
 3 tell you exactly. I believe it's around fifty-one
 4 hundred.
 5 Q That's the length of the lateral or the spacing?
 6 A That's the length of the lateral.
 7 Q So it's roughly two thousand feet longer than
 8 the one you're proposing?
 9 A Yes.
 10 Q Is there a reason for that much difference
 11 between the two?
 12 A I think it's more related to our acreage
 13 position than anything else. We pretty much have most of
 14 this (indicating) area leased out. That's (indicating)
 15 kind of the southern limit of our lease on here.
 16 Q You commented that-- Mr. Radabaugh asked about
 17 drilling in between this well and the 031370--
 18 A Yeah.
 19 Q --potentially down the road if things pan out.
 20 A Mm-hum.
 21 Q Those two right now, the laterals are roughly
 22 three thousand feet apart?
 23 A Yes.
 24 Q If your fracture half-lengths are between three

1 fifteen hundred.
 2 CHAIRMAN LAY: I would assume that your
 3 computation is that your frac length is three to six
 4 hundred feet and then you would have a multiple of a
 5 couple, two or three hundred feet additional drainage
 6 because of natural drainage within the rock.
 7 THE WITNESS: There'd be some fracture support
 8 from beyond the test of the fractures. I mean, all the
 9 fractures aren't exactly the same lengths. Some will be
 10 slightly longer. Some will be slightly shorter.
 11 In this natural gas price environment, it
 12 makes more sense-- In the service company price
 13 environment, it makes more sense to drill one well and
 14 spend the extra money on sand and water and try a longer
 15 frac. At these depths, thirteen hundred feet, drilling an
 16 extra well is very expensive.
 17 CHAIRMAN LAY: So it sound like, and correct me
 18 if I'm wrong, but it sounds like you're trying to
 19 determine the economic limits of different-size lengths
 20 within this reservoir--
 21 THE WITNESS: Yep.
 22 CHAIRMAN LAY: --and what your drainage radiuses
 23 are, in fact. Any other questions? Okay. Witness may be
 24 excused.

1 and six hundred feet, I think your answer to his question
 2 was you might see the need to drill one well in between--
 3 A Mm-hum.
 4 Q --but maybe no more than that.
 5 A Yeah.
 6 Q So how is that-- I'm not following that. If
 7 the half-lengths are three to six hundred feet, I didn't
 8 do the math, but I guess I was expecting a tighter spacing
 9 than every fifteen hundred feet. Does that get you to
 10 where you're being able to drain everything in between?
 11 A I mean, I--
 12 Q You can only draw it to see the--
 13 A Every area is different. This is an area where
 14 we don't have 3D seismic, so we don't know anything about
 15 it. We have 2D lines through here. We know there's no
 16 major structures, but we don't know if there's any natural
 17 fractures or any--
 18 CHAIRMAN LAY: Faults.
 19 THE WITNESS: --thing like that that would not
 20 show up on a 2D. When we analyzed this -- this first part
 21 was coming on line today. When we get a few months there,
 22 we'll get a feel for were our estimates on the fracture
 23 half-length correct. And if they're shorter, then, you
 24 know, maybe we would be looking at a tighter spacing than

1 (Witness excused.)
 2 CHAIRMAN LAY: Mr. Casto, any other witness?
 3 MR. CASTO: Unless the Commission has additional
 4 questions, that's all. I think our position's clear. The
 5 top hole's closer than three, but the bottom hole is at
 6 the three thousand mark. To the extent Mr. Wilcox is
 7 impacted, as far as his objection, I believe the testimony
 8 of Mr. Buchanan was sufficient on that point. Unless the
 9 Board wants anything further, I think that's all I have.
 10 CHAIRMAN LAY: Okay. That being the case, we'll
 11 go off the record.
 12 (WHEREUPON, a discussion was had
 13 off the record.)
 14 CHAIRMAN LAY: We'll go back on the record. Do
 15 we have a motion?
 16 COMMISSIONER RADABAUGH: Mr. Chairman, I'd like
 17 to make a motion to grant EQT their request for an
 18 exception to the Rule 39 CSR.1-4.2 with the proposed BIG
 19 333 #516341 to reduce the spacing of the top hole between
 20 the BIG 333 and BIG 192 with a permit number of
 21 4710303137.
 22 COMMISSIONER GUM: Mr. Chairman, I'd like to
 23 second that motion.
 24 CHAIRMAN LAY: We have a motion and a proper

1 second. Any discussion?
 2 COMMISSIONER RADABAUGH: I'd like to add one
 3 thing. Basically, the spacing that we're allowing is
 4 what's depicted on the--
 5 CHAIRMAN LAY: On the plat?
 6 COMMISSIONER RADABAUGH: --on the plat.
 7 CHAIRMAN LAY: So noted. Any other discussion?
 8 All those in favor of the motion, aye. Opposed, nay.
 9 Motion carried.
 10 We'll grant deep well approval and forward
 11 it to the Office of Oil and Gas. A couple things, in the
 12 future, we would love to see a schematic, both plan and
 13 profile--
 14 MR. BOWMAN: Yes, sir.
 15 CHAIRMAN LAY: --of the well bore itself. In
 16 this particular case, the distances between the wells are
 17 sufficient, so that's not necessary. But in tight
 18 spacing, it would definitely be helpful.
 19 Also, I commend you on your preparation
 20 with regard to the geophysical portion. However, if we do
 21 have an amended application, we would probably best be
 22 served to see your model, your actual data points, your
 23 actual assumptions. I think that's sufficient. Anything
 24 else for the record?

1 COMMISSIONER RADABAUGH: I need to make one
 2 correction for the plat to the evidence.
 3 CHAIRMAN LAY: Okay. What's your correction?
 4 COMMISSIONER RADABAUGH: The distance between
 5 the top holes is what's depicted in the evidence
 6 presented.
 7 CHAIRMAN LAY: Anybody have an objection to
 8 that? He's changing the motion to say that the distance
 9 between the top holes is what was entered in evidence
 10 today.
 11 COMMISSIONER GUM: I'll accept that and second
 12 it.
 13 CHAIRMAN LAY: Any further discussion on
 14 amending the motion? All those in favor, aye? Opposed,
 15 nay? Okay.
 16 (WHEREUPON, the motion carried.)
 17 CHAIRMAN LAY: Nothing else? Okay. We'll close
 18 the record. Thank you.

REPORTER'S CERTIFICATE

STATE OF WEST VIRGINIA

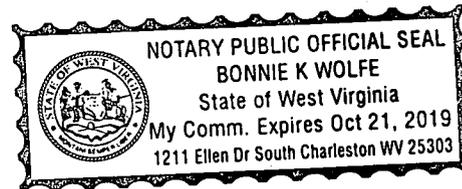
COUNTY OF KANAWHA, to wit:

I, BONNIE K. WOLFE, Certified Court Reporter and
 Notary Public of West Virginia, do hereby certify that the
 foregoing is, to the best of my skill and ability, a true
 and accurate transcript of the proceedings set forth in
 the caption hereof.

Given under my hand this 23rd day of February,
 2016.

My commission expires October 21, 2019.

Bonnie K Wolfe
 Certified Court Reporter



-#-			22:12	acreage [1]	34:12	5:3	16:11	18:2	18:11
#47-103-03137 [2]	8:1	15:10	30 [1]	2:20	actual [3]	16:20	25:17	26:1	26:13
#516341 [3]	1:10		300 [1]	2:8	38:22	38:23	26:15	38:15	
3:5	37:19		31 [2]	2:21	add [1]	38:2	bottom [11]		
--			3109 [1]	34:1	additional [2]	36:5	8:17	8:18	8:22
.95 [2]	29:10	30:3	32 [2]	2:23	37:3		11:7	11:11	13:7
-0-			333 [19]	1:10	address [2]	15:5	19:6	22:17	29:8
031370 [1]	34:17		6:22	7:2	18:21		37:5		
-1-			9:10	9:16	admitted [1]	7:21	boundaries [1]		
1 [5]	2:26	3:14	11:15	21:14	Advertisement [2]		Bowman [16]	2:14	
3:19	10:4	10:9	24:8	24:11	2:27	3:23	5:4	5:9	5:11
1000 [1]	2:8		24:22	26:1	aerial [2]	9:10	5:14	5:20	5:21
104225 [1]	14:13		37:19	37:20	9:15		7:20	9:8	15:3
10:00 [1]	1:14		39 [3]	1:7	affected [2]	14:18	16:5	18:11	19:7
11 [1]	2:14		37:18	3:4	15:8		22:15	30:22	38:14
12 [1]	2:15		3D [1]	35:14	again [1]	26:16	Bowman's [1]		
15 [1]	2:16		-4-			ago [1]	19:21	Brian [2]	
16 [1]	2:17		4 [7]	2:27	27:15		5:20	5:14	
18 [1]	2:18		2:29	2:29	Agriculture [1]	5:23	brings [1]		
19 [1]	2:19		4:12	4:16	ahead [1]	13:1	Buchanan [11]		
190015 [1]	14:12		40 [1]	2:32	allowing [1]	38:3	5:5	16:16	18:20
192 [7]	8:13	15:10	47-103-03037 [1]	22:9	along [4]	3:15	18:21	19:8	19:10
22:8	22:17	22:21	22:9		3:24	12:19	19:13	19:19	33:1
24:23	37:20		47-103-03136 [1]	8:6	amended [1]	38:21	37:8		
1991 [1]	6:2		4710303137 [1]	37:21	amending [1]	39:14	build [1]		
1997 [1]	6:3		47103109 [1]	33:5	analyzed [1]	35:20	build-able [1]		
-2-			4710343109 [1]	27:14	answer [1]	35:1	build-out [3]		
2 [6]	2:27	3:22	-5-			Anthony [2]	1:21	10:1	16:22
4:1	4:3	10:5	5 [4]	2:14	25:8	3:12	-C-		
10:13			4:19	4:22	25:19	34:22	calculate [2]	23:3	
2,835 [1]	22:16		57th [1]	1:16	API [2]	8:1	24:10	26:7	26:19
2,836 [1]	8:14		-6-			apart [4]	31:9	31:10	
2,880 [1]	22:20		6 [5]	2:31	25:8	25:9	basin [1]		
2000 [1]	6:4		9:4	9:9	25:19	34:22	27:12		
2001 [1]	20:5		601 [1]	1:16	Appalachia [1]	20:7	17:12		
2013 [1]	20:9		-9-			appearances [2]	2:2		
2016 [2]	1:14	40:10	9 [1]	2:31	2:1	5:2	2:5	5:3	
2019 [1]	40:11		991903 [2]	14:13	application [5]	2:30	27:23		
21 [1]	40:11		14:15		4:20	11:5	28:4		
228 [2]	1:4	3:9	-A-			38:21	28:20	38:21	40:6
238 [2]	1:3	3:9	a.m [1]	1:14	applications [1]	6:17	28:9		
23rd [2]	1:13	40:9	Aberdeen [1]	19:23	approval [1]	38:10	21:6		
25301 [1]	2:9		ability [1]	40:6	23:24	24:19	21:6		
27 [1]	2:19		able [4]	23:3	26:14	31:5	25:8		
28-61 [2]	13:17		absolutely [1]	25:16	32:9	34:11	32:5		
13:18			accept [1]	39:11	34:24	35:2	34:17		
2D [2]	35:15	35:20	access [2]	10:20	37:19	38:16	35:10		
-3-			33:21		39:9		39:4		
3 [9]	2:26	2:28	according [2]	5:16	beyond [5]	25:10	between [17]		
4:6	4:9	7:6	accurate [1]	40:7	26:11	26:16	23:24	24:19	25:8
7:21	10:5	10:18	-A-			36:8	26:14	31:5	32:5
			assets [1]	6:5	37:20		32:9	34:11	34:17
			Assistant [1]	2:4	big [27]	1:10	34:24	35:2	35:10
			associated [1]	6:13	6:21	7:2	37:19	38:16	39:4
			assume [2]	28:11	8:13	9:10	39:9		
			36:2		11:13	11:15	25:10		
			Assuming [1]	25:1	21:13	22:2	26:16		
			assumptions [1]	38:23	22:17	22:20	26:16		
			attached [7]	3:20	24:8	24:11	36:8		
			4:4	4:7	24:22	24:23	26:16		
			4:17	4:23	26:8	37:18	26:16		
			attempting [1]	13:20	37:20		26:16		
			Attorney [2]	2:4	bit [3]	29:16	30:10		
			-B-			30:19			
			B [1]	2:14	Board [2]	16:7			
			Babst [1]	2:7	37:9				
			Bachelor [1]	5:23	Bob [1]	12:21			
			Bachelor's [1]	19:22	BONNIE [1]	40:4			
			background [2]	5:22	bore [10]	9:24	16:10		
			19:21		-B-				
			bailiwick [1]	18:15	B [1]	2:14			
			band [1]	24:5	Babst [1]	2:7			
			bank [1]	10:17	Bachelor [1]	5:23			
			barely [2]	13:8	Bachelor's [1]	19:22			
			17:11		background [2]	5:22			
			barrels [1]	29:18	19:21				
			Barry [2]	1:19	bailiwick [1]	18:15			
			3:12		band [1]	24:5			
			based [9]	8:10	bank [1]	10:17			
			14:4	14:9	barely [2]	13:8			
			18:17	26:19	17:11				
			24:10	26:7	barrels [1]	29:18			
			26:19		Barry [2]	1:19			
			31:9	31:10	3:12				
			-B-			based [9]	8:10		
			basin [1]	27:12	14:4	14:9	18:17		
			BCF [1]	31:16	24:10	26:7	26:19		
			beginning [1]	17:12	31:9	31:10			
			behalf [3]	2:2	basin [1]	27:12			
			2:5	5:3	BCF [1]	31:16			
			Belmont [1]	27:23	beginning [1]	17:12			
			best [5]	26:23	behalf [3]	2:2			
			28:20	38:21	2:5	5:3			
			40:6		Belmont [1]	27:23			
			best-fit [1]	28:9	best [5]	26:23			
			between [17]	21:6	28:20	38:21			
			23:24	24:19	28:9				
			25:8		best-fit [1]	28:9			
			26:14	31:5	between [17]	21:6			
			32:9	34:11	23:24	24:19			
			34:24	35:2	26:14	31:5			
			37:19	38:16	32:9	34:11			
			39:4		34:24	35:2			
			-B-			37:19	38:16		
			beyond [5]	25:10	39:9				
			26:11	26:16	beyond [5]	25:10			
			36:8		26:11	26:16			
			big [27]	1:10	36:8				
			6:21	7:2	big [27]	1:10			
			8:11	8:11	6:21	7:2			
			9:16	9:16	8:13	9:10			
			15:10	15:10	11:13	11:15			
			22:8	22:8	21:13	22:2			
			23:21	23:21	22:17	22:20			
			24:13	24:13	24:8	24:11			
			26:1	26:1	24:22	24:23			
			37:20	37:20	26:8	37:18			
			30:10	30:10	37:20				
			30:19		bit [3]	29:16			
			Board [2]	16:7	30:19				
			37:9		Board [2]	16:7			
			Bob [1]	12:21	37:9				
			BONNIE [1]	40:4	Bob [1]	12:21			
			bore [10]	9:24	BONNIE [1]	40:4			
			16:10		bore [10]	9:24			
					16:10				

28:19 portion [8] 8:3 8:4 9:19 10:1 10:15 11:10 16:23 38:20 position [1] 34:13 position's [1] 37:4 possibility [1] 32:3 possible [1] 10:24 possibly [2] 18:21 32:5 potential [4] 10:9 21:8 24:11 25:14 potentially [2] 24:14 34:19 precise [3] 17:14 26:6 29:14 preparation [1] 38:19 prepared [1] 12:1 present [4] 2:10 3:10 3:12 17:6 presented [1] 39:6 pressure [3] 29:8 29:9 30:4 pretty [3] 10:11 28:6 34:13 previously [3] 7:21 9:12 14:2 price [2] 36:11 36:12 primarily [1] 15:15 probability [1] 27:19 Procedure [1] 1:18 proceedings [1] 40:7 process [2] 6:13 32:1 produce [3] 24:21 25:5 31:18 producers' [1] 23:8 producing [3] 11:7 22:3 22:23 production [5] 1:6 3:3 6:7 9:20 23:23 profile [1] 38:13 proper [1] 37:24 properties [3] 11:13 23:11 27:16 property [6] 13:6 13:9 17:10 17:13 26:1 26:8 proposed [26] 1:9 3:5 7:1 7:24 8:6 8:8 8:11 9:13 9:14 9:15 9:21 9:24 10:23 11:15 12:6 12:7 12:13 21:19 21:24 22:20 26:21 31:9 31:10 31:12 31:13 37:18 proposing [1] 34:8 Protection [1] 5:24 provide [4] 11:24	17:21 20:15 23:13 provided [1] 6:22 Public [1] 40:5 Publication [2] 3:23 4:1 pump [4] 29:15 29:15 31:9 31:10 pumped [1] 29:18 purchased [1] 6:4 pursuant [1] 1:17 putting [1] 32:5 -Q- questions [13] 7:17 11:19 11:21 12:24 14:23 18:7 18:23 18:24 26:24 30:7 32:22 36:23 37:4 quicker [1] 31:21 quickly [1] 29:22 quite [1] 28:5 -R- Radabaugh [15] 1:20 2:14 2:20 2:22 3:12 11:23 12:23 30:9 31:23 34:16 37:16 38:2 38:6 39:1 39:4 radial [1] 29:23 radius [11] 7:24 10:7 10:9 10:10 10:14 11:9 12:9 12:19 13:8 17:2 17:15 radiuses [1] 36:22 Raines [2] 1:24 3:13 range [4] 27:23 28:19 28:23 28:24 really [2] 15:22 24:20 reason [3] 11:4 25:2 34:10 receipts [1] 3:16 received [1] 4:13 recent [1] 32:13 reclamation [1] 6:1 record [11] 3:10 3:14 5:19 18:1 19:4 19:18 37:11 37:13 37:14 38:24 39:18 recoverable [1] 20:16 recovering [1] 32:7 recovery [1] 30:1 red [1] 10:2 reduce [1] 37:19 referring [1] 33:18 regard [2] 16:4 38:20 regarding [3] 1:8	3:4 15:5 Regional [2] 6:9 6:10 regulations [2] 10:22 11:17 related [2] 17:8 34:12 relative [1] 8:9 reporter [3] 5:10 40:4 40:13 Reporter's [2] 2:32 40:1 Representative [1] 2:11 represented [1] 10:2 represents [2] 10:8 10:13 request [6] 1:5 2:28 3:3 3:23 4:6 37:17 requirements [1] 11:16 reserves [3] 20:16 20:17 32:6 reservoir [10] 16:6 19:24 20:6 20:8 20:10 20:12 20:13 20:14 23:2 36:20 Resources [2] 1:16 20:8 Resources' [1] 27:23 respect [2] 22:1 25:21 responsible [1] 6:12 results [2] 29:16 32:2 return [2] 3:15 31:14 review [2] 6:16 6:22 ridge [1] 10:15 right [12] 7:4 7:11 11:12 12:17 13:16 15:16 17:1 18:12 24:15 30:6 32:14 34:21 road [2] 10:20 34:19 Robert [2] 1:20 3:12 rock [7] 21:3 21:4 25:8 25:11 26:14 27:16 36:6 Room [1] 1:15 roughly [3] 22:20 34:7 34:21 Rule [3] 1:7 3:4 37:18 Rules [1] 1:18 run [1] 31:17 runs [1] 8:19 -S- safely [1] 26:21	sample [1] 29:10 sampled [1] 28:8 samples [1] 33:21 saw [3] 19:7 29:22 29:22 scale [1] 7:10 schedule [1] 14:4 schematic [4] 17:4 17:6 18:11 38:12 schematics [1] 17:18 Science [1] 5:23 Scotland [2] 19:23 20:2 second [4] 29:19 37:23 38:1 39:11 Secretary [1] 3:24 see [7] 14:11 14:15 32:6 35:2 35:12 38:12 38:22 seeing [2] 14:9 33:19 seismic [1] 35:14 Senior [1] 20:8 sense [2] 36:12 36:13 sensitive [1] 31:17 separate [1] 14:11 served [1] 38:22 service [1] 36:12 set [4] 13:21 14:3 28:7 40:7 sets [2] 24:4 33:19 several [4] 7:14 9:11 9:11 27:22 shale [3] 20:18 20:22 23:16 shallow [1] 21:10 short [1] 31:20 shorter [3] 30:19 35:23 36:10 show [4] 3:10 9:1 9:15 35:20 shown [4] 9:8 10:8 10:21 22:8 shows [7] 7:23 8:3 8:7 9:20 12:4 16:22 18:11 side [3] 10:16 24:18 24:19 significantly [1] 26:16 similar [2] 24:2 24:4 simulation [3] 23:10 23:14 23:22 six [8] 24:16 24:17 24:18 28:18 31:5 35:1 35:7 36:3 six-fifty [1] 32:12 sixty [2] 25:7 25:9 skill [1] 40:6 slightly [2] 36:10	36:10 small [1] 29:15 Sods [1] 1:14 soil [1] 10:17 someone [1] 16:3 somewhere [2] 24:19 32:3 sorry [4] 12:21 29:19 30:23 30:24 sound [2] 36:14 36:17 sounds [1] 36:18 south [1] 10:15 Southeast [1] 1:16 southern [1] 34:15 southernmost [1] 14:21 spaced [1] 25:7 spaces [3] 10:2 10:2 21:4 spacing [14] 15:6 15:24 25:2 25:14 30:15 32:10 32:13 32:15 34:5 35:8 35:24 37:19 38:3 specialization [1] 5:24 specific [2] 18:20 30:12 spend [1] 36:14 spot [2] 10:10 33:11 spots [1] 10:21 Staff [2] 1:24 3:13 staff's [1] 13:19 started [2] 20:5 32:11 starting [2] 16:12 16:23 state [7] 1:2 2:3 3:2 3:24 5:19 19:18 40:2 States [2] 6:3 6:5 statutes [1] 11:17 steep [2] 10:11 10:15 still [1] 32:6 stockpile [1] 10:17 Street [2] 1:16 2:8 structures [1] 35:16 studies [1] 26:7 study [1] 20:18 studying [1] 23:8 subject [2] 8:7 9:13 submit [2] 6:16 6:23 successful [1] 32:4 such [1] 31:20 sufficient [3] 37:8 38:17 38:23
---	--	--	---	---

suggested [1] 29:17	10:19 11:8 14:11	11:13 40:9	Wilcox [10] 2:29	
suitable [1] 10:12	14:11 15:5 17:1	understand [2] 17:23	4:14 13:3 13:11	
Suite [1] 2:8	17:8 19:6 22:7	31:24	13:20 19:8 25:22	
Summers [1] 2:8	22:18 22:19 22:24	uneconomic [1]	26:2 26:8 37:6	
support [1] 36:7	23:1 24:16 24:18	30:13	Wilcox's [4] 13:5	
surface [7] 6:12	24:19 25:1 25:3	unit [7] 11:24 12:1	17:10 17:13 26:17	
10:12 15:16 16:12	25:13 25:18 29:23	12:6 12:7 12:13	William [1] 19:19	
18:1 18:2 19:5	30:1 31:5 33:20	12:16 18:4	wit [1] 40:3	
swear [1] 5:11	34:22 34:24 35:7	unitize [1] 12:17	within [2] 36:6	
sworn [4] 5:12	36:3 36:5 37:5	University [3] 6:2	36:20	
5:16 19:11 19:15	37:6	19:23 20:1	witness [20] 5:7	
-T-				
takes [1] 25:8	through [5] 5:21	Unless [2] 37:3	5:8 5:12 5:15	
target [3] 16:14	17:5 19:20 20:3	37:8	11:20 14:1 14:7	
21:17 30:12	throughout [1] 27:12	up [5] 13:21 14:3	18:24 19:1 19:2	
targeting [1] 16:21	ties [1] 27:11	31:18 33:5 35:20	19:11 19:14 30:23	
team [3] 23:12 24:15	tight [2] 28:5 38:17	used [1] 27:4	33:10 35:19 36:7	
31:7	tighter [3] 32:9	using [1] 28:9	36:21 36:23 37:1	
telling [1] 31:8	35:8 35:24	utilized [1] 27:7	WITNESSES [1]	
terminus [2] 17:11	tip [1] 25:11	-V-		
18:3	title [1] 12:12	value [3] 27:19	2:13	
terms [5] 15:24	today [10] 6:21	28:13 28:20	WOLFE [1] 40:4	
21:3 24:1 26:1	9:16 14:3 14:4	values [1] 28:2	worked [2] 20:6	
29:12	21:16 22:1 26:20	versus [1] 28:6	20:7	
test [4] 29:4 29:11	33:4 35:21 39:10	view [2] 9:10 9:15	wrong [1] 36:18	
32:1 36:8	toe [4] 17:12 17:15	Virginia [17] 1:2	-Y-	
testified [3] 5:16	26:16 26:16	1:12 1:15 1:17	year [1] 8:2	
15:4 19:15	together [1] 25:3	1:17 2:3 2:9	years [2] 20:6	
testify [2] 16:4	too [2] 13:5 33:16	3:2 3:8 6:1	20:9	
18:18	took [1] 28:11	6:9 6:11 11:17	yellow [2] 9:22	
testimony [2] 22:13	top [14] 8:7 8:11	20:23 21:11 40:2	9:24	
37:7	8:15 8:21 9:21	volume [2] 29:12	Yep [1] 36:21	
testing [2] 30:15	10:1 14:20 22:15	29:18	yet [5] 12:1 12:12	
30:16	22:20 24:6 37:5	voluntary [1] 12:16	15:12 24:20 31:11	
Thank [2] 16:2	37:19 39:5 39:9	-Z-		
39:18	total [1] 29:18	zone [1] 24:7	-[-	
There'd [1] 36:7	touched [1] 17:11	-W-		
therefore [1] 32:20	tract [1] 13:12	wants [1] 37:9	[sic] [1] 27:21	
THEREUPON [2]	tracts [1] 12:17	Washington [1] 27:24		
5:13 19:12	traded [1] 23:9	waste [1] 25:15		
thermal [1] 32:19	transcript [2] 1:13	water [2] 29:12		
they've [1] 32:14	40:7	36:14		
thickness [1] 28:12	true [1] 40:6	Wayne [6] 2:14		
thirteen [2] 21:21	try [2] 13:16 36:14	5:4 5:9 5:14		
36:15	trying [3] 26:14	5:20 16:9		
thirty [1] 29:18	30:13 36:18	week [1] 13:20		
thirty-two [3] 18:12	twelve [1] 29:24	wells [20] 6:17		
30:22 30:23	twelve-day [1] 30:1	6:19 9:11 9:12		
thousand [29] 8:12	twenty [5] 28:15	10:16 15:8 18:17		
8:19 8:22 8:22	28:16 28:17 28:21	20:16 21:10 21:11		
10:8 10:10 10:14	34:2	23:8 23:10 25:1		
10:19 11:8 15:6	two [15] 14:15 15:15	25:14 30:13 30:17		
17:1 17:8 19:6	20:8 24:4 25:9	31:17 32:1 32:3		
21:21 22:7 22:18	28:22 28:24 29:1	West [17] 1:2		
22:19 22:24 23:1	30:16 32:5 33:23	1:12 1:15 1:17		
25:2 25:3 25:13	34:7 34:11 34:21	1:17 2:3 2:9		
25:19 31:16 32:15	36:5	3:2 3:8 6:1		
33:20 34:7 34:22	two-mile [1] 7:23	6:9 6:11 11:17		
37:6	type [2] 18:13 31:16	20:23 21:11 40:2		
three [38] 8:12	-U-			
8:19 8:21 8:22	ultimate [1] 29:8	Wetzel [2] 1:11		
10:8 10:10 10:14	under [3] 10:22	3:8		



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
www.wvdep.org

**BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

IN THE MATTER OF THE REQUEST BY EQT PRODUCTION
COMPANY FOR AN EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE PROPOSED WELL
IDENTIFIED AS THE BIG 333 #516341. ALSO TO BE HEARD
IS THE OBJECTION TO NOTICE OF DEVIATION OF SAID
WELL WHICH IS TO BE LOCATED IN GRANT DISTRICT,
WETZEL COUNTY, WEST VIRGINIA.

DOCKET NO. 238
CAUSE NO. 228

NOTICE OF HEARING

EQT Production Company ("EQT") has requested the WV Oil and Gas Conservation Commission review and approve a request for an exception to the spacing requirements as set forth in CSR §39-1-4.2; for a well identified as BIG 333 #516341. The OGCC has also received an objection to deviation which will be heard during the proceedings.

The matter is scheduled as stated below:

DATE: February 23, 2016
TIME: 10:00 am
PLACE: Department of Environmental Protection
Oil and Gas Conservation Commission
601 57th Street, SE
Charleston, WV 25304

IN THE NAME OF THE STATE OF WEST VIRGINIA

OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA

By: Barry K. Lay
Barry K. Lay, Chairman

Dated this 29th day of January, 2016, at Charleston, West Virginia.

Docket # 238-228
Certified Mail

EQT Production Company
Attention: Wayne Bowman
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Murray American Energy Inc.
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Monongah, WV 26554

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Raines, Cindy J

From: Raines, Cindy J
Sent: Monday, February 01, 2016 11:29 AM
To: 'office@wetzelschronicle.com'
Subject: ~~Class II Legal Ad Docket 238-228~~
Attachments: OGCC 238-228 stamped.pdf

Please print the attached as a Class II Legal Ad and send invoice and certification to:

Oil and Gas Conservation Commission
601 57th Street, SE
Charleston, WV 25304

304-926-0499

Thank you!

Cindy Raines
Env Res Program Administrator

**BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF WEST VIRGINIA**

IN THE MATTER OF THE REQUEST BY EQT PRODUCTION
COMPANY FOR AN EXCEPTION TO RULE 39 CSR.1-4.2
REGARDING THE DRILLING OF THE PROPOSED WELL
IDENTIFIED AS THE BIG 333 #516341 TO BE LOCATED
IN GRANT DISTRICT, WETZEL COUNTY, WEST VIRGINIA.

DOCKET NO. 238
CAUASE NO. 228

NOTICE OF HEARING

EQT Production Company ("EQT") has requested the WV Oil and Gas Conservation Commission review and approve a request for an exception to the spacing requirements as set forth in CSR §39-1-4.2; for a well identified as BIG 333 #516341.

The matter is scheduled as stated below:

DATE: February 23, 2016
TIME: 10:00 am
PLACE: Department of Environmental Protection
Oil and Gas Conservation Commission
601 57th Street, SE

Charleston, WV 25304

Ch

IN THE NAME OF THE STATE OF WEST VIRGINIA

AND GAS CONSERVATION COMMISSION

OIL

THE STATE OF WEST VIRGINIA

OF

By: __

Barry K. Lay, Chairman

Dated this 29th day of January, 2016, at Charleston, West Virginia.

Raines, Cindy J

From: adlaw@wvsos.com
Sent: Friday, January 29, 2016 10:20 AM
To: Raines, Cindy J
Subject: Meeting Notice Approval



Secretary of State
Bldg. 1, Suite 157-K
1900 Kanawha Blvd. East
Charleston, WV 25305-0770

Natalie E. Tennant
Secretary Of State
State Of West Virginia

Phone: 304-558-6000
866-767-8683
Visit us online:
www.wvsos.com

Your meeting notice has been approved.

You may view it online here.

If you have any questions, please contact our office during normal business hours for assistance.



January 25, 2016

West Virginia Oil and Gas Conservation Commission
c/o Ms. Cindy Raines
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304

Re: Request for hearing for spacing variance for BIG333 (516341), API 47-103-03136

Dear Ms. Raines,

In conjunction with its well work permit application for the BIG333 (516341) well, EQT Production Company (EQT) is requesting a variance to the 3,000 ft. spacing requirement set forth in W. Va. CSR §39-1-4-2. In accordance with W. Va. CSR §39-1-4.3, EQT submits to a hearing to offer the reasons and basis supporting its request for such variance.

The BIG333 (516341) well will be located within 3,000 feet of issued well, BIG192 (515950), API 47-103-03137. Because of the horizontal drilling method that is being used to drill the aforementioned wells, EQT offers that spacing the wells closer than 3,000 feet apart will result in the best and most efficient use of the resource and to minimize the potential for waste.

If the Commission desires any further information from EQT prior to the scheduled hearing, please do not hesitate to ask. I can be reached at (304)848-0076.

Sincerely,

Vicki Roark
Permitting Supervisor-WV

Enc.

Ex. 4

109 Batalion Ave., PO Box 189

Middlebourne, WV 26149

September 1, 2015

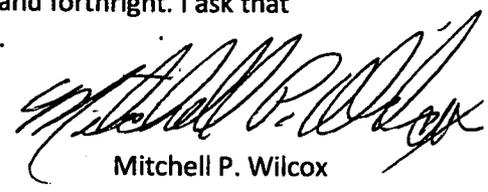
RE: Intentional Deviation of New Deep Well

EQT Production Company

Big 333 - #516335 and #516341

↓

Please note my objection to EQT's request to intentionally deviate this new deep well. This will have an effect on the future production of my mineral rights on the aforesaid area. At no time has EQT approached me to consider leasing my mineral rights for their drilling and production, of which I would lease to them. Permitting this action on EQT's part not only will make my mineral rights areas worthless to future leasing or production, but also is downright dishonest & in my mind, theft. If an effort by EQT had been made to lease my mineral rights, this action would be unnecessary and forthright. I ask that you deny them this action until they properly approach me to lease my rights.

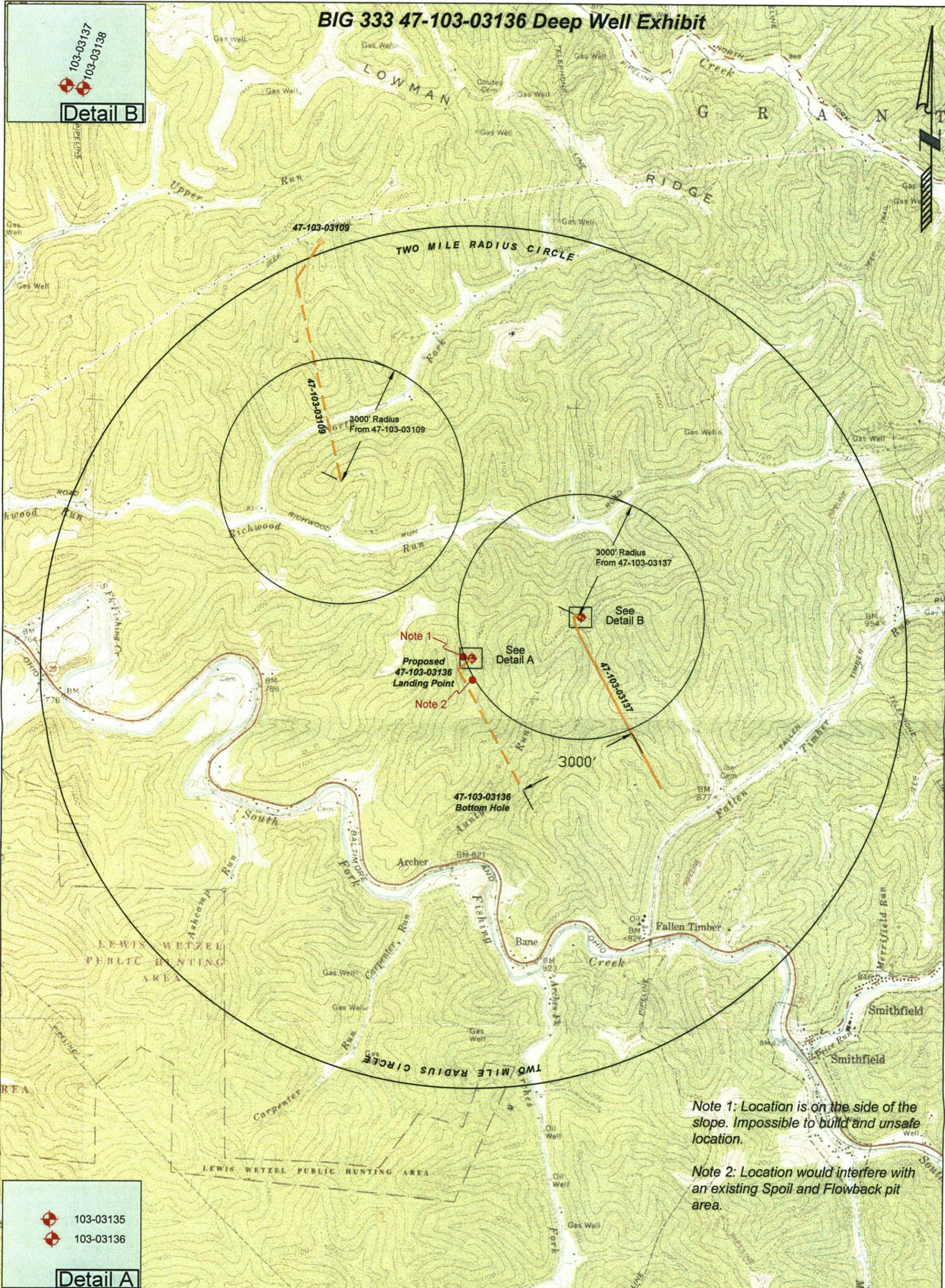


Mitchell P. Wilcox

BIG 333 47-103-03136 Deep Well Exhibit

103-03137
103-03138

Detail B



103-03135
103-03136

Detail A

Note 1: Location is on the side of the slope. Impossible to build and unsafe location.

Note 2: Location would interfere with an existing Spoil and Flowback pit area.

Notes:
Location of any deep wells within a two mile radius.

DRAWN BY: Gary Johnson DATE: January 7, 2016 PROJECT NO: 33-34-G-15

Coordinates:
103-03135 LAT: 39.524819 LON: -80.591953
103-03136 LAT: 39.524739 LON: -80.591937
103-03137 LAT: 39.527659 LON: -80.582618
103-03138 LAT: 39.527648 LON: -80.582531

Location:
Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Big Run District of Wetzel County, West Virginia.

CAD FILE: BIG 333 Deep Well Spacing WELL NO.: 47-103-03136



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

PREPARED FOR:
EQT PRODUCTION COMPANY, INC.
P.O. Box 280
Bridgeport, WV 26330

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

1) Well Operator: EQT Production Company 306686 103 04 254
Operator ID County District Quadrangle

2) Operator's Well Number: 516341 Well Pad Name: BIG333
Coastal Forest Resources Co. dba Coastal

3) Farm Name/Surface Owner : Timberlands Co Public Road Access: Co Rt. 20

4) Elevation, current ground: 1,452.0 Elevation, proposed post-construction: 1,452.0

5) Well Type: (a) Gas Oil Underground Storage

Other _____

(b) If Gas: Shallow Deep

Horizontal

6) Existing Pad? Yes or No: yes

*DMA
8-24-15*

7) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):

Target formation is Point Pleasant at a depth of 13073 with the anticipated thickness to be 102 feet and anticipated target pressure of 10856 PSI
Top of Point Pleasant 13024

8) Proposed Total Vertical Depth: 13326

9) Formation at Total Vertical Depth: Trenton

10) Proposed Total Measured Depth: 16,313

11) Proposed Horizontal Leg Length 3,212

12) Approximate Fresh Water Strata Depths: 581, 753

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

14) Approximate Saltwater Depths: 2257, 2370, 2657

15) Approximate Coal Seam Depths: 743, 883, 919, 1011, 1240, 1333

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 X

(a) If Yes, provide Mine Info: Name: _____ **RECEIVED**
Depth: _____ **Office of Oil and Gas**
Seam: _____
Owner: _____ AUG 31 2015

WV Department of Environmental Protection
Page 1 of 3

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AUG 31 2015
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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.)
Conductor	26	New	A-252	.375w	60	60	114 C.T.S.
Fresh Water	18 5/8	New	J-55 BTC	87.5	969	969	1,764 C.T.S.
Coal	-	-	-	-	-	-	-
Intermediate 1	13 3/8	New	J-55 BTC	68	3,100	3,100	2,679 C.T.S.
Intermediate 2	9 5/8	New	HC P-110 EIP BTC	47	11,950	11,950	4853 CTS
Production	5 1/2	New	P-110 CYHP	26	16,313	16,313	See Note 1
Tubing	2 3/8		J-55	4.6			May not be run, if run will be set 100' less than TD
Liners							

DmH 8-24-15

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	26	32	0.438	880		Construction	
Fresh Water	18 5/8	24	0.48	2,250	610	* See Note 2	1.22
Coal							
Intermediate 1	13 3/8	17 1/2	0.472	3,450	1953	* See Note 2	1.26
Intermediate 2	9 5/8	12 3/8	0.476	11,000	10,158		1.22
Production	5 1/2	8 1/2	0.361	18,900	11,112	-	0.94
Tubing							
Liners							

Packers

Kind:	N/A			
Sizes:	N/A			
Depths Set:	N/A			

Note 1: EQT plans to bring the TOC on the production casing cement job 1,000' above kick off point, which is at least 500' above the shallowest production zone, to avoid communication.

Note 2: Reference Variance 2014-17. (Attached)

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

Drill a vertical well down to an approximate depth of 13,326 tagging the Trenton, run logs, then plug back vertical portion of wellbore with a solid cement plug, to approximately 12,020 then kick off the horizontal leg into the Point Pleasant using a slick water frac.

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 treating pressures are expected to average approximately 8500 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 disturbance

22) Area to be disturbed for well pad only, less access road (acres):

no additional disturbance

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 cent at the shoe and one spaced every 500'.
- Production: One spaced every 1000' from KOP to Int csg shoe

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

Surface (Type 1 Cement): 0-3% Calcium Chloride

Used to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of the cement slurry to a thief zone.

Intermediate (Type 1 Cement): 0-3% Calcium Chloride. Salt is used in shallow, low temperature formations to speed the setting of cement slurries.

0.4% flake. Loss Circulation Material (LCM) is used to combat the loss of whole drilling fluid or cement slurry (not filtrate) a thief zone.

Production:

*DMH
8-24-15*

Lead (Type 1 Cement): 0.2-0.7% Lignosulfonate (Retarder). Lengthens thickening time.

0.3% CFR (dispersant). Makes cement easier to mix.

Tail (Type H Cement): 0.25-0.40% Lignosulfonate (Retarder). Lengthens thickening time.

0.2-0.3% CFR (dispersant). This is to make the cement easier to mix.

60 % Calcium Carbonate. Acid solubility.

0.4-0.6% Halad (fluid loss). Reduces amount of water lost to formation.

25) Proposed borehole conditioning procedures. Surface: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating

one full joint until cuttings diminish at surface. When cuttings returning to surface diminish, continue to circulate an additional 5

minutes. To ensure that there is no fill, short trip two stands with no circulation. If there is fill, bring compressors back on

and circulate hole clean. A constant rate of higher than expected cuttings volume likely indicates washouts that will not clean up.

Intermediate: Circulate hole clean (Approximately 30-45 minutes) rotating & reciprocating one full joint until cuttings diminish at

surface. When cuttings returning to surface diminish, continue to circulate an additional 5 minutes. If foam drilling, to enhance

hole cleaning use a soap sweep or increase injection rate & foam concentration.

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

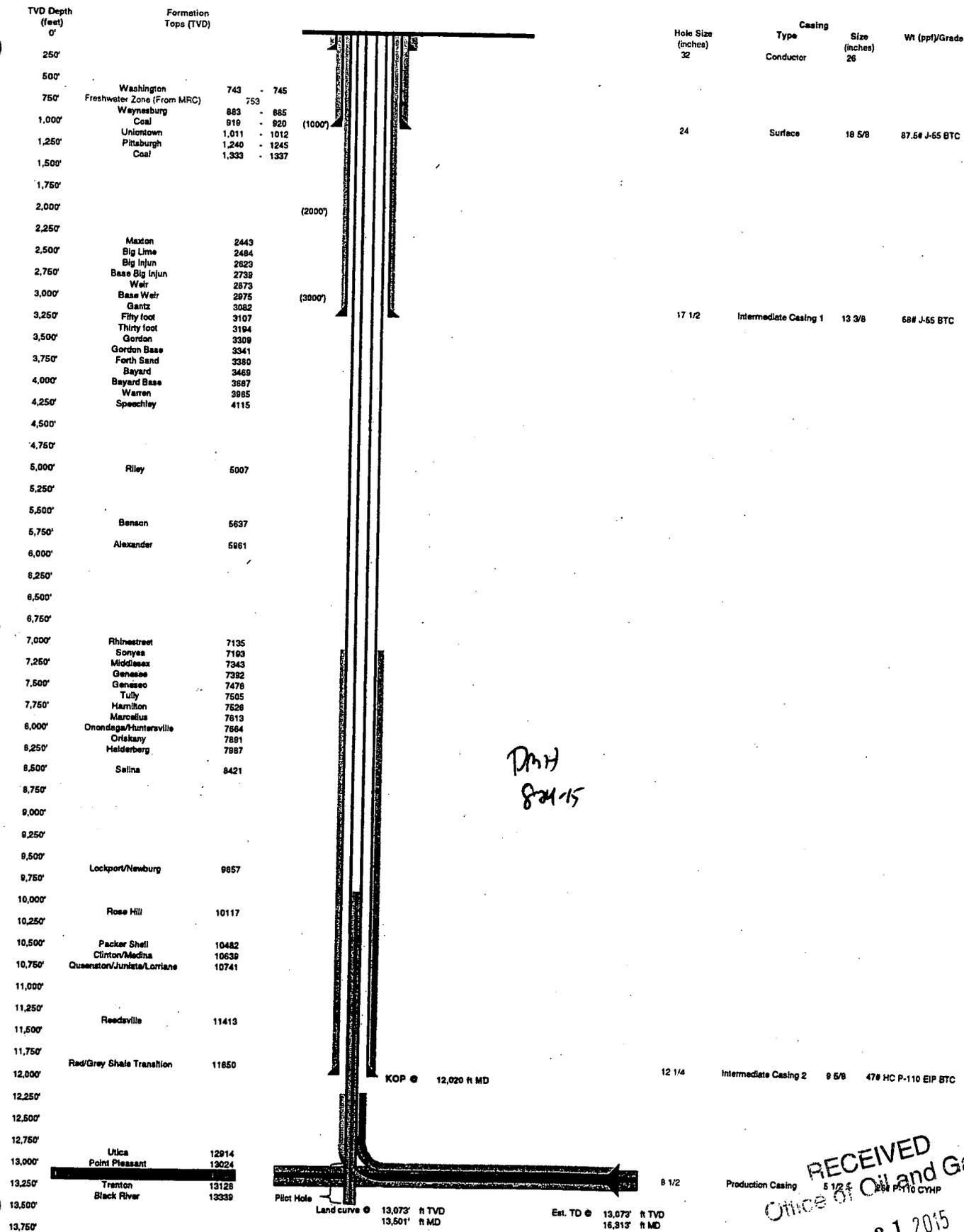
shakers every 15 minutes.

*Note: Attach additional sheets as needed.

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WV Department of
Environmental Protection
Page 3 of 3



DMH
8-24-15

Proposed Well Work:
 Drill a vertical well down to an approximate depth of 13,326'
 Plug back vertical portion of wellbore with cement plug.
 Then kick off the horizontal leg into the Point Pleasant.

3,212.29 ft Lateral

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 WV Department of
 Environmental Protection



August 11, 2015

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

Re: Casing on Wells (BIG333 – Utica Wells)

Dear Mr. Smith,

EQT is requesting the 18 5/8" surface casing be set at 969' KB, 50' below the coal at 919' KB without setting below elevation. This will be 216' below the deepest FW. The previous wells drilled on this pad set 13-3/8" surface casing at approximately 1000' KB. We will set the 13 3/8" intermediate string at 3100' KB, below the porosity zone in the Weir formation. The previous wells drilled on this pad set 13-3/8" intermediate casing at approximately 3000' KB. We will set the 9 5/8" second intermediate string at 11950' KB, 100' below the red/grey transition in the Reedsville.

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

Sincerely,

Vicki Roark
Permitting Supervisor

DMH
8-24-15

Enc.

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Office of Oil and Gas

AUG 31 2015

WV Department of
Environmental Protection

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
Fluids/Cuttings Disposal & Reclamation Plan

Operator Name EQT Production Company OP Code 306686

Watershed (HUC10) Aunty Run of South Fork Fishing Creek Quadrangle Big Run

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes No

Will a pit be used? Yes: No:

If so please describe anticipated pit waste: flowback water & residual solids

Will a synthetic liner be used in the pit? Yes No If so, what ml.? 60

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number 0014, 8462, 4037)
- Reuse (at API Number Various)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? Yes, The closed loop system will remove drill cuttings from the drilling fluid. The drill cuttings are then prepared for transportation to an off-site disposal facility.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc.

Air is used to drill the top-hole sections of the wellbore (surface, intermediate, and pilot). Water based mud may be necessary depending on hole conditions to stabilize and drill the intermediate section. The pilot hole, curve, and lateral sections will be drilled with either air, water based mud, or oil based mud.

*Dm4
8-24-15*

- If oil based, what type? Synthetic, petroleum, etc Synthetic mud

Additives to be used in drilling medium? Air - biodegradable oil lubricant, detergent, defoaming, water. Water based mud - Barite, viscosifier, alkalinity control, lime, filtration control, deflocculants, biodegradable oil lubricant, defoaming, walnut shell, salt, x-cide, carbonates.

Oil based mud - synthetic base oil, emulsifier, salt, lime, viscosifier, alkalinity control, filtration control, deflocculants, biodegradable oil lubricant, defoaming, carbonates.

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

- If left in pit and plan to solidify what medium will be used? (Cement, Lime, sawdust) n/a

- Landfill or offsite name/permit number? See Attached List

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

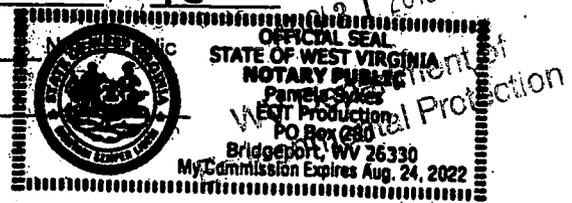
I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature *Victoria J. Roark*
Company Official (Typed Name) Victoria J. Roark
Company Official Title Permitting Supervisor

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Office of Oil and Gas
August 1 2015

Subscribed and sworn before me this 18 day of Aug, 2015

My commission expires 8-24-22



Proposed Revegetation Treatment: Acres Disturbed no additional disturbance Prevegetation pH 6

Lime 3 Tons/acre or to correct to pH 6.5

Fertilize type Granular 10-20-20

Fertilizer Amount 1/3 lbs/acre (500 lbs minimum)

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
KY-31	<u>40</u>	Orchard Grass	<u>15</u>
Alsike Clover	<u>5</u>	Alsike Clover	<u>5</u>
Annual Rye	<u>15</u>		

Attach:
Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet.

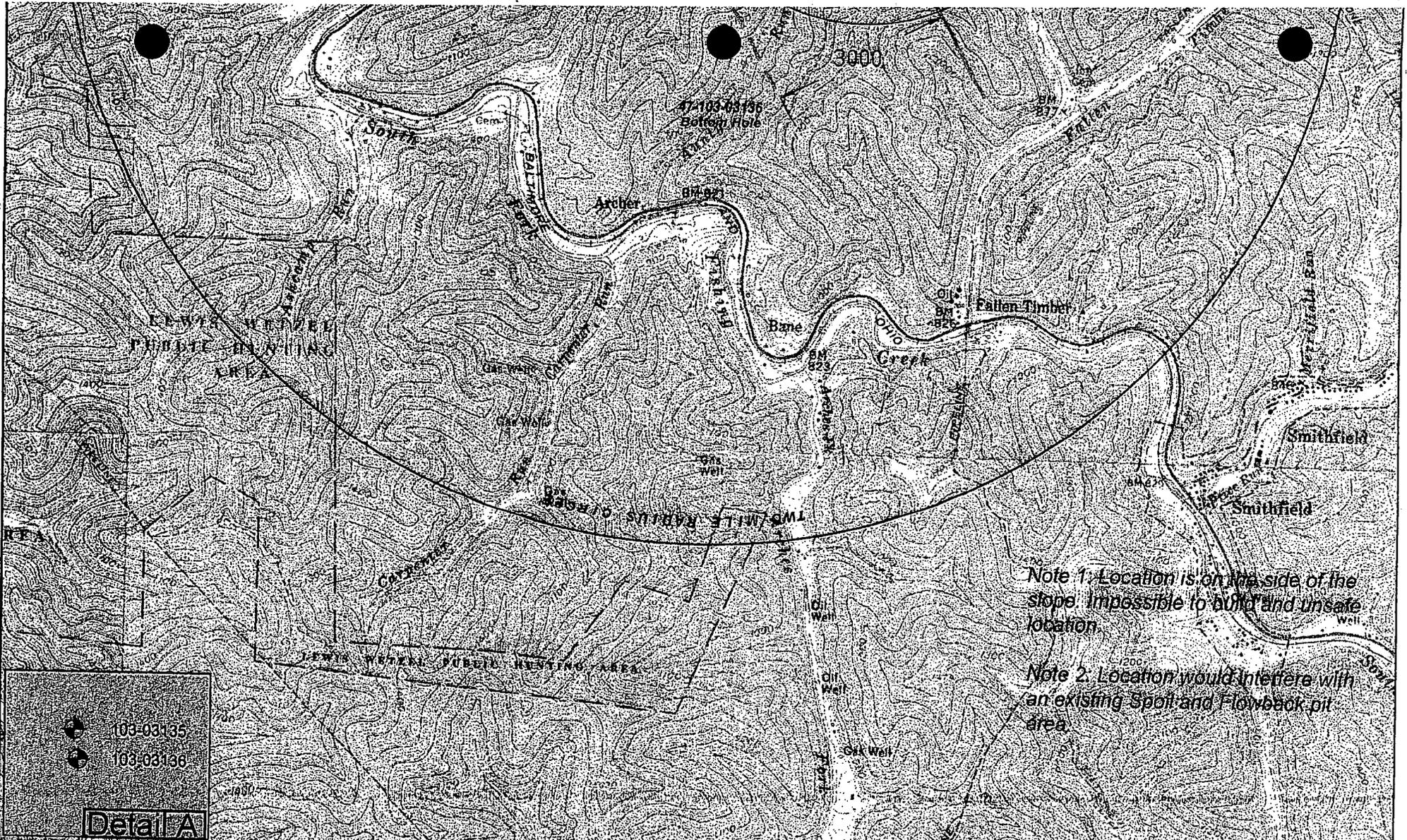
Plan Approved by: [Signature]

Comments: _____

Title: Oil & Gas Inspector Date: 8-24-15

Field Reviewed? () Yes () No

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Environmental Protection



Note 1: Location is on the side of the slope, impossible to build and unsafe location.

Note 2: Location would interfere with an existing Spoil and Flowback pit area.

103-03135
103-03136

Detail A

Notes:
Location of any deep wells within a two mile radius.

DRAWN BY: Gary Johnson DATE: January 7, 2016 PROJECT NO: 33-34-G-15



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
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Coordinates:
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103-03137 LAT: 39.527659 LON: -80.582618
103-03138 LAT: 39.527648 LON: -80.582531

Location:
Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Big Run District of Wetzel County, West Virginia.

CAD FILE: BIG 333 Deep Well Spacing WELL NO.: 47-103-03136



PREPARED FOR:
EQT PRODUCTION COMPANY, INC.
P.O. Box 280
Bridgeport, WV 26330

EQT PRODUCTION COMPANY
115 PROFESSIONAL PLACE
BRIDGEPORT, WV 26330-4509

516341

CERTIFICATE OF CONSENT AND EASEMENT

I, Edward G. Kraynok, Vice-President of Coastal Forest Resources Company, a Virginia Corporation, d/b/a Coastal Timberlands Company the undersigned, for valuable consideration, the receipt and sufficiency of which is hereby acknowledged, being all the owners of the surface of that certain lot, tract or parcel of land located in Grant District, Wetzel County, State of West Virginia, shown on plat or survey attached hereto, and referred to as Coastal tract W-Wet-642 Evans Aunty Run, and further identified as being Parcel 13 on Tax Map 23; hereby acknowledge and agree to and grant this Certificate of Consent and Easement, pursuant to West Virginia Code, Section 22C-9-7(b) (4) and Operating Rule 4.4 of the Rules and Regulations of the West Virginia Oil and Gas Conservation Commission, to EQT Production Company, its successors or assigns, for the drilling and operation of a deep well on the BIG333 pad for the production of oil or gas at the location shown on the attached plat or survey.

Executed this 2nd day of APRIL, 2015.

Edward G. Kraynok

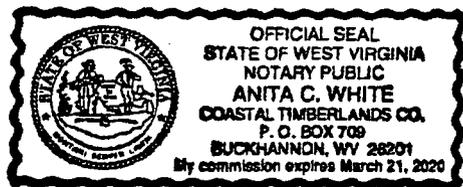
STATE OF WEST VIRGINIA

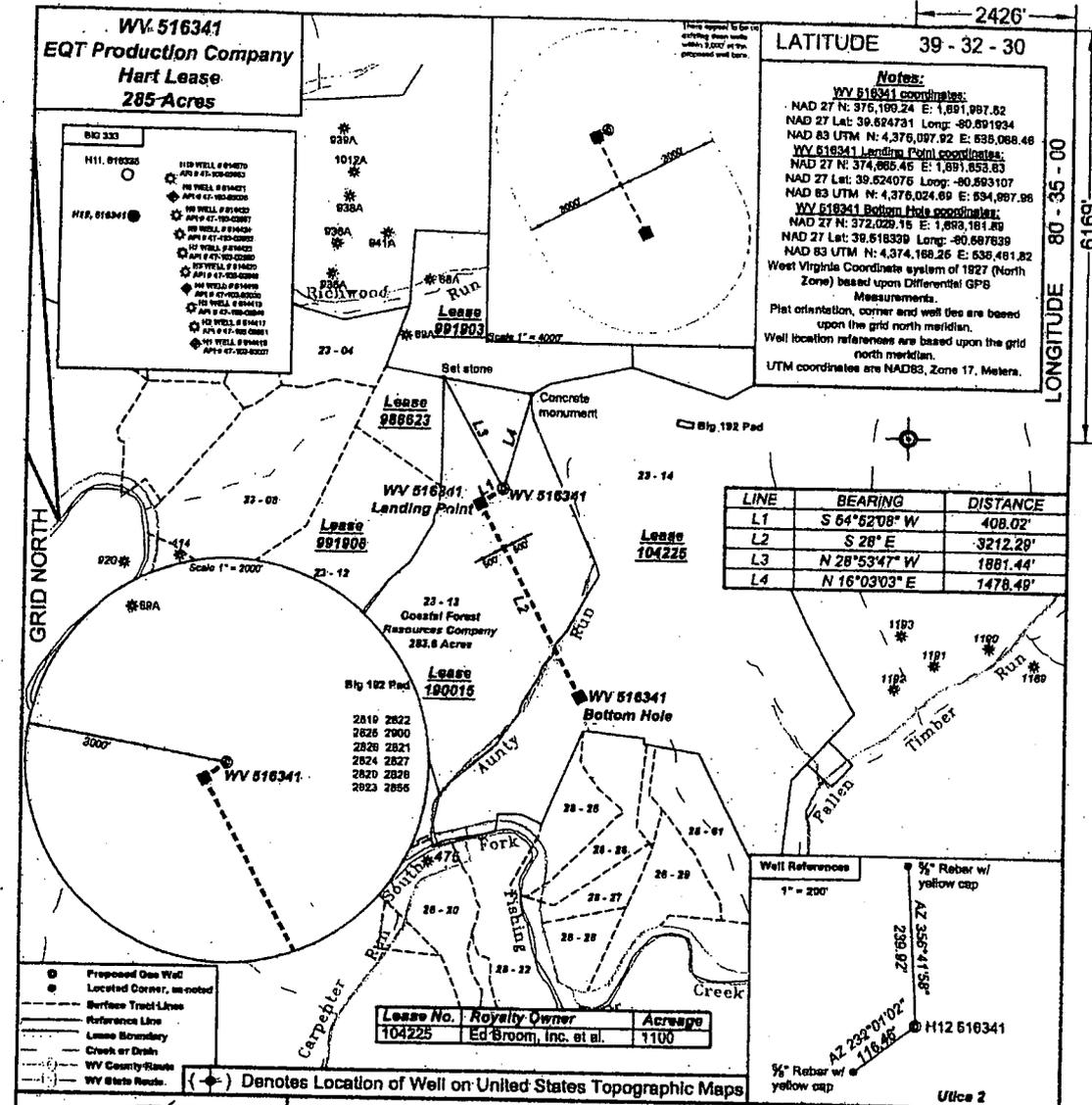
COUNTY OF Upshur To-Wit

I, Anita C. White a Commissioner in and for the aforesaid County and State, do hereby certify that Edward G. Kraynok, Vice-President of Coastal Forest Resources Company, a Virginia Corporation, d/b/a Coastal Timberlands Company, whose name is signed to the writing above, bearing date on the 2nd day of April, 2015, has this day acknowledged the same before me, in my said County and State. Given under my hand this 3rd day of April, 2015.

My Commission expires on: 3.21.2020

Anita C. White





LATITUDE 39 - 32 - 30
 LONGITUDE 80 - 35 - 00
 2426'
 6169'

Notes:
 WV 516341 coordinates:
 NAD 27 N: 376,109.24 E: 1,891,997.82
 NAD 27 Lat: 39.624731 Long: -80.891934
 NAD 83 UTM N: 4,376,097.92 E: 638,088.48
 WV 516341 Landing Point coordinates:
 NAD 27 N: 374,865.45 E: 1,891,853.83
 NAD 27 Lat: 39.624076 Long: -80.893107
 NAD 83 UTM N: 4,376,024.89 E: 634,887.98
 WV 516341 Bottom Hole coordinates:
 NAD 27 N: 372,628.15 E: 1,893,181.89
 NAD 27 Lat: 39.618339 Long: -80.887829
 NAD 83 UTM N: 4,374,188.26 E: 636,481.82
 West Virginia Coordinate system of 1827 (North Zone) based upon Differential GPS Measurements.
 Plat orientation, corner and well ties are based upon the grid north meridian.
 Well location references are based upon the grid north meridian.
 UTM coordinates are NAD83, Zone 17, Meters.

LINE	BEARING	DISTANCE
L1	S 64°52'08" W	408.02'
L2	S 28° E	3212.20'
L3	N 28°53'47" W	1881.44'
L4	N 16°03'03" E	1478.49'

Lease No.	Royalty Owner	Acres
104225	Ed Broom, Inc. et al.	1100

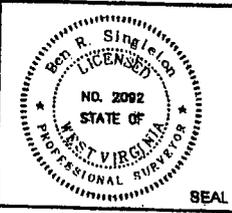
- Proposed One Well
- Located Corner, as noted
- Surface Tract Lines
- Reference Line
- Lease Boundary
- Creek or Drain
- WV County Route
- WV State Road

(---) Denotes Location of Well on United States Topographic Maps



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Department of Environmental Protection.

Ben R. Singleton
 P.S. 2092



FILE NO: 33-16
 DRAWING NO: Utica 2 H12
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1:2500
 PROVEN SOURCE OF ELEVATION: NGS CORS Station

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

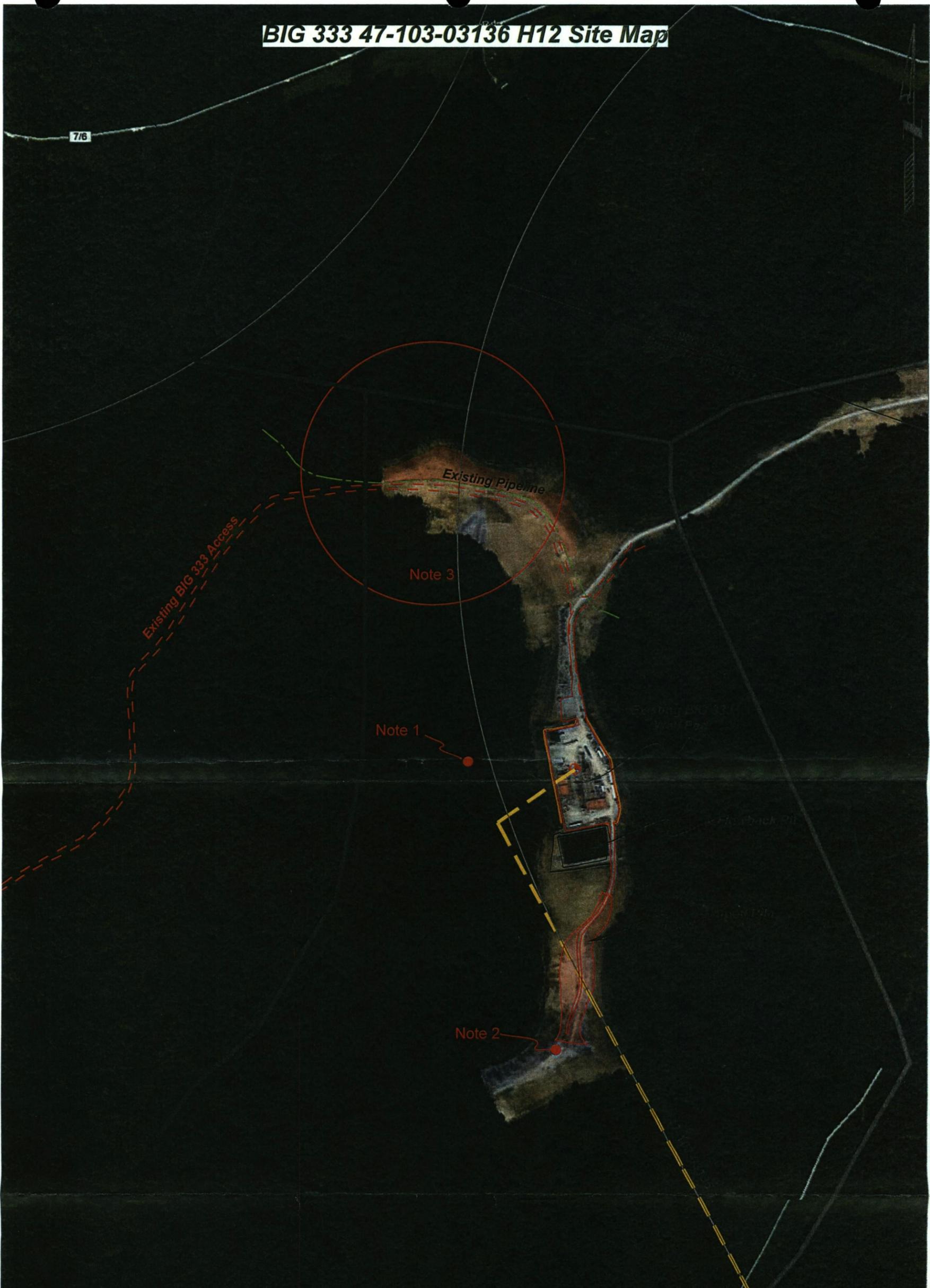
DATE: May 27 20 15
 OPERATOR'S WELL NO.: 616341
 API WELL NO: 47 103
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
 LOCATION: ELEVATION: Ae-Built - 1452' WATERSHED Aunty Run of South Fork Fishing Creek QUADRANGLE: Big Run
 DISTRICT: Grant COUNTY: Wetzel
 SURFACE OWNER: Coastal Forest Resources Co., d/b/a Coastal Timberlands Co. ACREAGE: 283.0±
 ROYALTY OWNER: Alex Hart, et al. LEASE NO: 180015 ACREAGE: 285±
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Point Pleasant ESTIMATED DEPTH: 790.6±

WELL OPERATOR: EQT Production Company DESIGNATED AGENT: Rex C. Ray
 ADDRESS: 116 Professional Place PO Box 280 ADDRESS: 116 Professional Place PO Box 280
 Bridgeport, WV 26330 Bridgeport, WV 26330

Carol S. Hayslett
 WETZEL COUNTY 10:37:16 AM
 INSTRUMENT NO 187383
 DATE RECORDED 09/22/2015
 DOCUMENT TYPE O&G
 PAGES RECORDED 2
 BOOK PAGE 1678-693

BIG 333 47-103-03136 H12 Site Map

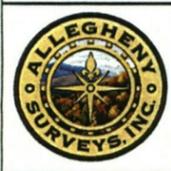


- Note 1: Location is on the side of the slope. Impossible to build and unsafe location.
- Note 2: Difficult location due to narrow ridge with steep slopes.
- Note 3: Location is currently occupied by existing well pad access road, newly constructed gas pipeline and spoil.

EXHIBIT
6
(EQT)

Notes:
Location of any deep wells within a two mile radius.

DRAWN BY: Tim Rutledge DATE: February 3, 2016 PROJECT NO: 33-34-G-15



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
1-800-482-8606
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
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Coordinates:	
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Location:
Well 47-103-03136, which is situated on the waters of South Fork of Fishing Creek, in Grant District of Wetzel County, West Virginia.

CAD FILE: BIG 333 H12 Site Map WELL NO.: 47-103-03136

PREPARED FOR:
EQT PRODUCTION COMPANY, INC.
P.O. Box 280
Bridgeport, WV 26330



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
dep.wv.gov

August 26, 2015

Lori Arrendondo
Martin C Anderson Hrs c/o Craig Martin Anderson
7810 N 14th Place 2021
Phoenix, AZ 85050-4342

RE: Intentional Deviation of New Deep Well
EQT Production Company
Big 333 - #516335 and #516341

Dear Sir:

Please be advised that EQT Production Company has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received by September 14, 2015 the application will be processed in the normal manner.

If you have any questions please call me at (304) 926-0499, extension 1656.

Sincerely,

Cindy Raines
Executive Assistant

encl: as stated

**BIG333 Unleased
Mineral Owners
within 1500' radius -
well # 516335, 516341**

Tracts	Tax Map & Parcel Number	Owner/Offset Operator	Address
1	04-23-12		
		Craig M. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Ronald Wayne Anderson	DJ Anderson Heirs c/o Maria Anderson 2637 Choring Cross Road Canton OH 44780-1599
		Rebecca Booth and David L. Booth	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Scott L. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Lori Arrendondo	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
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		Bobby Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		David Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Schabrea Johnson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342

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		Larry Larew	and Richard P Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Teresa E Ratley	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Republic Partners VI, LP	4925 Greenville Ave Ste 1050 Dallas TX 75206
		Trans Energy Inc	PO Box 393 St. Mary's WV 26170
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		SWN	
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		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
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		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155- 0128
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826 Office of
		Shreve, Everett Lee	c/o Carl E Shreve 1015 Orchid Ave, Keystone Heights, FL 32656-9563
7	04-28-26		

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		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
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		Mensore, John J.	134 N. Bridge Street, New Martinsville, WV 26155
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826
		GH Headley - unknown	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
8	04-28-61		
		Ady, Joyce Ann heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Robert or heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Timothy	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Walter heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Bishop, Jane heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Bishop, Virginia Mae heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Carlin, Joseph William	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Chiappone, Charles, Jr Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Chiappone, Robert J Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Conaway, Victoria heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dragoo, Curtis Harold Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Drake, Doris	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dulaney, Karen L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Gallagher, Geneva R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Enchanted Minerals LLC	777 Main St., Suite 850 Fort Worth TX 76102-5304
		Hanneman, Betty L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Heiskell, Joann unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Higginbotham, Celia Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Highley, Peggy A.	c/o Robert and Karen Shreve etal 26 Vista Ave., Wheeling WV 26003-6036
		Hull, Shirley Rentschler-	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Johnson, Anne Marie	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Johnson-Pich, Kristy D.	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kern, Sarah	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kirkpatrick, Jene	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McAfee, Alma Irene Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McHenry, W. Sue	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Morgan, Ronald Keith	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Osburn, Helen Wilcox Unknown	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Quinn, Iva heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Gary F. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Roger C. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Rentschler, Charels F. Sr.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Lawrence	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Robert Jr. heirs Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rogers Dorena Jan Address Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sadzewicz, Mary	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Sendaydiego, Amy Beth	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sharps, Maureen R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Bernie heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Shreve, Billy Keith	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, C Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Charles Arnold	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Clark heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edith Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edward Lee	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ezra Heirs	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Shreve, Florence	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jack heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jack Lewis	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, James heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jane Margaret heirs Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jasper heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jefferson Heirs	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, John Gerald	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Shreve, Kenneth	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Larman Earl	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Levena Corral	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Mary Ruby	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Michael	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ned Olen	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ralph Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Robert L.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Robert Wayne Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Supler, Viola Jean unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Surrarer, Ruth	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Warner, Jacqueline M.	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wilcox, Mitchell	Jacqueline Warner, etal. c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wright, Marsha	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Yost, Hazel Mae	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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Environmental Protection

		Statoil USA Onshore Properties	2103 CityWest Blvd, Suite 800, Houston TX 77042
		SWN	10000 Energy Drive Spring TX 77389-4954
		Ed Broome Inc. and Douglas A. Broome	PO Box 186 Glenville WV 26351

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WELL: 516341

PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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AUG 24 2015
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WV Department of
Environmental Protection

WELL: 516335

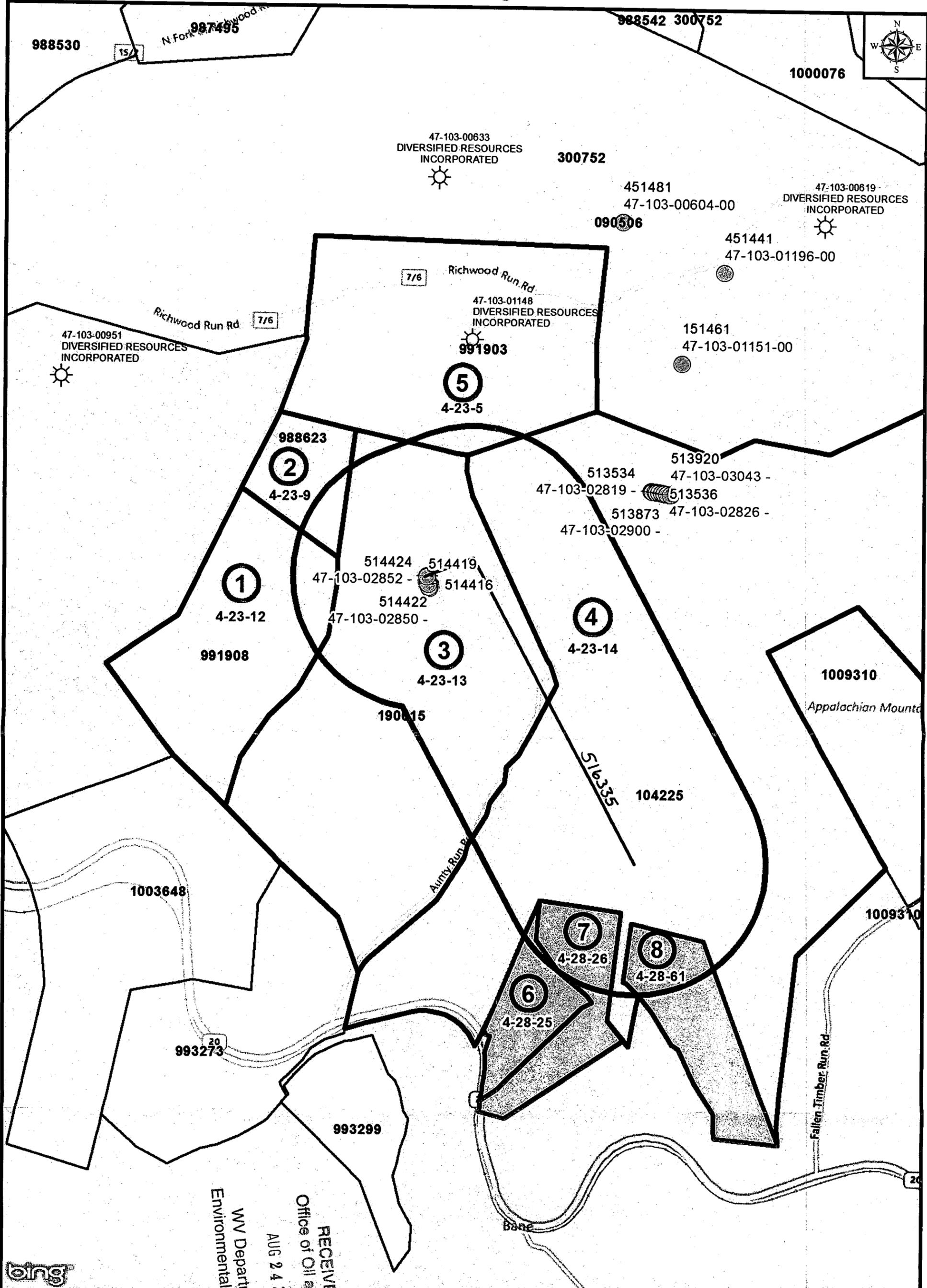
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EQT
 EQT Production
 White Oaks Office
 120 Professional Place
 Bridgeport, WV 26330

Exhibit

BIG333 H11 (516335)
Wetzel County, WV

Created By: simmas
 Printed By: simmas on 8/20/2015
 Map Date: Dept: Land GIS - White Oak Office

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 AUG 24 2015
 WV Department of Environmental Protection

EQT Wells

- Active Vertical
- Active Horizontal
- Inactive

Foreign Production Locations

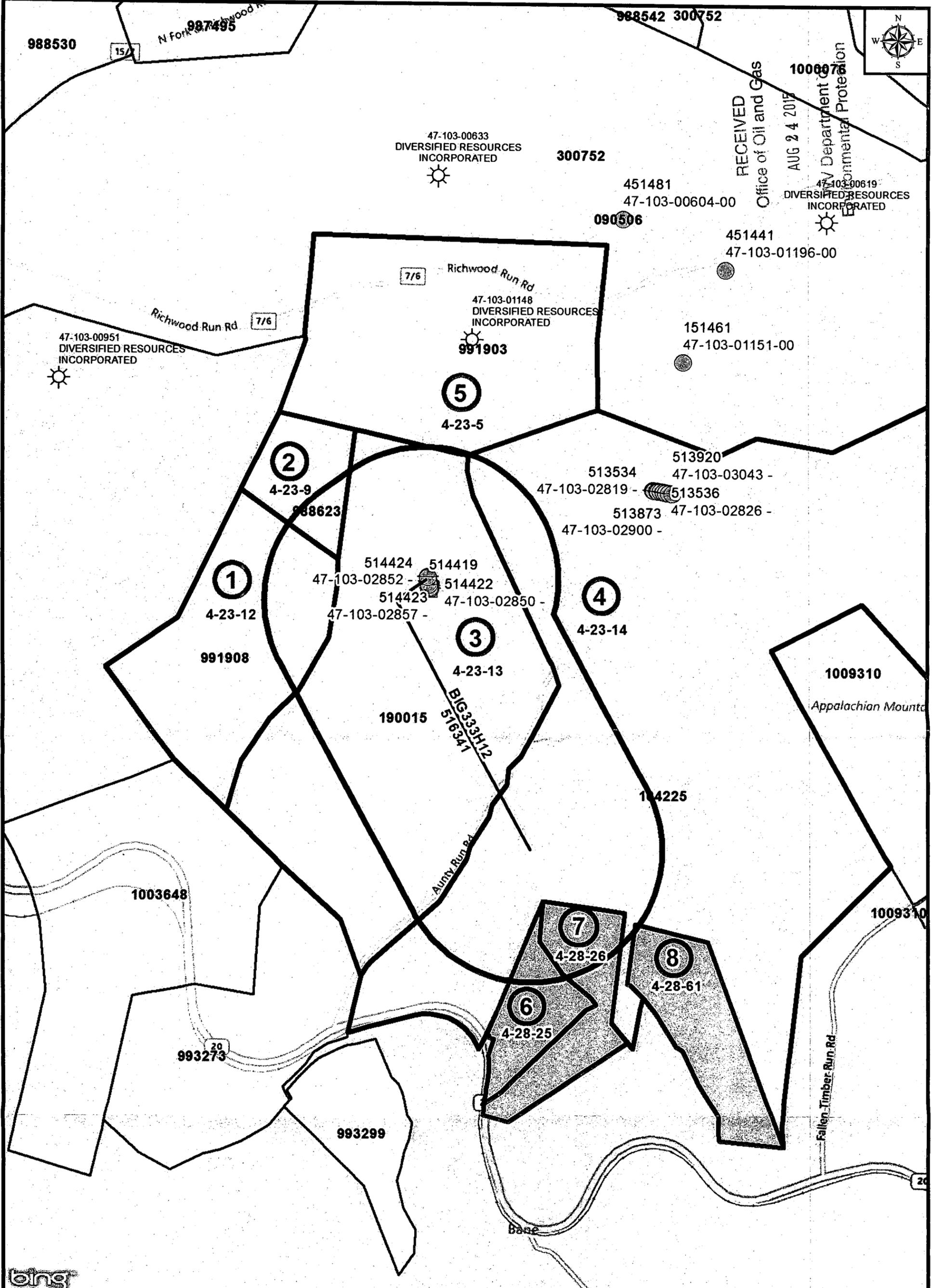
- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

Lease

- Foreign Parcels
- 1500' Buffer

DISCLAIMER: ALL INFORMATION DEPICTED ON THIS MAP PROVIDED BY EQT (SAID TERM SHALL MEAN EQT PRODUCTION OR EQT MIDSTREAM, DEPENDING ON WHICH EQT ENTITY PROVIDED THE MAP) IS FOR INFORMATION PURPOSES ONLY AND SHALL BE TREATED AS CONFIDENTIAL INFORMATION AND SHALL ONLY BE USED FOR THE SOLE PURPOSE FOR WHICH IT WAS PROVIDED. ANY OTHER USE OF THIS MAP OR THE INFORMATION INCLUDED THEREON IS STRICTLY PROHIBITED. THE EXACT LOCATION OF THE FACILITIES (INCLUDING BUT NOT LIMITED TO WELLS, PIPELINES, STRUCTURES, FACILITIES, LEASE BOUNDARIES OR ANY OTHER INFORMATION SHOWN ON THIS MAP) SHALL NOT BE RELIED UPON FOR THE SPECIFIC LOCATION OF THE FACILITIES, AND THE PARTIES AGREE THAT THE INFORMATION SHOWN ON THE MAP MAY NOT HAVE BEEN PLACED ON THE MAP USING SURVEY LINES OR GPS COORDINATES. EQT MAKES NO EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY AS TO THE ACCURACY OF THE MAP OR THE INFORMATION SHOWN THEREON. THE SPECIFIC LOCATION OF ANY OF THE INFORMATION, INCLUDING ANY WELL, PIPELINE, STRUCTURE, FACILITY OR LEASE BOUNDARY SHOULD BE DETERMINED BY A FIELD SURVEY PERFORMED BY A LICENSED SURVEYOR UPON CONSULTATION WITH EQT. THIS MAP MAY NOT BE COPIED OR OTHERWISE MADE AVAILABLE TO ANY OTHER PARTY IN PAPER OR ELECTRONIC FORM WITHOUT WRITTEN CONSENT FROM EQT. REGENT EXPRESSLY AGREES THAT ITS USE AND/OR RETAINER OF THIS MAP SHALL BE DEEMED AS AGREEMENT TO THE TERMS SET FORTH ABOVE.

0 500 1,000 2,000 Feet



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AUG 24 2015
WV Department of Environmental Protection



EQT
EQT Production
White Oaks Office
120 Professional Place
Bridgeport, WV 26330

Exhibit

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Wetzel County, WV

Created By: simmas
Printed By: simmas on 8/20/2015
Map Date:
Dept: Land GIS - White Oak Office

EQT Wells

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Foreign Parcels

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EQT Lease

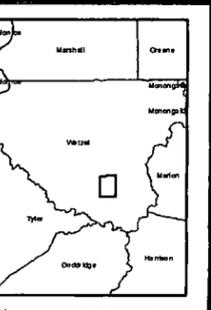
- EQT Lease

Horizontal Laterals

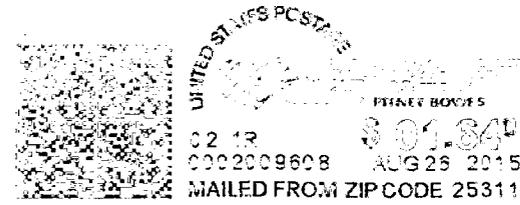
- Target Formation
- Point Pleasant
- Horizontal PUD Locations

0 500 1,000 2,000 Feet

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Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304



031805

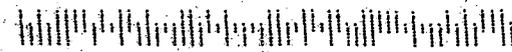
Big 333

Lori Arrendondo

NIXIE 850502003-1N 09/08/15

Anderson

RETURN TO SENDER
ATTEMPTED - NOT KNOWN
UNABLE TO FORWARD
RETURN TO SENDER





west virginia department of environmental protection

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Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
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August 26, 2015

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Sincerely,

Cindy Raines
Executive Assistant

encl: as stated

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		Rein, Deborah	POB 69, Glen Gardner, NJ 08826 Office of Oil and Gas
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		Marcella V. Ridenour	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
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8	04-28-61		
		Ady, Joyce Ann heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Robert or heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Timothy	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Walter heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Bishop, Jane heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Bishop, Virginia Mae heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Carlin, Joseph William	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Chiappone, Charles, Jr Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Chiappone, Robert J Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Conaway, Victoria heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dragoo, Curtis Harold Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Drake, Doris	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dulaney, Karen L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Gallagher, Geneva R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Enchanted Minerals LLC	777 Main St, Suite 850 Fort Worth TX 76102-5304
		Hanneman, Betty L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Heiskell, Joann unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Higginbotham, Celia Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Highley, Peggy A	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Hull, Shirley Rentschler-	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Johnson, Anne Marie	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Johnson-Pich, Kristy D.	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kern, Sarah	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kirkpatrick, Jene	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McAfee, Alma Irene Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McHenry, W. Sue	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Morgan, Ronald Keith	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Osburn, Helen Wilcox Unknown	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Quinn, Iva heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Gary F. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Roger C. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Rentschler, Charels F. Sr.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Lawrence	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Robert Jr. heirs Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rogers Dorena Jan Address Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sadzewicz, Mary	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Sendaydiego, Amy Beth	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sharps, Maureen R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Bernie heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Shreve, Billy Keith	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, C Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Charles Arnold	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Clark heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edith Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edward Lee	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ezra Heirs	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Shreve, Florence	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jack heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jack Lewis	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, James heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jane Margaret heirs Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jasper heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jefferson Heirs	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, John Gerald	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Shreve, Kenneth	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Larman Earl	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Levena Corral	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Mary Ruby	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Michael	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ned Olen	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ralph Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Robert L.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Robert Wayne Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Supler, Viola Jean unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Surrarer, Ruth	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Warner, Jacqueline M.	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wilcox, Mitchell	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wright, Marsha	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Yost, Hazel Mae	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Statoil USA Onshore Properties	2103 CityWest Blvd, Suite 800, Houston TX 77042
		SWN	10000 Energy Drive Spring TX 77389-4954
		Ed Broome Inc. and Douglas A. Broome	PO Box 186 Glenville WV 26351

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WELL: 516341

PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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WELL: 516335

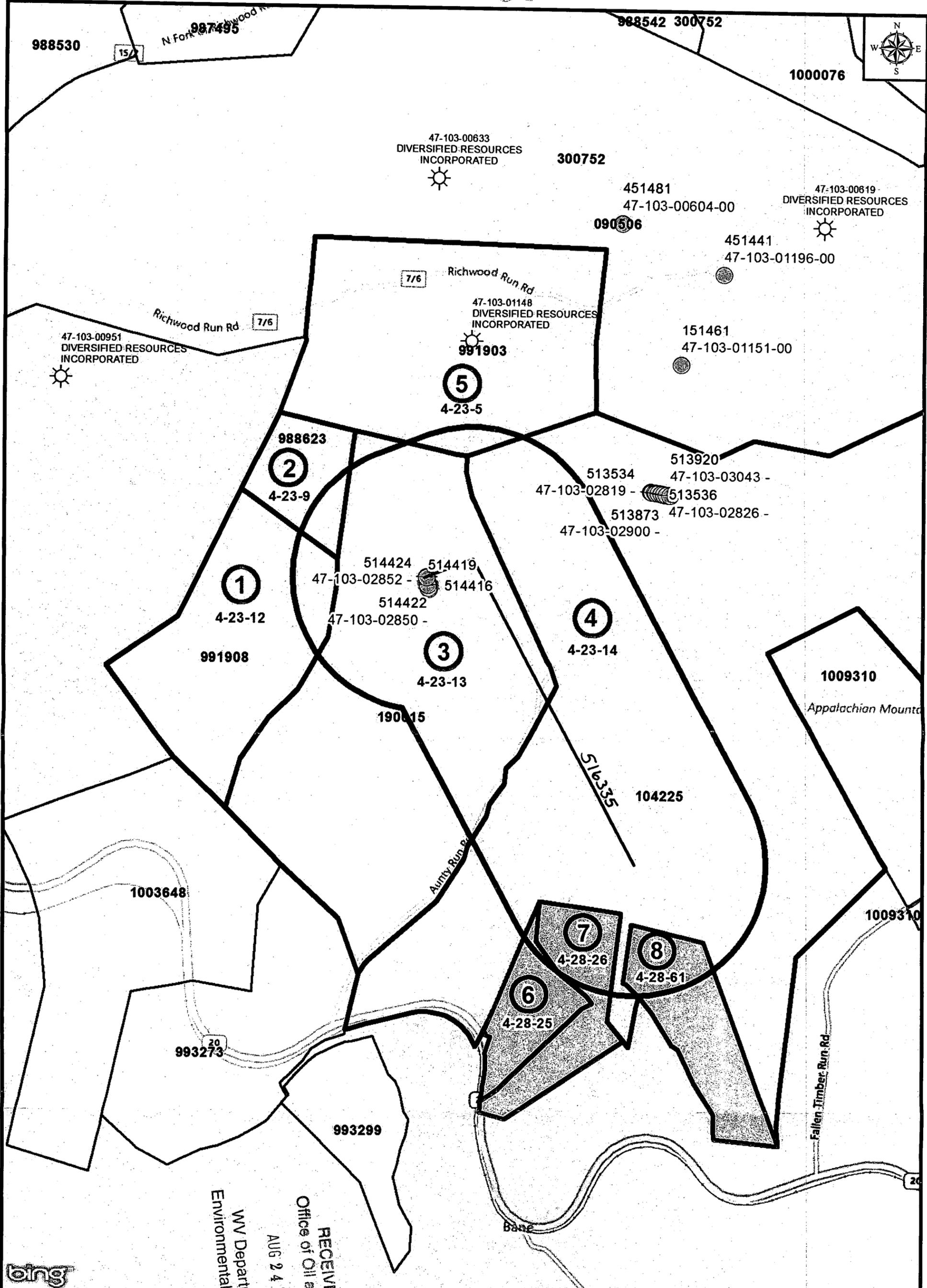
PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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EQT
 EQT Production
 White Oaks Office
 120 Professional Place
 Bridgeport, WV 26330

Exhibit

BIG333 H11 (516335)
Wetzel County, WV

Created By: slmms Printed By: slmms on 8/20/2015
 Map Date: Dept Land GIS - White Oak Office

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Foreign Production Locations

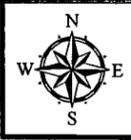
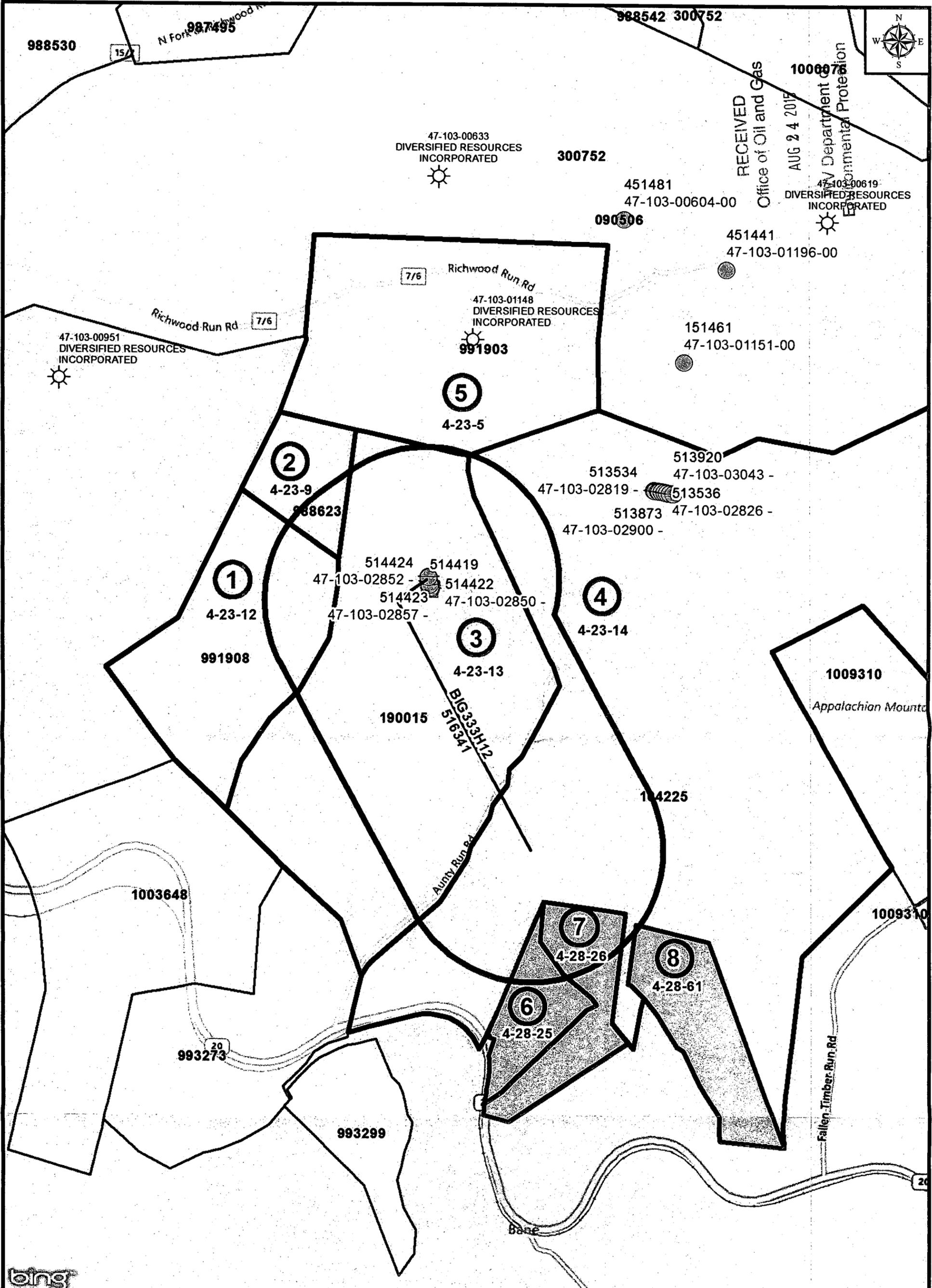
● Active Vertical
 ● Active Horizontal
 ● Inactive

☀ Gas
 ⚙ Gas Injection
 ⚙ Injection
 ● Oil
 ⚙ Oil Injection

□ Lease
 ▨ Foreign Parcels
 □ 1500' Buffer

0 500 1,000 2,000 Feet

DISCLAIMER:
 ALL INFORMATION DEPICTED ON THIS MAP PROVIDED BY EQT (SAID TERM SHALL MEAN EQT PRODUCTION OR EQT MIDSTREAM, DEPENDING ON WHICH ENTITY PROVIDED THE MAP) IS FOR INFORMATION PURPOSES ONLY AND SHALL BE TREATED AS CONFIDENTIAL INFORMATION AND SHALL ONLY BE USED FOR THE SPECIFIC PURPOSE FOR WHICH IT WAS PROVIDED. ANY OTHER USE OF THIS MAP OR THE INFORMATION INCLUDED THEREON IS STRICTLY PROHIBITED. THE EXACT LOCATION OF THE FACILITIES (INCLUDING BUT NOT LIMITED TO WELLS, PIPELINES, STRUCTURES, FACILITIES, LEASE BOUNDARIES OR ANY OTHER INFORMATION SHOWN ON THIS MAP) SHALL NOT BE RELIED UPON FOR THE SPECIFIC LOCATION OF THE FACILITIES AND THE PARTIES AGREE THAT THE INFORMATION SHOWN ON THIS MAP MAY NOT HAVE BEEN PLACED ON THE MAP USING SURVEY LINES OR GPS COORDINATES. EQT MAKES NO EXPRESS OR IMPLIED REPRESENTATION OR WARRANTY AS TO THE ACCURACY OF THE MAP OR THE INFORMATION SHOWN THEREON. THE SPECIFIC LOCATION OF ANY OF THE INFORMATION, INCLUDING ANY WELL, PIPELINE, STRUCTURE, FACILITY OR LEASE BOUNDARY, SHOULD BE DETERMINED BY A FIELD SURVEY PERFORMED BY A LICENSED SURVEYOR UPON CONSULTATION WITH EQT. THIS MAP IS NOT TO BE COPIED OR OTHERWISE MADE AVAILABLE TO ANY OTHER PARTY IN ANY FORM OR ELECTRONIC FORM, WITHOUT WRITTEN CONSENT FROM EQT. REGISTRY EXPRESSLY AGREES THAT ITS USE AND/OR RETAINER OF THIS MAP SHALL BE DEEMED TO AGREE HERETO TO THE TERMS SET FORTH ABOVE.



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EQT
EQT Production
White Oaks Office
120 Professional Place
Bridgeport, WV 26330

Exhibit

BIG333 H12 (516341)
Wetzel County, WV

Created By: alimms
Printed By: alimms on 8/20/2015
Map Date:
Dept: Land GIS - White Oak Office

EQT Wells

- Active Vertical
- Active Horizontal
- Inactive

Foreign Production Locations

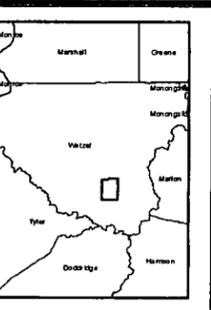
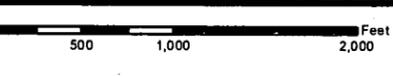
- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

Foreign Parcels

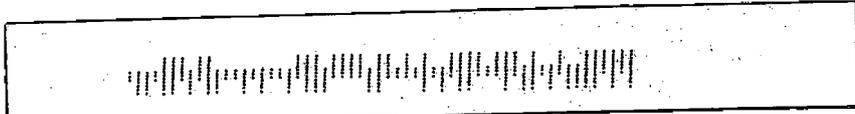
- 1500' Buffer

Horizontal Laterals

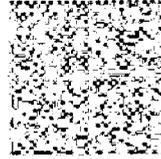
- Target Formation
- Point Pleasant
- Horizontal PUD Locations



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west virginia department of environmental protection
Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304

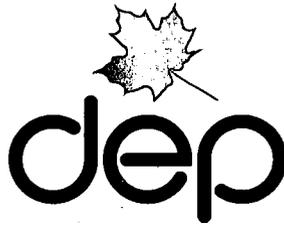


UNITED STATES POSTAGE
PUNNETT BOWEN
02 1R \$ 01.54
0002009608 AUG 26 2015
MAILED FROM ZIP CODE 25311

031305

Big 333

Tere... 09/08/15
NIXIE 850202003-1N
RETURN TO SENDER
ATTEMPTED - NOT KNOWN
UNABLE TO FORWARD
RETURN TO SENDER



west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
dep.wv.gov

August 26, 2015

Martin C. Anderson
c/o Craig M Anderson
7810 N 14th Place 2021
Phoenix, AZ 85020-4342

RE: Intentional Deviation of New Deep Well
EQT Production Company
Big 333 - #516335 and #516341

Dear Sir:

Please be advised that EQT Production Company has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commission's granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received by September 14, 2015 the application will be processed in the normal manner.

If you have any questions please call me at (304) 926-0499, extension 1656.

Sincerely,

Cindy Raines
Executive Assistant

encl: as stated

Promoting a healthy environment

**BIG333 Unleased
Mineral Owners
within 1500' radius -
well # 516335, 516341**

Tracts	Tax Map & Parcel Number	Owner/Offset Operator	Address
1	04-23-12		
		Craig M. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Ronald Wayne Anderson	DJ Anderson Heirs c/o Maria Anderson 2637 Choring Cross Road Canton OH 44780-1599
		Rebecca Booth and David L. Booth	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Scott L. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Lori Arrendondo	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Richard P. Funk, Jr.	Larry Larew and Richard P. Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Bobby Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		David Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Schabrea Johnson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342

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		Larry Larew	and Richard P Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Teresa E Ratley	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Republic Partners VI, LP	4925 Greenville Ave Ste 1050 Dallas TX 75206
		Trans Energy Inc	PO Box 393 St. Mary's WV 26170
2, 3, 4	988623, 190015, 104225	EQT	
5	991903		
		SWN	
		Statoil USA Onshore Properties	2103 City West Blvd., Suite 800 Houston TX 77042
6	parcel 04-28-25		
		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	610 Foulke Way, Gwynedd PA 19436-1024
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155- 0128
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826 Office of
		Shreve, Everett Lee	c/o Carl E Shreve 1015 Orchid Ave, Keystone Heights FL 32656-9563
7	04-28-26		

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		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Headley, J. T. (J. Theodore)	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155
		Mensore, John J	134 N. Bridge Street, New Martinsville, WV 26155
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826
		GH Headley - unknown	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
8	04-28-61		
		Ady, Joyce Ann heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Robert or heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Timothy	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Walter heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Bishop, Jane heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Bishop, Virginia Mae heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Carlin, Joseph William	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
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		Chiappone, Robert J Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
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		Dragoo, Curtis Harold Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Drake, Doris	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
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		Gallagher, Geneva R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Enchanted Minerals LLC	777 Main St., Suite 850 Fort Worth TX 76102-5304
		Hanneman, Betty L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Heiskell, Joann unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Higginbotham, Celia Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Highley, Peggy A.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Hull, Shirley Rentschler-	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Johnson, Anne Marie	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Johnson-Pich, Kristy D.	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kern, Sarah	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kirkpatrick, Jene	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McAfee, Alma Irene Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McHenry, W. Sue	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Morgan, Ronald Keith	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Osburn, Helen Wilcox Unknown	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
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		Reed, Gary F. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Roger C. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
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		Rentschler, Lawrence	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Robert Jr. heirs Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rogers Dorena Jan Address Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sadzewicz, Mary	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Sendaydiego, Amy Beth	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sharps, Maureen R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Bernie heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Shreve, Billy Keith	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, C Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Charles Arnold	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Clark heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edith Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edward Lee	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ezra Heirs	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Shreve, Florence	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jack heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jack Lewis	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, James heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jane Margaret heirs Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jasper heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jefferson Heirs	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, John Gerald	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Shreve, Kenneth	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Larman Earl	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Levena Corral	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Mary Ruby	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Michael	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ned Olen	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ralph Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Robert L.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Robert Wayne Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Supler, Viola Jean unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Surrarer, Ruth	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Warner, Jacqueline M.	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wilcox, Mitchell	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wright, Marsha	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Yost, Hazel Mae	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Statoil USA Onshore Properties	2103 CityWest Blvd, Suite 800, Houston TX 77042
		SWN	10000 Energy Drive Spring TX 77389-4954
		Ed Broome Inc. and Douglas A. Broome	PO Box 186 Glenville WV 26351

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WELL: 516341

PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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WELL: 516335

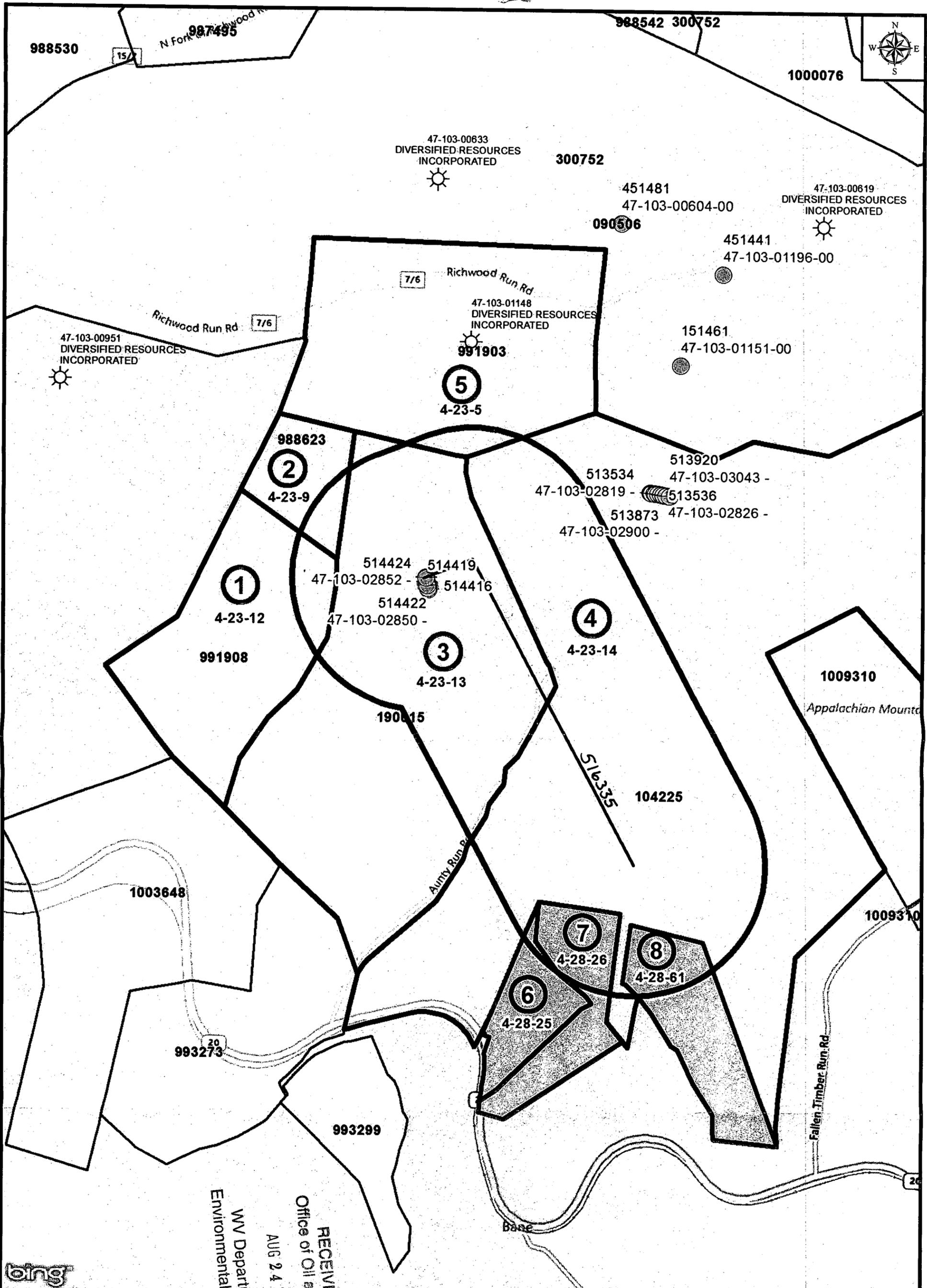
PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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EQT
 EQT Production
 White Oaks Office
 120 Professional Place
 Bridgeport, WV 26330

Exhibit

BIG333 H11 (516335)
Wetzel County, WV

Created By: simmas
 Printed By: simmas on 8/20/2015
 Map Date:
 Dept: Land GIS - White Oak Office

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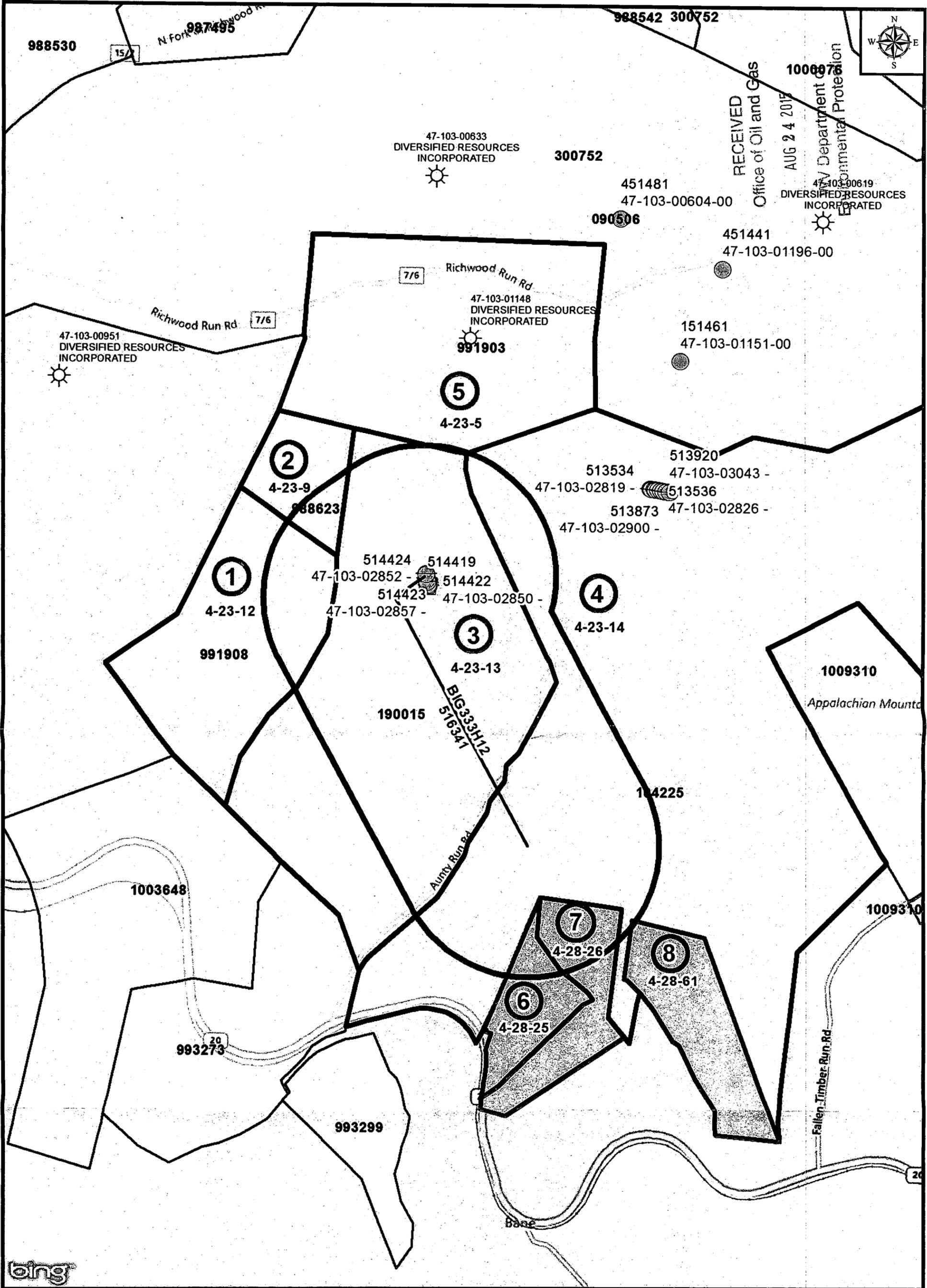
Foreign Production Locations

- Active Vertical
- Active Horizontal
- Inactive
- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

- Lease
- Foreign Parcels
- 1500' Buffer

0 500 1,000 2,000 Feet

DISCLAIMER:
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EQT
EQT Production
White Oaks Office
120 Professional Place
Bridgeport, WV 26330

Exhibit

BIG333 H12 (516341)
Wetzel County, WV

Created By: slmmsa
Printed By: slmmsa on 8/20/2015
Map Date:
Dept: Land GIS - White Oak Office

EQT Wells

- Active Vertical
- Active Horizontal
- Inactive

Foreign Production Locations

- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

Foreign Production PRODUCT

- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

EQT Lease

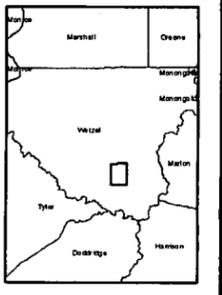
- Foreign Parcels
- 1500' Buffer

Horizontal Laterals

- Target Formation
- Point Pleasant
- Horizontal PUD Locations

0 500 1,000 2,000 Feet

DISCLAIMER: ALL INFORMATION SHOWN ON THIS MAP IS PROVIDED BY EQT (SANDTOWN) AND DOES NOT REPRESENT THE LOCATION OF ANY OTHER PARTY'S PRODUCTION OR MIDDLESTREAM. EQT SHALL BE RESPONSIBLE FOR THE LOCATION OF THE FACILITIES SHOWN ON THIS MAP. EQT SHALL NOT BE RESPONSIBLE FOR THE LOCATION OF THE FACILITIES SHOWN ON THIS MAP. EQT SHALL NOT BE RESPONSIBLE FOR THE LOCATION OF THE FACILITIES SHOWN ON THIS MAP. EQT SHALL NOT BE RESPONSIBLE FOR THE LOCATION OF THE FACILITIES SHOWN ON THIS MAP.



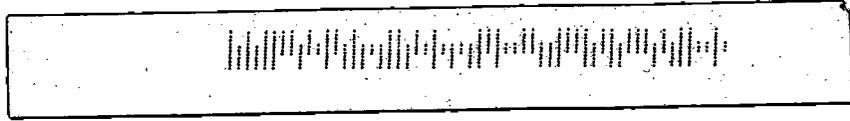
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Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304



031305

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UNABLE TO FORWARD
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Martin C. Anderson
c/o Craig M Anderson
7810 N 14th Place 2021
Phoenix, AZ 85020-4342





west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
dep.wv.gov

August 26, 2015

Schabrea Johnson
Martin C Anderson hrs
c/o Craig Martin Anderson
7810 N 14th Place 2021
Phoenix, AZ 85020-4342

RE: Intentional Deviation of New Deep Well
EQT Production Company
Big 333 - #516335 and #516341

Dear Sir:

Please be advised that EQT Production Company has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received by September 14, 2015 the application will be processed in the normal manner.

If you have any questions please call me at (304) 926-0499, extension 1656.

Sincerely,

Cindy Raines
Executive Assistant

encl: as stated

BIG333 Unleased Mineral Owners within 1500' radius - well # 516335, 516341			
Tracts	Tax Map & Parcel Number	Owner/Offset Operator	Address
1	04-23-12		
		Craig M. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Ronald Wayne Anderson	DJ Anderson Heirs c/o Maria Anderson 2637 Choring Cross Road Canton OH 44780-1599
		Rebecca Booth and David L. Booth	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Scott L. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Lori Arrendondo	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Richard P. Funk, Jr.	Larry Larew and Richard P Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Bobby Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		David Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Schabrea Johnson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342

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		Larry Larew	and Richard P Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Teresa E Ratley	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Republic Partners VI, LP	4925 Greenville Ave Ste 1050 Dallas TX 75206
		Trans Energy Inc	PO Box 393 St. Mary's WV 26170
2, 3, 4	988623, 190015, 104225	EQT	
5	991903		
		SWN	
		Statoil USA Onshore Properties	2103 City West Blvd., Suite 800 Houston TX 77042
6	parcel 04-28-25		
		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	610 Foulke Way, Gwynedd PA 19436-1024
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		Siegler Family Trust	c/o Rosalyn A Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155- 0128
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826 Office of
		Shreve, Everett Lee	c/o Carl E Shreve 1015 Orchid Ave, Keystone Heights, FL 32656-9563
7	04-28-26		

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		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Headley, J. T. (J. Theodore)	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155
		Mensore, John J.	134 N. Bridge Street, New Martinsville, WV 26155
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826
		GH Headley - unknown	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
8	04-28-61		
		Ady, Joyce Ann heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Robert or heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Timothy	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Walter heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Bishop, Jane heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Bishop, Virginia Mae heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Carlin, Joseph William	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Chiappone, Charles, Jr Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Chiappone, Robert J. Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Conaway, Victoria heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dragoo, Curtis Harold Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Drake, Doris	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dulaney, Karen L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Gallagher, Geneva R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Enchanted Minerals LLC	777 Main St., Suite 850 Fort Worth TX 76102-5304
		Hanneman, Betty L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Heiskell, Joann unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Higginbotham, Celia Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Highley, Peggy A.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Hull, Shirley Rentschler-	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Johnson, Anne Marie	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Johnson-Pich, Kristy D.	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kern, Sarah	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kirkpatrick, Jene	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McAfee, Alma Irene Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McHenry, W. Sue	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Morgan, Ronald Keith	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Osburn, Helen Wilcox Unknown	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Quinn, Iva heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Gary F. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Roger C. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Rentschler, Charels F. Sr.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Lawrence	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Robert Jr. heirs Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rogers Dorena Jan Address Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sadzewicz, Mary	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Sendaydiego, Amy Beth	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sharps, Maureen R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Bernie heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Shreve, Billy Keith	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, C Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Charles Arnold	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Clark heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edith Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
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		Shreve, Florence	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jack heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jack Lewis	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, James heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jane Margaret heirs Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jasper heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jefferson Heirs	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
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		Shreve, Larman Earl	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Levena Corral	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Mary Ruby	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Michael	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ned Olen	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ralph Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
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		Shreve, Robert Wayne Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
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		Surrarrer, Ruth	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Warner, Jacqueline M.	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wilcox, Mitchell	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wright, Marsha	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Yost, Hazel Mae	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Statoil USA Onshore Properties	2103 CityWest Blvd, Suite 800, Houston TX 77042
		SWN	10000 Energy Drive Spring TX 77389-4954
		Ed Broome Inc. and Douglas A. Broome	PO Box 186 Glenville WV 26351

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WELL: 516341

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REASON FOR DEVIATION:

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WELL: 516335

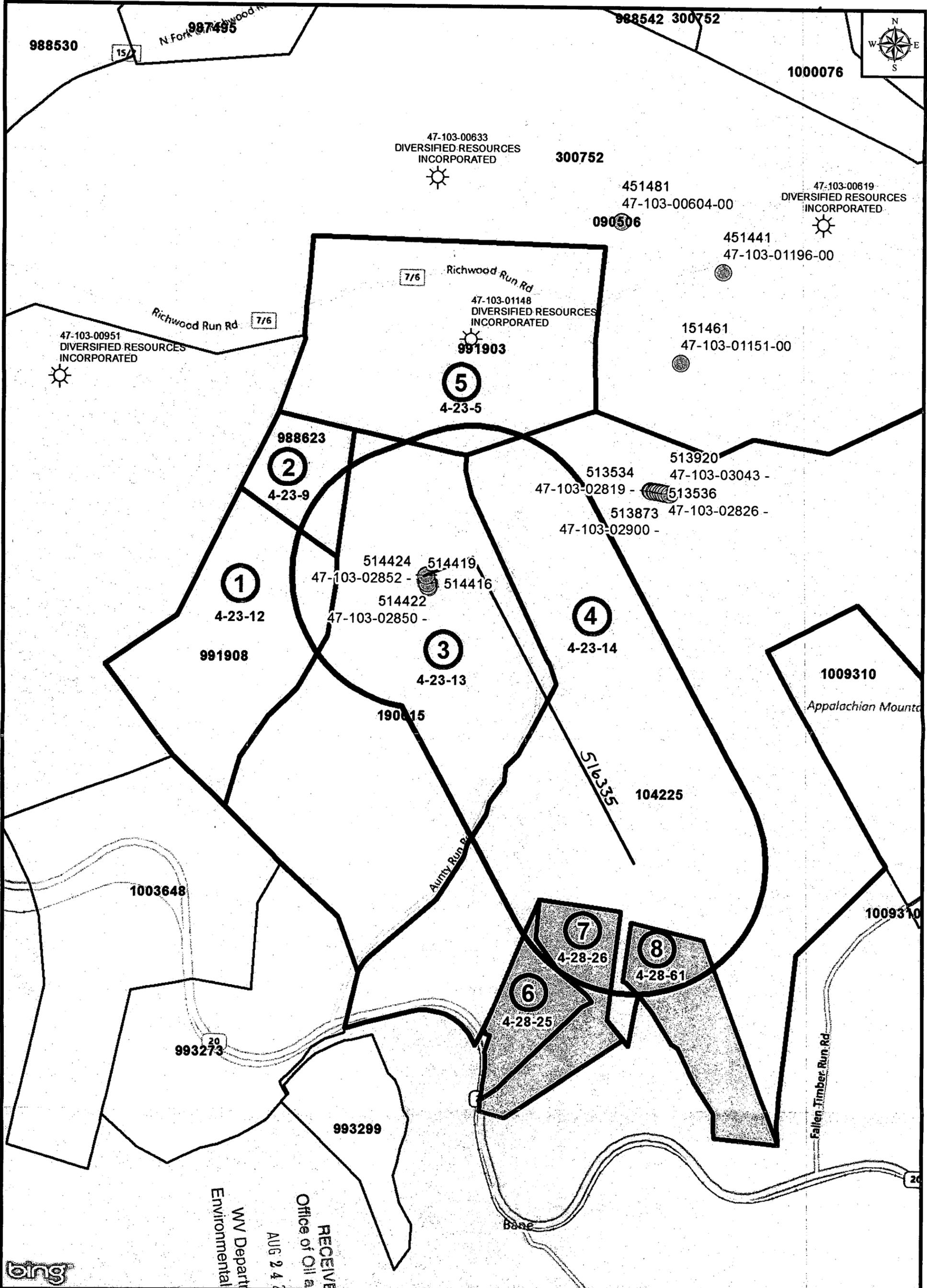
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 White Oak Office
 120 Professional Place
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Exhibit

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Wetzel County, WV

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 Printed By: simmas on 8/20/15
 Map Date: Dept: Land GIS - White Oak Office

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EQT Wells

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- Active Horizontal
- Inactive

Foreign Production Locations

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- Gas Injection
- Injection
- Oil
- Oil Injection

Lease

- Foreign Parcels
- 1500' Buffer

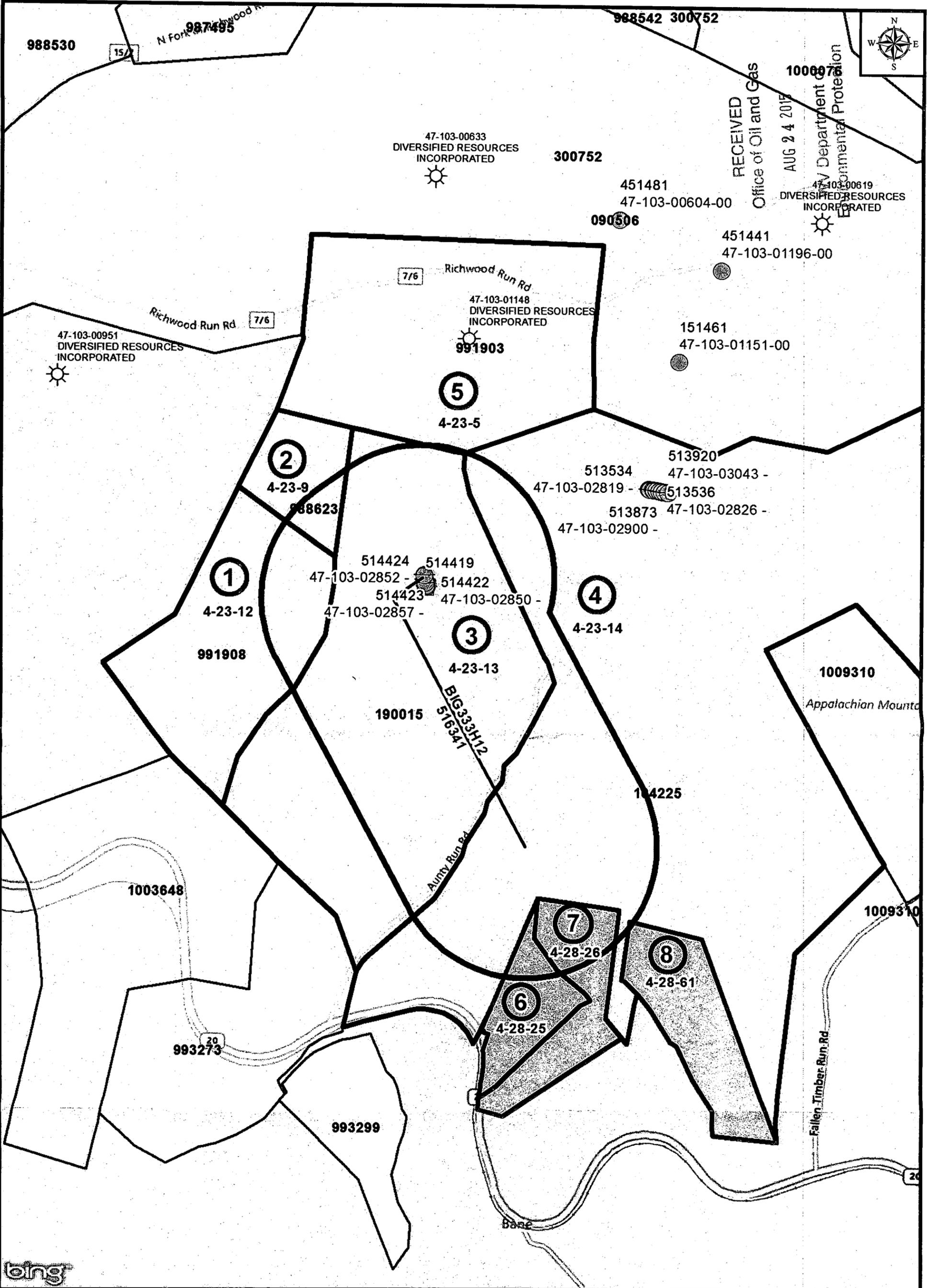
0 500 1,000 2,000 Feet

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47-103-00633
DIVERSIFIED RESOURCES
INCORPORATED

988542 300752

988530

N Fork Richwood Rd
987495

300752

451481
47-103-00604-00

1000076

47-103-00619
DIVERSIFIED RESOURCES
INCORPORATED

451441
47-103-01196-00

Richwood Run Rd 7/6

7/6

47-103-01148
DIVERSIFIED RESOURCES
INCORPORATED

151461
47-103-01151-00

47-103-00951
DIVERSIFIED RESOURCES
INCORPORATED

991903

5

4-23-5

2

4-23-9

988623

513534 47-103-03043 -

47-103-02819 - 513536

513873 47-103-02826 -
47-103-02900 -

1

4-23-12

991908

514424 514419
47-103-02852 - 514422
514423 47-103-02850 -
47-103-02857 -

3

4-23-13

4

4-23-14

190015

BIG333H12
516341

1009310
Appalachian Mountain

104225

Aunty Run Rd

1003648

993273

993299

6

4-28-25

7

4-28-26

8

4-28-61

Fallen Timber Run Rd

1009310



EQT
EQT Production
White Oaks Office
120 Professional Place
Bridgeport, WV 26330

Exhibit

BIG333 H12 (516341)
Wetzel County, WV

Created By: simms
Printed By: simms on 8/20/2015
Map Date: Dept Land GIS - White Oak Office

EQT Wells

- Active Vertical
- Active Horizontal
- Inactive

Foreign Production Locations

- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

Foreign Parcels

- 1500' Buffer

EQT Lease

Horizontal Laterals

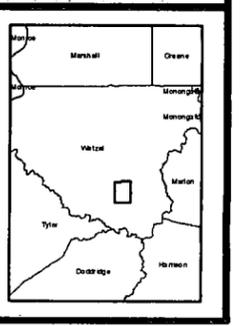
- Point Pleasant
- Horizontal PUD Locations

PRODUCT

Target Formation

0 500 1,000 2,000 Feet

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601 57th Street, SE
Charleston, WV 25304

031305

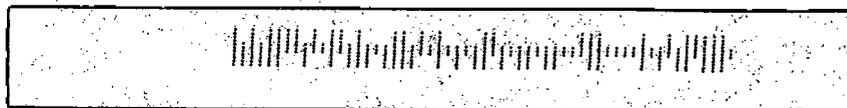


UNITED STATES POSTAGE



02 1R \$01.640
0002009608 AUG 26 2015
MAILED FROM ZIP CODE 25311

NIXIE 850202003-IN 09/08/15
RETURN TO SENDER
ATTEMPTED - NOT KNOWN
UNABLE TO FORWARD
RETURN TO SENDER
14th Place 201
Phoenix, AZ 85020-4342





west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Barry K. Lay, Chairman
dep.wv.gov

August 26, 2015

Bobby Ingram
Martin C Anderson Hrs C/o Craig Martin Anderson
7810 N 14th Place 2021
Phoeniz, AZ 85020-4342

RE: Intentional Deviation of New Deep Well
EQT Production Company
Big 333 - #516335 and #516341

Dear Sir:

Please be advised that EQT Production Company has applied to the Oil and Gas Conservation Commission for approval to intentionally deviate a new deep well. The Code of State Regulations Title 39 Section 1.4.10 requires that the Commission notify the offset operators of the applicants' intent to deviate the proposed well. You are receiving this notice because you are listed as an offset operator (unleased mineral owner is also an "offset operator") to the proposed well. Any offset operator has ten days to object to the Commissions' granting approval to the proposed deviation. If you file an objection, the Commission will schedule a hearing and you will be notified of the date and time to attend.

A copy of the location plat is enclosed for your review. If no objection(s) are received by September 14, 2015 the application will be processed in the normal manner.

If you have any questions please call me at (304) 926-0499, extension 1656.

Sincerely,

Cindy Raines

Cindy Raines
Executive Assistant

encl: as stated

**BIG333 Unleased
Mineral Owners
within 1500' radius -
well #516335, 516341**

Tracts	Tax Map & Parcel Number	Owner/Offset Operator	Address
1	04-23-12	Craig M. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Ronald Wayne Anderson	DJ Anderson Heirs c/o Maria Anderson 2637 Choring Cross Road Canton OH 44780-1599
		Rebecca Booth and David L. Booth	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Scott L. Anderson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Lori Arrendondo	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Richard P. Funk, Jr.	Larry Larew and Richard P Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Bobby Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		David Ingram	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Schabrea Johnson	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342

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		Larry Larew	and Richard P. Funk, Jr. 12570 Middletown Rd Salem OH 44460
		Teresa E Ratley	Martin C Anderson Hrs c/o Craig Martin Anderson 7810 N 14th Place 2021 Phoenix AZ 85020-4342
		Republic Partners VI, LP	4925 Greenville Ave Ste 1050 Dallas TX 75206
		Trans Energy Inc	PO Box 393 St. Mary's WV 26170
2, 3, 4	988623, 190015, 104225	EQT	
5	991903		
		SWN	
		Statoil USA Onshore Properties	2103 City West Blvd., Suite 800 Houston TX 77042
6	parcel 04-28-25		
		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	610 Foulke Way, Gwynedd PA 19436-1024
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155- 0128
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826 Office of
		Shreve, Everett Lee	c/o Carl E Shreve 1015 Orchid Ave, Keystone Heights FL 32656-9563
7	04-28-26		

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		Ballouz, Frank	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Ballouz, John W.	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Marcella V. Ridenour	AC Ballouz Hrs c/o Marcella Ridenour 610 Foulke Way Gwynedd PA 19436-1024
		Headley, J. T. (J. Theodore)	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Esta Marie McCall Amended and Restated Revocable Trust	8731 SE Somerset Island Way Jupiter FL 33458- 1123
		John J Mensore Revocable Trust	PO Box 128 New Martinsville WV 26155
		Mensore, John J.	134 N. Bridge Street, New Martinsville, WV 26155
		Metzger, Rosalyn A.	4 Wood Hollow Drive, Pittstown, NJ 08867
		Rein, Deborah	POB 69, Glen Gardner, NJ 08826
		GH Headley - unknown	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Siegler Family Trust	c/o Rosalyn A. Metzger, 4 Wood Hollow Drive, Pittstown, NJ 08867
8	04-28-61		
		Ady, Joyce Ann heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Robert or heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Timothy	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Baker, Walter heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Bishop, Jane heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Bishop, Virginia Mae heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Carlin, Joseph William	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Chiappone, Charles, Jr Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Chiappone, Robert J Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Conaway, Victoria heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dragoo, Curtis Harold Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Drake, Doris	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Dulaney, Karen L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Gallagher, Geneva R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Enchanted Minerals LLC	777 Main St., Suite 850 Fort Worth TX 76102-5304
		Hanneman, Betty L.	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Heiskell, Joann unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Higginbotham, Celia Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Highley, Peggy A.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Hull, Shirley Rentschler-	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Johnson, Anne Marie	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Johnson-Pich, Kristy D.	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kern, Sarah	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Kirkpatrick, Jene	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McAfee, Alma Irene Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		McHenry, W. Sue	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Morgan, Ronald Keith	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Osburn, Helen Wilcox Unknown	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Quinn, Iva heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Gary F. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Reed, Roger C. unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Rentschler, Charels F. Sr.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Lawrence	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rentschler, Robert Jr. heirs Unknown	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Rogers Dorena Jan Address Unknown	c/o Robert and Karen Shreve etal 26 Vista Ave., Wheeling WV 26003-6036
		Sadzewicz, Mary	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Sendaydiego, Amy Beth	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Sharps, Maureen R.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Bernie heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160

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		Shreve, Billy Keith	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, C Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Charles Arnold	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Clark heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edith Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Edward Lee	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ezra Heirs	State of West Virginia Deputy Commissioner of Delinquent and Non-entered Lands Office of the State Auditor Building 1, Room W- 212 Charleston WV 25305
		Shreve, Florence	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jack heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jack Lewis	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, James heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jane Margaret heirs Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Jasper heirs Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Jefferson Heirs	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, John Gerald	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Shreve, Kenneth	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Larman Earl	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Levena Corral	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Mary Ruby	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Michael	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ned Olen	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Shreve, Ralph Unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Shreve, Robert L.	c/o Robert and Karen Shreve, etal 26 Vista Ave., Wheeling WV 26003-6036
		Shreve, Robert Wayne Unknown	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706
		Supler, Viola Jean unknown	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Surrarer, Ruth	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Warner, Jacqueline M.	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wilcox, Mitchell	Jacqueline Warner, etal c/o Mitchell Wilcox PO Box 189 Middlebourne WV 26149
		Wright, Marsha	Mary Belle Dragoo Heirs c/o William B. McAfee 9080 Dorado Ct., Milan MI 48160
		Yost, Hazel Mae	George Shreve Heirs & Dragoo c/o Kenneth L. Shreve HC 61 Box 56 Knob Fork WV 26581-9706

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		Statoil USA Onshore Properties	2103 CityWest Blvd, Suite 800, Houston TX 77042
		SWN	10000 Energy Drive Spring TX 77389-4954
		Ed Broome Inc. and Douglas A. Broome	PO Box 186 Glenville WV 26351

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WELL: 516341

PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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WELL: 516335

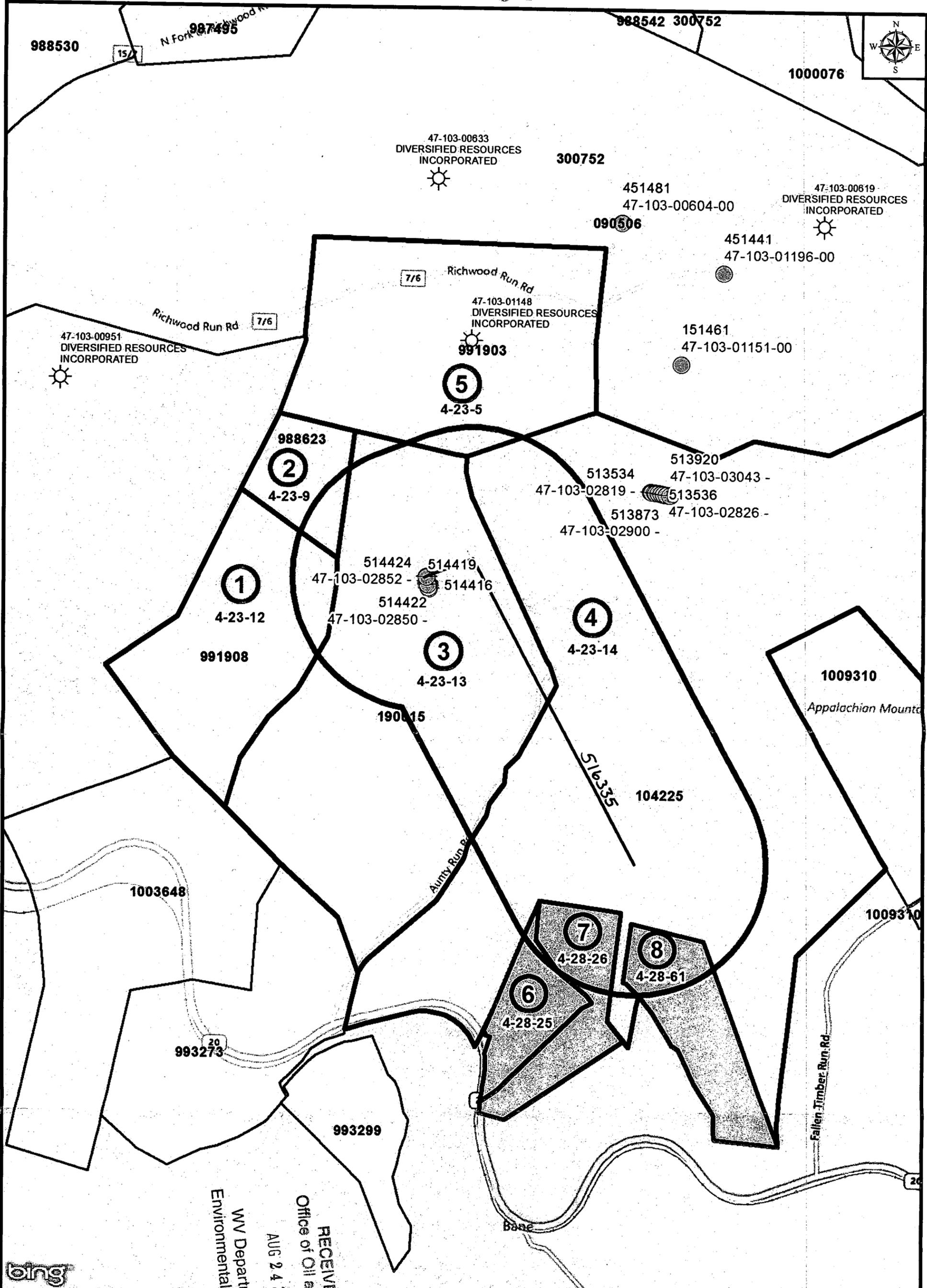
PAD NAME: BIG333

API: 47-103-

REASON FOR DEVIATION:

The intent is to drill a horizontal well in anticipation of greater productivity, efficiency and safety.

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EQT
 EQT Production
 White Oaks Office
 120 Professional Place
 Bridgeport, WV 26330

Exhibit

BIG333 H11 (516335)
Wetzel County, WV

Created By: simmas
 Printed By: simmas on 8/20/2015
 Map Date: Dept: Land GIS - White Oak Office

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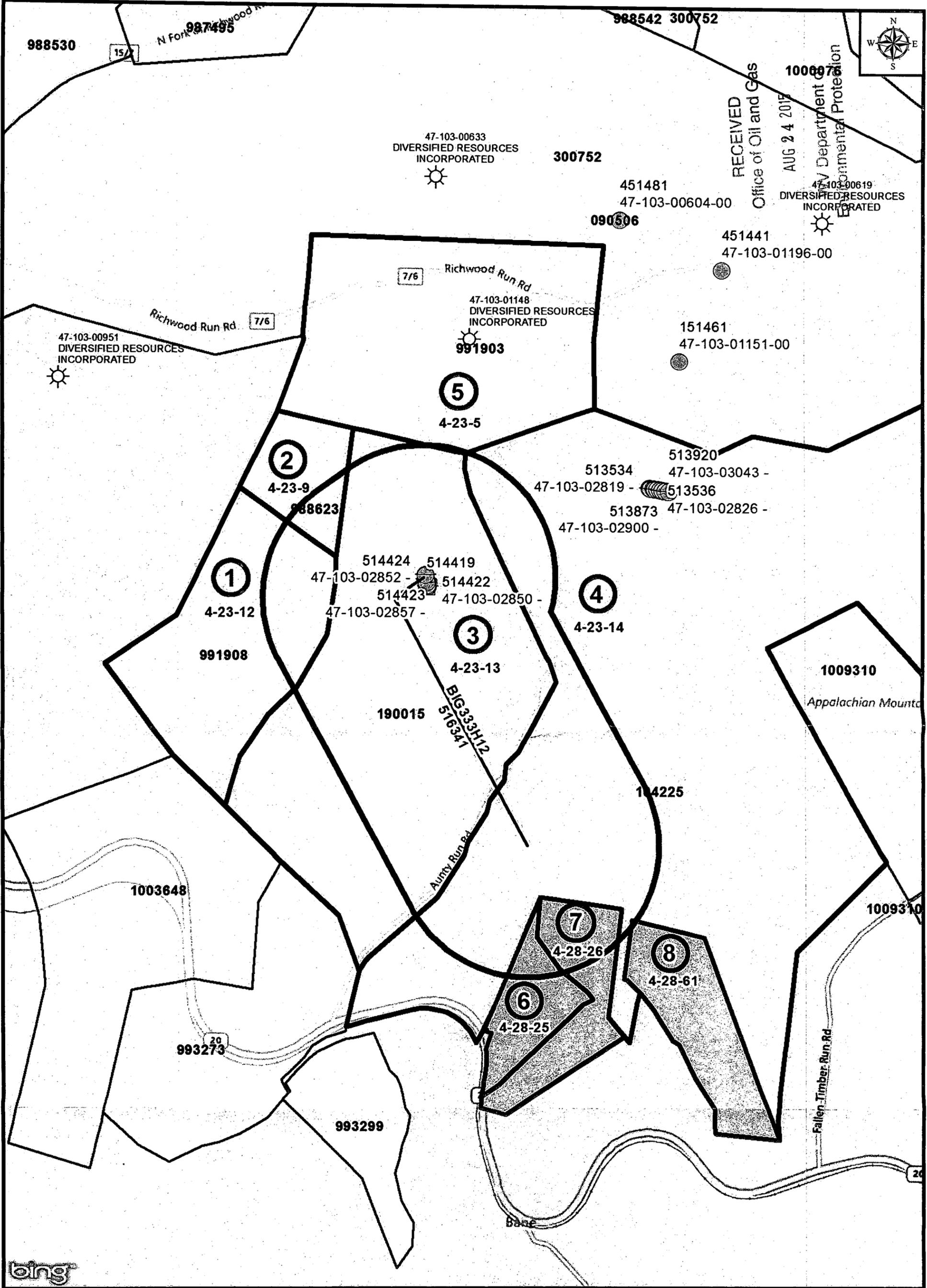
Foreign Production Locations

- Active Vertical
- Active Horizontal
- Inactive
- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

- Lease
- Foreign Parcels
- 1500' Buffer

0 500 1,000 2,000 Feet

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EQT
EQT Production
White Oaks Office
120 Professional Place
Bridgeport, WV 26330

Exhibit

BIG333 H12 (516341)
Wetzel County, WV

Created By: simmas
Printed By: simmas on 8/20/2015
Map Date: Dept Land GIS - White Oak Office

EQT Wells

- Active Vertical
- Active Horizontal
- Inactive

Foreign Production Locations

- Gas
- Gas Injection
- Injection
- Oil
- Oil Injection

Foreign Parcels

- Foreign Parcels
- 1500' Buffer

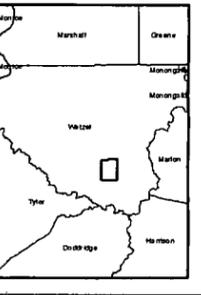
Horizontal Laterals

- Point Pleasant
- Horizontal PUD Locations

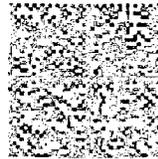
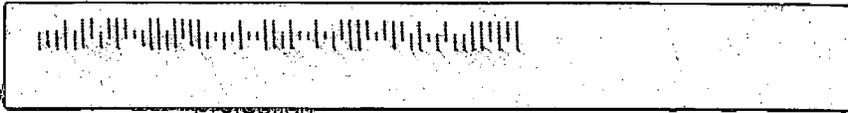
Target Formation

Scale: 0 500 1,000 2,000 Feet

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