

STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS RESOURCES MANAGEMENT

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In re: :
The Matter of the :
Application of EAP :
Ohio, LLC for Unit : Application Date:
Operation : July 2, 2025
Engle HN FRA NE Unit :
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UNITIZATION APPLICATION HEARING

- - - - -

Before Hearing Host Jeff Large
All Parties Appearing Remotely
August 28, 2025, 11:30 a.m.

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A P P E A R A N C E S

ON BEHALF OF OHIO DEPARTMENT OF NATURAL RESOURCES:

Ohio Department of Natural Resources
2045 Morse Road, Building F-3
Columbus, OH 43229
By Jennifer Barrett, Esq.
(Via videoconference)

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By Lila Appaya, Esq.
(Via videoconference)

ALSO PRESENT:

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Rebecca Zurcher (Via videoconference)
Piper Zdrodowski (Via videoconference)
Cory Cosby (Via videoconference)
Regina Bryant (Via videoconference)
Janae Allert, Esq. (Via videoconference)
Chase Thompson (Via videoconference)
Beth Wehr (Via videoconference)

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2 P R O C E E D I N G S

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4 MR. LARGE: All right. Good morning,
5 everyone. Before we begin, I would like to go
6 over some instructions for this video and
7 telephone conference.

8 If you have joined online, please mute
9 your microphone. If you have called in via phone,
10 please use the "mute" feature of your phone. Once
11 the hearing begins, everyone will be muted except
12 for those presenting. If you have called in, you
13 can unmute yourself by pressing "star 6."

14 Witnesses for the Applicant and anyone
15 wishing to make comments, please wait to be
16 individually called upon by your attorney or by
17 the Division before speaking. Please mute your
18 microphone anytime you are not speaking and when
19 you have finished presenting to avoid any
20 feedback.

21 I am now asking anyone who would like
22 to make comments, please state your name slowly
23 and clearly for the Division. Please identify
24 whether you are an unleased mineral owner, working

1 interest owner, or an owner with property in the
2 Engle HN FRA NE unit. I would also like this
3 information from anyone who represents any of
4 these persons. We will make note of your name and
5 call upon you when it is time for comments.

6 So if you have joined us via WebEx,
7 please unmute yourself now and state your name if
8 you would like to make any comments.

9 Hearing none.

10 So if you have joined us via phone,
11 please unmute yourself now by pressing "star 6"
12 and state your name if you would like to make any
13 comments.

14 Hearing none.

15 Thank you. With that, we will begin
16 the hearing.

17 Ms. Barrett.

18 MS. BARRETT: Thank you and good
19 morning. Today is Thursday, August 28th, 2025.
20 And we are here on the matter of the application
21 of EAP Ohio, LLC, for unit operation of the Engle
22 HN FRA NE unit.

23 Just a quick reminder to please mute
24 your microphones if you are not speaking right

1 now.

2 This hearing before the Ohio Department
3 of Natural Resources, Division of Oil and Gas
4 Resources Management, is convened pursuant to Ohio
5 Revised Code Section 1509.28.

6 My name is Jennifer Barrett. And I am
7 an administrative officer with the Division. Also
8 with me today is Program Administrator Jeff Large.
9 We are conducting the hearing today and serve as
10 the Chief's designees on this matter.

11 On July 2nd, 2025, EAP filed with the
12 Division an application for unit operations for a
13 unit designated as the Engle HN FRA NE unit. EAP
14 filed subsequent revisions to the application.
15 The unit is proposed to be located in Tuscarawas
16 and Harrison Counties, Ohio. In its application,
17 EAP claims to have the mineral rights through
18 voluntary agreements to approximately 767.5637
19 acres of the desired approximate 1,133.2508-acre
20 unit.

21 The purpose of today's hearing is to
22 determine whether EAP's Engle HN FRA NE unit
23 application meets all of the requirements of
24 Revised Code Section 1509.28. Under that section,

1 the Chief of the Division must issue an order if
2 he determines that the Applicant has shown that,
3 one, the unit is reasonably necessary to increase
4 substantially the ultimate recovery of oil and
5 gas; and two, the estimated additional recovery
6 from the unit exceeds the additional cost.

7 Neither the Chief nor any of us here
8 today have made any decisions on EAP's
9 application. After today's hearing, we will
10 review all of the information provided to us in
11 order to make a determination. We have a court
12 reporter present as well, and we will have a copy
13 of the transcript of this hearing for review.

14 The Chief's decision will be issued
15 through a Chief's Order, which will be posted on
16 the Division's website. Pursuant to Revised Code
17 Section 1509.36, any order may be appealed within
18 30 days after the date upon which the person to
19 whom the order was issued received the order and
20 for all other persons adversely affected by the
21 order within 30 days after the date of the order
22 complained of.

23 The hearing will proceed as follows:
24 EAP will present its witnesses and exhibits and

1 will answer questions posed by the Division staff.
2 Then any unleased mineral owners, working interest
3 owners, and those persons with property included
4 in the proposed Engle HN FRA NE unit will have the
5 opportunity to present questions and concerns to
6 the Division staff. And then the Division staff
7 may take a break to determine if there are any
8 additional questions for the Applicant.

9 To proceed in an orderly fashion, we
10 ask that any interested party who speaks here
11 today pose any questions to the Division, and we
12 will then ask any questions to EAP. Additionally,
13 anyone speaking today will be asked to provide
14 their information to the court reporter. If you
15 are uncomfortable speaking during the hearing, we
16 will also accept written comments.

17 We will now ask the Applicant to make
18 its introductions and begin its presentation.

19 MS. APPAYA: Thank you and good
20 morning. My name is Lila Appaya. And I am an
21 attorney with Bricker Graydon, here on behalf of
22 the Applicant, EAP Ohio, LLC.

23 EAP is here today with a request for
24 the Division to grant an order for unit operations

1 for the Engle HN FRA Northeast unit, or for short,
2 the "Engle Northeast" unit. The unit is proposed
3 to be located in Mill Township, Tuscarawas County
4 and Franklin Township, Harrison County, Ohio.

5 As you will hear from EAP's witnesses,
6 EAP and the consenting working interest owners are
7 the "owner," as that term is defined in Ohio
8 Revised Code Section 1509.28, of more than 88
9 percent of the acreage in the proposed Engle
10 Northeast unit. This exceeds the 65 percent
11 threshold set by Ohio Revised Code Section
12 1509.28.

13 Turning now to Exhibit D, as you can
14 see from Exhibit D, which is on the screen, which
15 was included in our application, the proposed
16 Engle Northeast unit consists of 93 tracts
17 totaling approximately 1,133.2508 acres.

18 EAP proposes to drill three horizontal
19 wells from a pad site located to the south of the
20 unit, drilling the 5H, 205H, and 305H in a
21 northwesterly direction. The lateral portions of
22 those wells will each extend horizontally through
23 the unit for approximately 20,444 feet for the 5H
24 lateral, 19,953 feet for the 205H lateral, and

1 17,472 feet for the 305H lateral.

2 EAP seeks an order for unit operations
3 from the Division because there are unleased
4 tracts as well as non-consenting tracts in the
5 unit.

6 In support of its application, EAP will
7 call Tim Struble, a landman; Randy Daniels, a
8 geologist; and Wes Casto, a reservoir engineer,
9 who will each testify that the application meets
10 the requirements for granting an order for unit
11 operations under Ohio Revised Code 1509.28.

12 And with that, I would like to call
13 EAP's first witness, Tim Struble.

14 MR. LARGE: Can we please swear in the
15 witness.

16 - - - - -

17 TIM STRUBLE

18 being first duly sworn, testifies and says as
19 follows:

20 DIRECT EXAMINATION

21 BY MS. APPAYA:

22 Q. Mr. Struble, would you please state
23 your name and place of employment for the record.

24 A. My name is Tim Struble. I work for EOG

1 Resources, which is the parent company of EAP
2 Ohio, the Applicant.

3 Q. And what is your position at EOG?

4 A. A land specialist.

5 Q. Can you please describe a little bit
6 about your educational background?

7 A. I have an undergraduate degree in
8 psychology from the University of Kansas.

9 Q. And describe your professional
10 experience in the oil and gas industry.

11 A. I began my career in 2007. I worked
12 for a couple of different brokerage companies as
13 well as operators. Most recently, I worked for
14 Encino Energy for about five and a half years.
15 And then in August of 2025, I was hired by EOG
16 Resources. I have worked across seven different
17 basins in six different states.

18 Q. Are you a member of any professional
19 associations?

20 A. Yes. I am a member of the American
21 Association of Professional Landmen, or AAPL.

22 Q. And do you hold any certifications with
23 the AAPL? And if so, are there any educational
24 requirements to maintain that certification?

1 A. Yes. To maintain my registered
2 professional landman designation, I'm required to
3 obtain 25 continuing education credits for every
4 five-year period.

5 Q. And please describe your work and
6 responsibilities as a land specialist with EOG.

7 A. As a land specialist, I help facilitate
8 the development of EOG's Utica Shale assets and
9 manage all aspects of landwork, including but not
10 limited to lease acquisition, title review,
11 leasehold trade agreements, and development
12 planning.

13 Q. And did you assist with preparing the
14 application for the unitization of Engle Northeast
15 unit?

16 A. Yes, I did.

17 Q. All right. I would like to turn your
18 attention to the color-coded map on this slide
19 that appears at Exhibit D of the application,
20 which is now on the screen. Can you first tell
21 me, is this a depiction of the proposed Engle
22 Northeast unit?

23 A. Yes. Outlined in blue, it is.

24 Q. And what is the size of this unit?

1 A. Approximately 1,133.2508 acres.

2 Q. Where is it located?

3 A. It is located within Mill Township,
4 Tuscaroras County and Franklin Township, Harrison
5 County, Ohio.

6 Q. Will you please describe what
7 information is depicted in this map shown on the
8 screen?

9 A. The map shows all 93 parcels that are
10 included within the Northeast unit. And each is
11 identified by a tax parcel number and a tract
12 number. It also categorizes each parcel by its
13 status within the unit.

14 Yellow parcels are leased and
15 consenting, green parcels are non-consenting, the
16 crosshatched yellow and red are partially leased
17 and consenting. And then the red parcels are
18 unleased parcels. The black dotted lines
19 illustrate the 400-foot setback required by Ohio
20 law. And lastly, the map shows the surface
21 locations for the three planned wells that EAP
22 plans to drill and produce in the Utica-Point
23 Pleasant.

24 Q. And you mentioned that there will be

1 three wells in this unit. How many wells will be
2 drilled from the pad in total?

3 A. The first trip out, there will be five
4 wells that will be drilled at the same time with
5 these three wells. In total, there are ten wells
6 planned from the pad.

7 Q. And does EAP have a right to drill and
8 operate wells from this pad?

9 A. Yes.

10 Q. Turning now to the Engle Northeast
11 unit, what is the expected length of each of the
12 laterals if an order for unit operations is
13 granted?

14 A. Approximately 20,445 feet for the 5H
15 well, 19,953 feet for the 205H well, and 19,472
16 feet for the 305H well.

17 Q. And when providing the lateral lengths,
18 does the lateral placement comply with Ohio's
19 statutory setback requirements?

20 A. Yes.

21 Q. What is your expected development
22 timeline for this pad?

23 A. We will drill and complete the wells in
24 compliance with the time frame specified in a

1 Chief's Order, if one is issued.

2 Q. And what percent of the unit is
3 committed to unit operations currently?

4 A. Between EAP and the consenting working
5 interest owners, approximately 88.310457 percent
6 of the unit is committed to the unit operations.

7 Q. And who are the consenting working
8 interest owners in this unit?

9 A. That is Burj Energy, a portion of RHDK
10 Oil and Gas's interest, CGAS Appalachia, EOG
11 Resources, Ironhead Resources III, Collins Utica,
12 and Wallace Family Partnership.

13 Q. Are there any non-consenting owners in
14 the unit?

15 A. Yes. And those are listed on Exhibit A
16 to the application.

17 Q. And what percentage of the Engle
18 Northeast unit remain non-consenting?

19 A. Approximately 11.478763 percent.

20 Q. What is the status of EAP's efforts to
21 commit those non-consenting working interest
22 owners?

23 A. Over the course of several months, we
24 have offered the non-consenting interest owners

1 the opportunity to sell, trade, or otherwise
2 commit their acreage to the unit. For those
3 parties listed in the application, as outlined in
4 Exhibit G, we have ongoing efforts to commit the
5 non-consenting interest owners.

6 Q. And what percentage of the unit is
7 comprised of unleased interests?

8 A. Approximately 0.21078 percent.

9 Q. Do you know how many acres in the unit
10 those unleased interests account for?

11 A. Yes. Approximately 2.3887 net mineral
12 acres.

13 Q. And can you generally describe EAP's
14 efforts to lease the owners of those unleased
15 tracts?

16 A. Yes. We have made efforts to lease all
17 of the unleased interest, and those efforts are
18 listed in our leasing affidavit. Generally
19 speaking, we make phone calls, send mailings, and
20 have in-person meetings to try to reach a mutual
21 agreement on lease terms with those owners.

22 Q. Since the filing of your application,
23 has EAP continued its efforts to lease those
24 unleased mineral owners and to commit the

1 non-consenting working interests owners?

2 A. Yes. And in fact, we have come to
3 terms with an additional 16 percent of the
4 interest, which was initially listed as "unleased"
5 or "non-consenting" in the application. And that
6 increase was shown in our last supplement.

7 Q. I want to talk for a moment about the
8 unit plan included in the application. Are you
9 familiar with that plan?

10 A. Yes. The purpose of that plan is
11 twofold: It helps define the respective rights of
12 the parties within the unit. And it also combines
13 all of the oil and gas rights in the unit under
14 essentially one lease.

15 Q. And how will royalties and expenses be
16 allocated pursuant to that unit plan?

17 A. On a surface acreage basis.

18 Q. Can you explain a little bit about why
19 that will be the allocation method?

20 A. My colleague, Mr. Daniels, will discuss
21 the uniformity of the formation. But in my
22 experience, that is how allocation has been done
23 in Ohio.

24 Q. All right. So to confirm, from your

1 experiences, allocation methodology is common in
2 Ohio for the Utica-Point Pleasant play.

3 A. Yes.

4 Q. Who pays unit expenses?

5 A. The participating working interest
6 owners.

7 Q. Do royalty owners pay unit expenses
8 under the terms of the unit plan?

9 A. No.

10 Q. Turning now to the joint operating
11 agreement, or JOA, did you include a JOA in the
12 application?

13 A. Yes.

14 Q. And does the JOA contain a mechanism
15 for proposing operations to non-operator working
16 interest owners?

17 A. Yes.

18 Q. Can you explain a little bit more about
19 that?

20 A. Article 6 of the JOA provides that
21 proposals will be sent by the operator to the
22 non-operating working interest owners. Those
23 proposals will contain the proposed location of
24 the initial well and an AFE setting forth the

1 estimated costs to drill and complete the well.

2 Q. All right. Are there non-consent
3 penalties contained in the joint operating
4 agreement, to the extent that a party elects to
5 not participate in unit operations?

6 A. Yes.

7 Q. Given your history and experience in
8 the oil and gas industry as well as your
9 experience in the Utica Point Pleasant play, do
10 you believe the non-consent penalties set forth in
11 the JOA to be just and reasonable?

12 A. Yes, I do.

13 Q. Thank you.

14 MS. APPAYA: I have no further
15 questions for Mr. Struble.

16 MR. LARGE: Thank you.

17 Ms. Barrett, do you have any questions?

18 MS. BARRETT: Yes, I do.

19 - - - - -

20 CROSS-EXAMINATION

21 BY MS. BARRETT:

22 Q. What is your current average
23 outstanding offer to the unleased mineral owners
24 in the proposed unit?

1 A. The current outstanding offer is \$4,000
2 per acre, with an 18 percent royalty.

3 Q. And is the 18 percent based on a net or
4 gross amount?

5 A. Currently it is based on a net, but
6 that is a negotiated term.

7 Q. And do those offers include surface
8 use?

9 A. That is also a negotiated term, but
10 this one does not.

11 Q. And when will those offers expire?

12 A. The offers will not expire so long as
13 both parties are continually trying to work
14 towards an agreement, and that continues after an
15 order would be issued, if it is issued.

16 Q. What is the average offer that was
17 accepted by the leased mineral owners in the
18 proposed unit?

19 A. The average accepted was \$4,067.12,
20 with a royalty of 18.69 percent. And that is
21 both, you know, net and gross.

22 Q. Do you believe your lease attempts have
23 been reasonable?

24 A. Yes. We have reached out to the

1 mineral owners over the course of multiple years
2 and several attempts. And we have successfully
3 taken hundreds of leases in the area and continue
4 to negotiate with these mineral owners, and, you
5 know, we want to enter into mutually agreeable
6 leases with them.

7 Q. And will you continue those attempts to
8 lease the unleased mineral owners even after a
9 unitization order is issued, if one is issued?

10 A. Yes, we will. So long as those
11 discussions are meaningful and are working towards
12 a mutually agreeable lease.

13 Q. And do you believe your attempts to
14 commit the non-consenting working interest owners
15 have been reasonable?

16 A. Yes. For much the same reason, we have
17 been reaching out and working with them for
18 several months, trying to either buy, sell, trade,
19 or get them to commit their interest.

20 Q. And will you continue those attempts to
21 commit the non-consenting working interest owners
22 after today?

23 A. We will. So long as those discussions
24 are meaningful.

1 Q. Do the leases in the unit authorize
2 drilling into and producing from the proposed
3 unitized formations?

4 A. They do.

5 Q. And to establish bonus and royalty
6 amounts in leases, how are those generally
7 determined?

8 A. We work with our reservoir team to
9 understand the range of bonus and associated
10 royalty rates per area for guidance. We use that
11 as a starting point, and from there, competition
12 in the area will be the main driver in increases
13 or decreases in bonuses and royalty. We also
14 adjust for other factors, like pricing
15 environments, parcel size, location, as well as
16 other provisions requested by the landowners.

17 Q. Okay. Thank you.

18 MS. BARRETT: No further questions for
19 me.

20 MR. LARGE: Thank you.

21 Ms. Appaya, please call your next
22 witness.

23 MS. APPAYA: Thank you.

24 I will now call Randy Daniels to the

1 stand.

2 MR. LARGE: Please swear in the
3 witness.

4 - - - - -

5 RANDY DANIELS
6 being first duly sworn, testifies and says as
7 follows:

8 DIRECT EXAMINATION

9 BY MS. APPAYA:

10 Q. Mr. Daniels, would you please state
11 your name and place of employment for the record.

12 A. My name is Randy Daniels. And I am
13 employed by EOG Resources.

14 Q. And what is your position at EOG?

15 A. My title at EOG is geoscience
16 operations advisor.

17 Q. Would you please describe for the panel
18 your educational background that led you to your
19 position as a geoscience operation advisor? And
20 please include any degrees that you hold.

21 A. I hold two degrees. I have a
22 bachelor's in geology as well as a master's in
23 geology, both from the University of Houston.

24 Q. And can you tell us a little bit about

1 your professional experience and work history?

2 A. I have over 14 years of petroleum
3 industry experience as a geologist. I spent my
4 first eight years at Marathon Oil Company. At
5 Marathon, I worked multiple basins across the
6 U.S., from the Anadarko, Delaware, Eagle Ford,
7 Williston, and Permian Basins.

8 I left Marathon and joined Encino
9 Energy in 2018. And I spent almost seven years at
10 Encino, where I led a team in well planning and
11 geosteering operations in the Appalachian Basin.
12 And then most recently, in August 2025, I began
13 working at EOG, the successor in interest to EAP.

14 Q. And please describe your work as a
15 geoscience operations advisor at EOG.

16 A. So I'm one of the geologists
17 responsible for the geologic information necessary
18 to produce well permits and drilling plans for the
19 development and drilling of the Utica-Point
20 Pleasant asset owned or operated by EOG.

21 To accomplish this, my daily activities
22 include well log analysis, geologic risk
23 assessment using seismic data, geologic mapping,
24 well prognosis generation, and horizontal well

1 planning.

2 The team and I are also responsible for
3 the real-time geosteering of all of our horizontal
4 wells to ensure each is accurately placed within
5 the intended geologic target zone.

6 Q. Thank you. And are you familiar with
7 the application for unitization of the Engle
8 Northeast unit, including the geology exhibits
9 that appear in the application?

10 A. Yes, I am.

11 Q. Please describe what the term "unitized
12 formation" means with respect to the Engle
13 Northeast unit.

14 A. So the unitized formation is described
15 at a depth from 50 feet above the top of the Utica
16 Shale to 50 feet below the top of the Trenton
17 Limestone.

18 Q. And did you do any analysis to
19 determine if the unitized formation is a pool or
20 part of a pool, as required for unitization under
21 Ohio law?

22 A. Yes, I did.

23 Q. Are you aware that the word "pool" has
24 a specific meaning for purposes of EAP's

1 application under Ohio law?

2 A. I am.

3 Q. And so what does it mean to say that
4 the unitized formation is part of a pool?

5 A. So a "pool" is defined to be an
6 underground reservoir containing a common
7 accumulation of oil or gas, or both, but does not
8 include a gas storage reservoir. Each zone of a
9 geologic structure that is completely separated
10 from any other zone in the same structure may
11 contain a separate pool.

12 Q. And so was that definition used for the
13 purposes of the geological analysis you conducted
14 of the Engle Northeast unit?

15 A. Yes, it was.

16 Q. What information have you analyzed to
17 determine whether the unitized formation was a
18 pool or part of a pool?

19 A. So in the case of this unitization, I
20 reviewed available core reports, mud logs, and
21 electric log data of nearby pilot wells.

22 Q. Turning to Exhibit F, can you please
23 describe what that map shows and why it is
24 relevant to your geological analysis?

1 A. Sure. So this map shows the Engle
2 Northeast unit as the yellow box, with the three
3 nearest pilot wells as blue circles. And these
4 are the pilot wells that were used as part of that
5 analysis to describe the pool underneath the Engle
6 unit.

7 Q. Thank you. Now turning to Exhibit E,
8 can you please explain what this exhibit is and
9 how it relates to your geological analysis?

10 A. So this is a cross-section of the pilot
11 wells adjacent to the Engle unit. Geologic
12 mapping shows that the Utica Shale pool underlies
13 the entire Engle Northeast unit and is the same
14 approximate thickness and reservoir quality
15 throughout the unit area.

16 The accumulation of oil and gas extends
17 in all directions beyond the proposed unit. And
18 the rock properties such as lithology, porosity,
19 and fluid type are similar throughout the entire
20 unit and constitutes a common source of supply.
21 This is shown by the gamma ray, the resistivity,
22 and density logs on the cross-section. All three
23 logs have very similar log responses and
24 characteristics in all three of the pilot wells.

1 Q. And can you explain a little bit about
2 how gamma ray works and why that is relevant to
3 your analysis?

4 A. Sure. So the gamma-ray log records the
5 amount of natural gamma radiation being emitted by
6 the rocks in the subsurface. The gamma-ray log is
7 used to help correlate different formations and
8 derive lithology types. For example, we are able
9 to distinguish between a sandstone, a shale, or a
10 carbonate using this log.

11 Q. And how is that information reflected
12 on this slide?

13 A. So the gamma-ray log is the far left
14 curve on all three of the pilot wells. And as you
15 can see, the log response, or the character of the
16 log, is very similar. The three curves are almost
17 a perfect overlay of each other.

18 Q. And so what do these pilot gamma-ray
19 graphs tell us about the Engle Northeast unit, if
20 anything?

21 A. So I would expect the gamma-ray
22 signature of the Utica Shale formation underlying
23 the Engle Northeast unit to be consistent with the
24 three pilot wells.

1 Q. All right. Turning now to a different
2 topic, can you explain a little bit about how
3 resistivity works and why it is relevant?

4 A. So the resistivity log measures
5 electrical resistivity of the formation. So it is
6 used to determine fluid type from water, oil, or
7 gas. Water-bearing formations typically have a
8 lower resistivity to an electrical current, while
9 hydrocarbon-bearing formations typically have a
10 higher resistivity.

11 Q. And how is that information reflected
12 on the slide?

13 A. The resistivity log is the middle curve
14 on two of the three pilot wells. And once again,
15 very similar log responses. Almost a perfect
16 overlay of one another, indicating that there is a
17 uniform hydrocarbon saturation across the unit.

18 Q. What do these pilot wells resistivity
19 graphs tell us about the Engle Northeast unit, if
20 anything?

21 A. I would expect the resistivity of the
22 Utica Shale formation underlying the Engle
23 Northeast unit to be consistent with what we see
24 in the pilot wells.

1 Q. All right. Turning now to a concept
2 called "bulk density," can you explain a little
3 bit about that and why it is relevant?

4 A. So the bulk density helps us understand
5 just how dense or tight the rock is and helps to
6 evaluate the potential for storage space or
7 porosity within the rock.

8 Q. And how is the bulk density reflected
9 on the slide?

10 A. The bulk density curve is the black
11 curve on the far right of all three pilot wells.
12 And once again, as you can see, the density curves
13 on all three wells are almost identical, showing a
14 uniform amount of storage space across the unit.

15 Q. So what did these pilot wells tell us
16 about the Engle Northeast unit, if anything?

17 A. I would expect the storage potential or
18 porosity of the Utica Shale formation underlying
19 the Engle Northeast unit to be consistent with
20 what we see in the three pilot wells.

21 Q. Did you use the data in the analysis
22 you just described to form a professional opinion
23 about whether the unitized formation described in
24 the Engle Northeast unit is a pool or part of a

1 pool?

2 A. Yes.

3 Q. And what is your professional opinion
4 about that?

5 A. The unitized formation is part of a
6 pool.

7 Q. So is there a uniform thickness across
8 the unitized formation in the Engle Northeast
9 unit?

10 A. Yes, there is.

11 Q. And what is the thickness of the
12 Utica-Point Pleasant formation underlying the
13 Engle Northeast unit?

14 A. We expect that thickness to be 250 feet
15 thick.

16 Q. And what is the height of your target
17 zone for the wellbore?

18 A. Our target zone will be around 35 feet.

19 Q. Given your opinion that the unitized
20 formation is part of a pool and has uniform
21 thickness across the unit, in your professional
22 opinion, would it be appropriate to allocate unit
23 expenses and payments of the proceeds of oil and
24 gas production from the unit on a surface acreage

1 basis?

2 A. Yes. That's correct.

3 Q. And in your experience, is it common to
4 allocate payments on a surface acreage basis for
5 unit operations in the Utica-Point Pleasant
6 formation?

7 A. Yes, it is.

8 Q. Thank you, Mr. Daniels.

9 MS. APPAYA: I have no further
10 questions for you.

11 THE WITNESS: Thank you.

12 MR. LARGE: Hi. Could you tell me the
13 anticipated true vertical depth of the horizontal
14 portion of the wellbores?

15 THE WITNESS: Yeah. We expect to land
16 these wells at a TVD of 6,950 feet.

17 MR. LARGE: And could you tell me the
18 anticipated true vertical depth of the top of the
19 Utica, the Point Pleasant, and the Trenton
20 formations?

21 THE WITNESS: Yeah. The Utica is
22 expected to come in at 6,759 feet, Point Pleasant
23 at 6,889 feet, and then the Trenton at 7,009 feet.

24 MR. LARGE: And do you expect any

1 production from outside the Point Pleasant?

2 THE WITNESS: A small amount of
3 production from the Lower Utica is likely, but not
4 from the Trenton Limestone below the Point
5 Pleasant.

6 MR. LARGE: Okay.

7 Ms. Barrett, do you have any questions?

8 MS. BARRETT: No, I do not. Thank you.

9 THE WITNESS: Thank you.

10 MR. LARGE: Thank you.

11 Ms. Appaya, please call your next
12 witness.

13 MS. APPAYA: Thank you. I will now
14 call Wes Casto.

15 MR. LARGE: Please swear in the
16 witness.

17 - - - - -

18 MICHAEL "WES" CASTO

19 being first duly sworn, testifies and says as
20 follows:

21 DIRECT EXAMINATION

22 BY MS. APPAYA:

23 Q. Mr. Casto, would you please state your
24 name and place of employment for the record.

1 A. Sure. My name is Michael Casto, and I
2 go by Wes Casto. And my business is called Casto
3 Petroleum Engineering. I'm working as a
4 contractor for EOG Resources, Inc., which is the
5 successor in interest to EAP Ohio, LLC.

6 Q. And what is your job title?

7 A. Petroleum engineering consultant.

8 Q. Can you please describe for the panel
9 your educational background that led you to
10 becoming a reservoir engineer, including any
11 degrees that you hold?

12 A. Yes. I have a Bachelor of Science in
13 Petroleum Engineering from Marietta College.

14 Q. And then, please tell the panel about
15 your professional and work experience since
16 receiving your engineering degree from Marietta.

17 A. So upon graduation, I worked for
18 Chevron in drilling and completions. And then I
19 worked for Wright & Company Petroleum Consultants
20 for four years. And then in 2015, I became a
21 licensed professional engineer in Ohio and started
22 my company, Casto Petroleum Engineering.

23 I have testified as a reservoir
24 engineer in numerous ODNR hearings for several

1 operators. And I have also testified as a
2 petroleum engineering expert in many other legal
3 matters.

4 Q. And can you describe for us a little
5 bit about your responsibilities and work as a
6 petroleum engineering consultant?

7 A. Yes. I specialize in reservoir
8 engineering in the Utica and Marcellus Shales.
9 And I perform reserve reports, mineral appraisals,
10 acquisition and divestiture evaluations, and other
11 types of analysis for many clients throughout the
12 Appalachian Basin.

13 Q. Thank you. Did you assist with
14 preparing the application for unitization of the
15 Engle Northeast unit?

16 A. Yes, I did.

17 Q. I understand that you have analyzed the
18 potential recovery of oil and gas from the Engle
19 Northeast unit and the associated economics of the
20 unit under two scenarios. First is if the Engle
21 Northeast unit was drilled without an order for
22 unit operations. And the second, is if it was
23 drilled with the benefit of an order for unit
24 operations from the Division; is that correct?

1 A. Yes.

2 Q. All right. So first, I want to talk
3 about exactly what the well configurations would
4 be in each scenario so that we can better
5 understand your economic analysis. Turning now to
6 Exhibit D, are you familiar with this map?

7 A. Yes.

8 Q. And does this map accurately depict the
9 configuration of the wells that are the basis of
10 your operational and economical analysis?

11 A. Yes.

12 Q. Will EAP produce from the whole length
13 of each lateral if unit operations are approved?

14 A. Yes.

15 Q. If EAP does not receive an order
16 authorizing unit operations, what would be the
17 configuration and extent of the wells?

18 A. Under this scenario, the 5H lateral
19 would be limited to 4,201 feet. The 205H lateral
20 would be limited to 5,601 feet, and the 305H
21 lateral would be limited to 5,378 feet.

22 Q. And would EAP proceed with drilling the
23 wells without an order for unit operations?

24 A. No, they would not.

1 Q. Can you explain a little bit about why?

2 A. In that situation, each lateral would
3 no longer compete with other internal prospects
4 with respect to PV10 and other economic metrics.
5 And as the economics table will show, the present
6 value of the 5H, 205H, and 305H laterals would be
7 greatly affected if they could not be unitized.

8 Q. All right. Turning now to the
9 economics and production in both the unitized and
10 non-unitized scenarios. Are these the economic
11 tables that were included in the latest supplement
12 to the application for unitization of the Engle
13 Northeast unit?

14 A. Yes.

15 Q. Looking at the bottom table, can you
16 tell us the differences in lateral length between
17 the unitized and non-unitized scenarios?

18 A. Yes. The differences are 16,244 feet
19 for the 5H lateral; 14,352 feet for the 205H
20 lateral, and 14,094 feet for the 305H lateral.

21 Q. And when making your calculations, what
22 did you look at to estimate the potential recovery
23 from the Engle Northeast unit?

24 A. I created type curves for the proposed

1 laterals based on the performance of analogous
2 producing wells in the area. And in this
3 analysis, I considered many variables like thermal
4 maturity, completion parameters, proximity,
5 vintage, et cetera.

6 Q. Turning now to the analogue well map.
7 Does this exhibit show the wells that you used in
8 your analysis?

9 A. Yes.

10 Q. Does the information that is on the
11 screen now relate to the numbered analogue wells
12 you were just discussing?

13 A. Yes.

14 Q. All right. Turning back to the
15 economics table that we were viewing before, we
16 have already discussed the lateral length column,
17 but I have a few more questions about the other
18 columns in these tables. In particular, can you
19 explain what "Operating Costs" are and give some
20 examples of these costs?

21 A. The lease operating expenses are the
22 day-to-day costs incurred by the wells after
23 production begins. And these include the variable
24 oil costs, gas processing and transportation,

1 water transportation, as well as fixed monthly
2 costs in terms of dollars per well per month.

3 Q. Continuing our discussion of the
4 columns in the economics table, I see that the
5 next column is "Capital Costs." What is included
6 in these costs?

7 A. Capital cost includes the costs
8 associated with land, drilling, completions,
9 flowback, facilities, plugging and abandonment,
10 and reclamation.

11 Q. I would like to ask now about the value
12 assessment you made and applied to the estimated
13 recovery in each scenario. First, what pricing
14 index did you factor into your calculations?

15 A. I used the May of 2025 SEC price to
16 calculate revenues.

17 Q. And what do "PV0" and "PV10" mean?

18 A. Present value is a measure of cash flow
19 that is net of operating and capital costs that
20 can be represented at different discount rates in
21 order to account for the time value of money.

22 So for example, PV0 is the cash flow
23 discounted at a zero percent discount rate, and
24 PV10 is the net present value of the cash flow

1 discounted at 10 percent.

2 Q. And are the PV numbers net of
3 reasonably expected capital costs and operating
4 expenses?

5 A. Yes.

6 Q. Moving now to the estimated gross
7 recovery column, can you please explain a little
8 bit about what that is?

9 A. Yes. That is the volume of oil and gas
10 that is expected to be recovered in terms of BCFe,
11 which is an acronym for "billions of cubic feet
12 equivalent."

13 Q. Under the unitized scenario, can you
14 please tell the Division what you estimate for
15 production volumes, revenue, expenses and costs,
16 and value of recovery?

17 A. Yes. Under the unitized scenario, the
18 estimated gross recovery is 30.7 BCFe; the
19 discounted gross revenue is \$229.6 million;
20 operating expenses is \$93.7 million, capital cost
21 is \$46.4 million; the PV0 is \$48.3 million; and
22 the PV10 is \$20.8 million.

23 Q. Now, can you explain how those numbers
24 change in the second table from the top, being the

1 non-unitized scenario?

2 A. Yes. Under a non-unitized scenario,
3 the estimated gross recovery is 7.3 BCFe; the
4 discounted gross revenue is \$55.7 million;
5 operating expenses are \$24.1 million; capital
6 costs are \$18.0 million; PV0 is \$3.3 million; and
7 the PV10 is negative \$1.0 million.

8 Q. So is it your professional opinion and
9 testimony here today that a unit order is
10 reasonably necessary to increase substantially the
11 ultimate recovery of oil and gas in the Engle
12 Northeast unit?

13 A. Yes. And I estimate that EAP will
14 recover an additional 23.4 BCFe of oil and gas if
15 they are granted an order for unit operations.

16 Q. Lastly, is it your professional opinion
17 and testimony here today that the value of the
18 estimated additional recovery of oil and gas
19 exceeds the estimated additional costs of unit
20 operations?

21 A. Yes. And if you compare the present
22 value figures in the economics tables, unitization
23 will lead to an additional \$175.9 million realized
24 on an undiscounted gross revenue basis, an

1 additional \$45 million on a PV0 basis, and an
2 additional \$21.8 million in PV10 if the
3 unitization is granted.

4 Q. Thank you, Mr. Casto.

5 MS. APPAYA: I have no further
6 questions for you.

7 MR. LARGE: Thank you.

8 Could you tell me the estimated
9 economic life of the wells in years?

10 THE WITNESS: Yes. That will be 38
11 years.

12 MR. LARGE: And could you tell me the
13 estimated payout of the wells at 1 times, 1.5
14 times, 2 times, and 3 times?

15 THE WITNESS: Yes. The 1-times payout
16 is 2.2 years; 1.5-times payout is 6.6 years;
17 2-times payout is 21.7 years. And wells do not
18 achieve a 3-times payout.

19 MR. LARGE: Okay. And how are pad
20 costs accounted for in your calculations?

21 THE WITNESS: They were divided equally
22 among the wells that are planned to be developed
23 from the pad.

24 MR. LARGE: Okay. And did you use

1 actual pad costs or estimates for that?

2 THE WITNESS: It was estimated based on
3 historical practices.

4 MR. LARGE: And what amount was
5 included for plugging and restoration costs in
6 your economic calculations per well?

7 THE WITNESS: \$330,000 per well.

8 MR. LARGE: And could you tell me the
9 estimated BCFe per 1,000 feet?

10 THE WITNESS: Yes. 0.52 BCFe per
11 1,000.

12 MR. LARGE: And what was the estimated
13 recovery factor in the area?

14 THE WITNESS: 5 percent for oil and
15 22 percent for gas.

16 MR. LARGE: Okay.

17 Ms. Barrett, do you have any questions?

18 MS. BARRETT: No, I do not. Thank you.

19 MR. LARGE: Thank you.

20 So once again, if you would like to
21 make comments, I am first going to take all your
22 names and note whether you are an unleased mineral
23 owner, working interest owner, or an owner with
24 property in the unit.

1 Only one person may speak at a time to
2 properly record the hearing. And please mute your
3 microphone once you have delivered your comments
4 or questions to avoid any feedback. Additionally,
5 anyone speaking today will be asked to provide
6 their information to the court reporter. If you
7 are uncomfortable speaking during the hearing, we
8 will also accept written comments.

9 So if you have joined us via WebEx and
10 would like to make comments, please unmute
11 yourself now and state your name.

12 Hearing none.

13 If you have joined us via phone and
14 would like to make any comments, please press
15 "star 6" and state your name.

16 Hearing none.

17 Ms. Barrett, do you have any additional
18 questions for the Applicant?

19 MS. BARRETT: No, I do not. Thank you.

20 MR. LARGE: And does the Applicant have
21 any closing remarks?

22 MS. APPAYA: Yes. Thank you.

23 I just want to thank everyone for their
24 time today and say that EAP [sic] believes that it

1 has demonstrated that its application for unit
2 operations of the Engle Northeast unit meets the
3 requirements of Ohio Revised Code 1509.28. And
4 therefore respectfully asks that the Division
5 grant its application. Thank you.

6 MR. LARGE: Thank you, everyone.

7 The hearing is now concluded.

8 - - - - -

9 Thereupon, the foregoing proceedings
10 concluded at 12:16 p.m.

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1 State of Ohio : C E R T I F I C A T E
2 County of Franklin: SS

3 I, Bridget Mary Hoyer, a Notary Public in and
4 for the State of Ohio, do hereby certify that I
5 transcribed or supervised the transcription of the
6 audio recording of the aforementioned proceedings;
7 that the foregoing is a true record of the
8 proceedings.

9 I do further certify I am not a relative,
10 employee or attorney of any of the parties hereto,
11 and further I am not a relative or employee of any
12 attorney or counsel employed by the parties
13 hereto, or financially interested in the action.

14 IN WITNESS WHEREOF, I have hereunto set my
15 hand and affixed my seal of office at Columbus,
16 Ohio, on September 19, 2025.

17
18
19 

20 _____
21 Bridget Mary Hoyer, Notary Public - State of Ohio
22 My commission expires April 14, 2030.

Engle HN FRA NE

August 28, 2025

Lila M. Appaya



Engle HN FRA NE Exhibit "D"

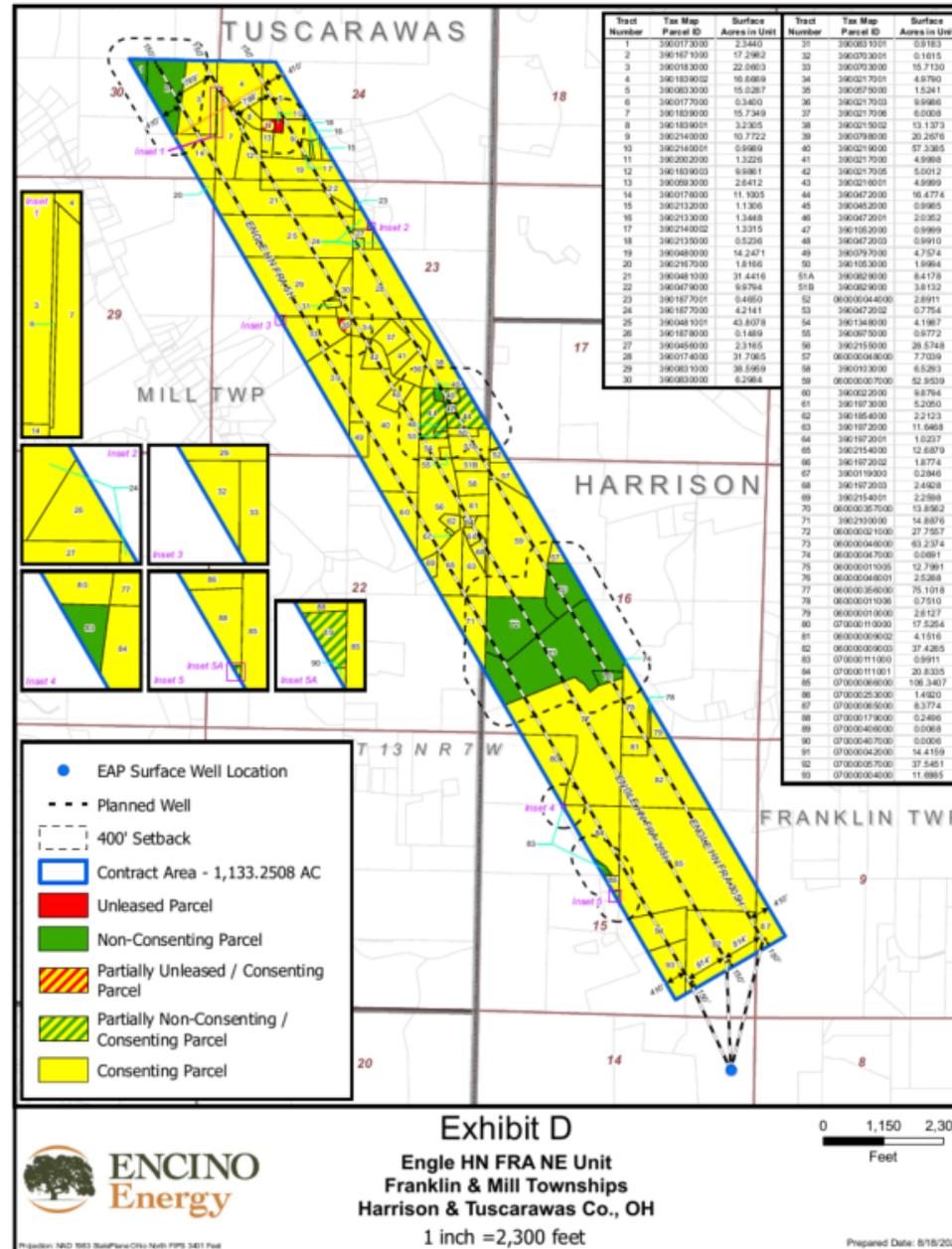
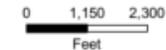


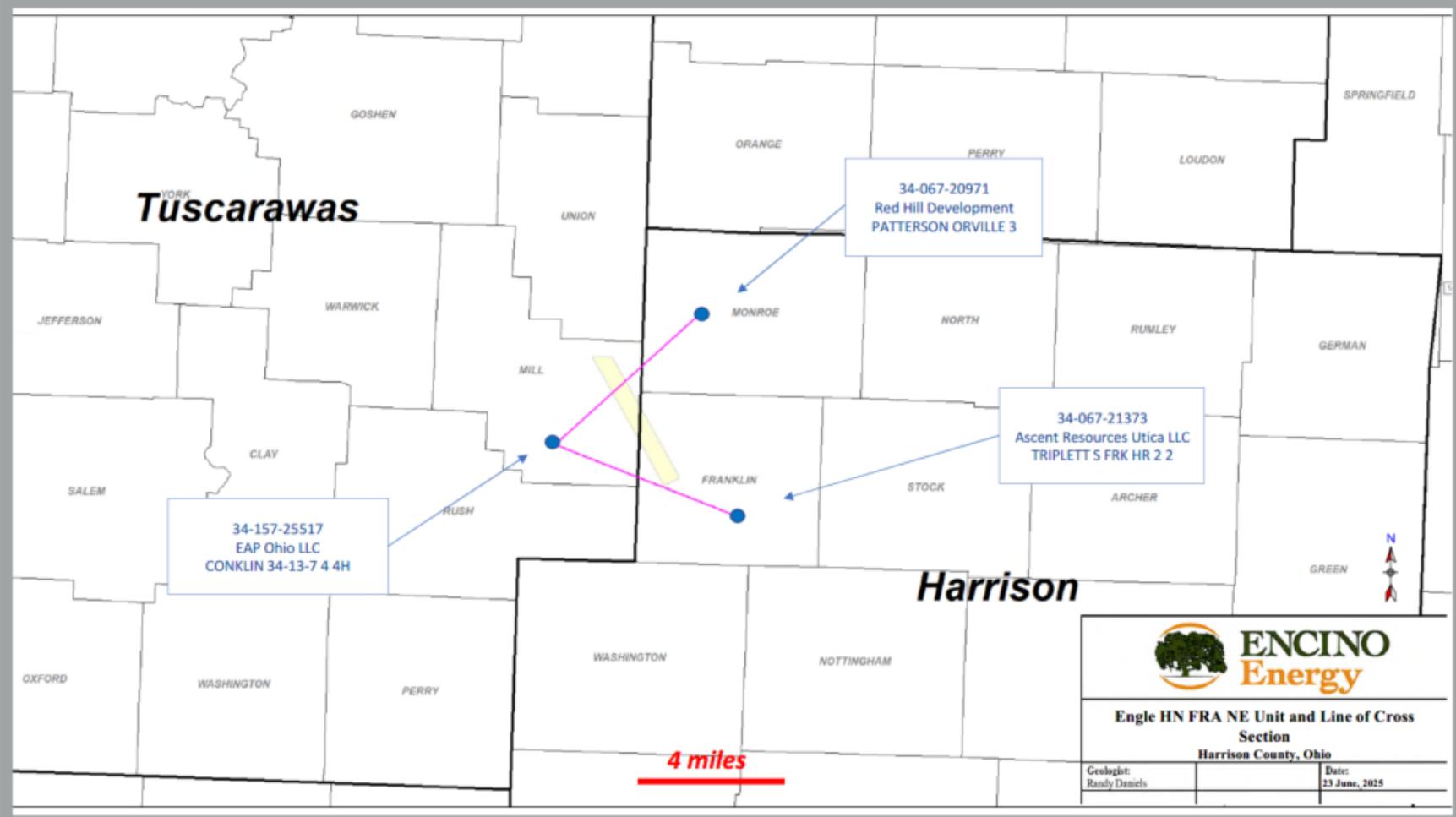
Exhibit D
Engle HN FRA NE Unit
Franklin & Mill Townships
Harrison & Tuscarawas Co., OH
1 inch = 2,300 feet



Prepared Date: 5/16/2025

Engle HN FRA NE

Exhibit "F"



Engle HN FRA NE Economic Summary



Section 5. Economic Calculation Summaries *Required* Unitized Scenario

Well Name	Lateral Length (ft)	Measured Depth (ft)	Operating Costs (MMS)	Capital Costs (MMS)	Undiscounted Value of Estimated Recovery (MMS)	PV0 (MMS)	PV10 (MMS)	Estimated Gross Recovery (BCFe)
ENGLE HN FRA 5H	20,445	27,945	32.0	15.8	78.5	16.5	7.1	10.5
ENGLE HN FRA 205H	19,953	27,453	31.2	15.5	76.5	16.1	6.9	10.2
ENGLE HN FRA 305H	19,472	26,972	30.5	15.1	74.6	15.7	6.8	10.0
Total:	59,870	82,370	93.7	46.4	229.6	48.3	20.8	30.7

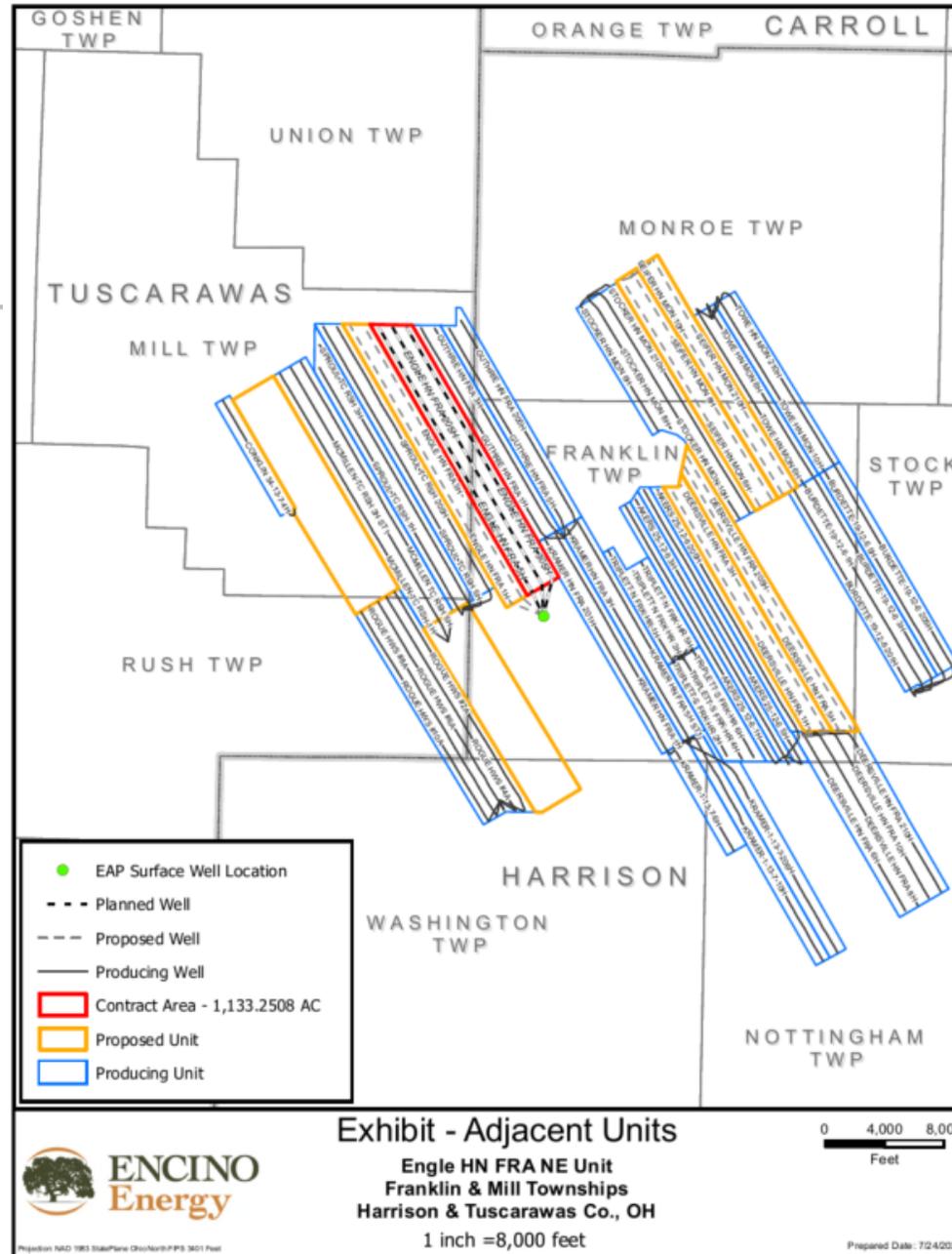
Non-Unitized Scenario

Well Name	Lateral Length (ft)	Measured Depth (ft)	Operating Costs (MMS)	Capital Costs (MMS)	Undiscounted Value of Estimated Recovery (MMS)	PV0 (MMS)	PV10 (MMS)	Estimated Gross Recovery (BCFe)
ENGLE HN FRA 5H	4,201	11,701	6.7	5.4	15.2	0.3	-0.7	2.0
ENGLE HN FRA 205H	5,601	13,101	8.9	6.4	20.7	1.6	-0.1	2.7
ENGLE HN FRA 305H	5,378	12,878	8.5	6.2	19.8	1.4	-0.2	2.6
Total:	15,180	37,680	24.1	18.0	55.7	3.3	-1.0	7.3

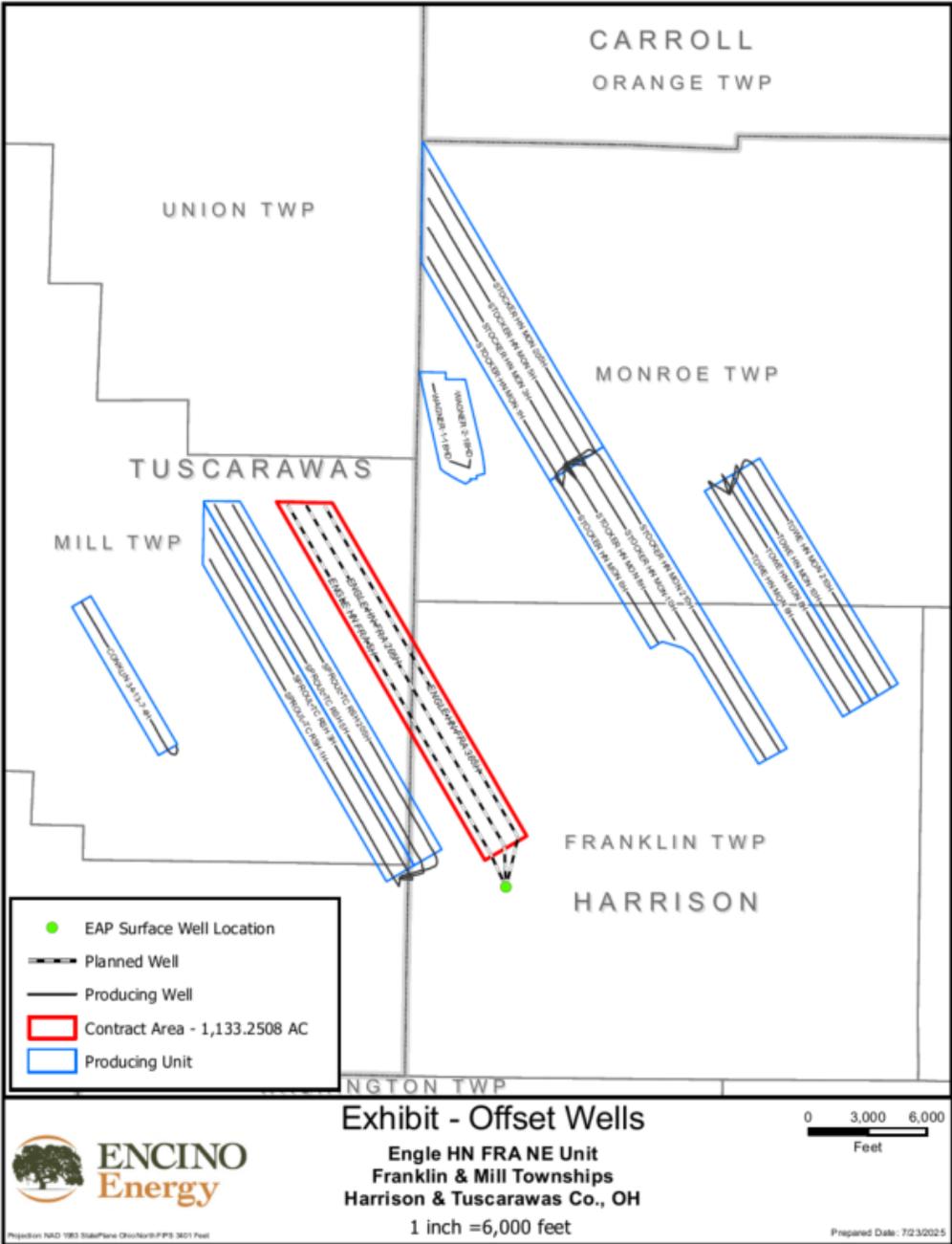
Difference

Well Name	Lateral Length (ft)	Measured Depth (ft)	Operating Costs (MMS)	Capital Costs (MMS)	Undiscounted Value of Estimated Recovery (MMS)	PV0 (MMS)	PV10 (MMS)	Estimated Gross Recovery (BCFe)
ENGLE HN FRA 5H	16,244	16,244	25.3	10.4	65.3	16.2	7.8	8.5
ENGLE HN FRA 205H	14,352	14,352	22.3	9.1	55.8	14.5	7.0	7.5
ENGLE HN FRA 305H	14,094	14,904	22.0	8.9	54.8	14.3	7.0	7.4
Total:	44,690	45,500	69.6	28.4	175.9	45.0	21.8	23.4

Engle HN FRA NE Adjacent Units



Engle HN FRA NE Offset Wells



Engle HN FRA NE Offset Wells



Well Name	API Number	Start Date	Lateral Length (Ft)	Distance from Unit (Mi)
CONKLIN 34-13-7 4H	34157255170100	12/1/2015	8,551	2.01
SPROUL TC RSH 1H	34157255410000	4/1/2024	18,489	0.79
SPROUL TC RSH 205H	34157255440000	4/1/2024	20,335	0.38
SPROUL TC RSH 3H	34157255420000	4/1/2024	19,957	0.68
SPROUL TC RSH 5H	34157255430000	4/1/2024	20,906	0.53
STOCKER HN MON 10H	34067217770000	7/1/2024	17,838	2.12
STOCKER HN MON 1H	34067217150000	4/1/2023	12,752	1.99
STOCKER HN MON 205H	34067217180000	4/1/2023	16,007	2.12
STOCKER HN MON 210H	34067217780000	7/1/2024	17,933	2.12
STOCKER HN MON 3H	34067217160000	4/1/2023	14,117	2.11
STOCKER HN MON 5H	34067217170000	4/1/2023	14,922	2.11
STOCKER HN MON 6H	34067217750000	7/1/2024	9,962	1.97
STOCKER HN MON 8H	34067217760000	7/1/2024	10,279	2.10
TOWE HN MON 10H	34067217580000	6/1/2024	12,374	3.34
TOWE HN MON 210H	34067217590000	6/1/2024	12,522	3.34
TOWE HN MON 6H	34067217560000	6/1/2024	12,304	3.22
TOWE HN MON 8H	34067217570000	6/1/2024	12,363	3.33
WAGNER 1-18HD	34067211600000	3/1/2015	4,322	0.02
WAGNER 2-18HD	34067211610100	1/1/2017	3,544	0.02

Thank You

Bricker 
Graydon