

STATE OF
COLORADO

Christopher - DNR, Brian <brian.christopher@state.co.us>

Roaring Fork 14-28 Form 2A Doc# 402149030

16 messages

Christopher - DNR, Brian <brian.christopher@state.co.us>

Fri, Feb 7, 2020 at 2:47 PM

To: Jenna Behm <jbehm@progressivepcs.net>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Melissa Housey - DNR <melissa.housey@state.co.us>

Jenna,

I am sorry about the slow response to several of your recent emails. I have recently been consolidating everything for and having some discussion about this location.

Since there are several email chains and several versions of BMPs between us, I am putting this together to consolidate everything into a new and clear email chain to allow for easy attachment of the correspondence for this location. If I have missed anything, please let me know. If others should be on this email, please include them. I have everything on my side in three categories: additional information/clarification, BMPs, and COAs.

Please provide the following information/clarifications to the Form, and concurrence to change the Form to reflect your answers:

- i. Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.
- ii. Please provide updated construction start and interim start dates.
- iii. The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No, uncheck the box, change disposition of application to Waived, and clear the remaining boxes.

Current BMPs from parts of the recent email chain. Red text is my request for edits or clarification. Please let me know if we are in agreement on these and provide edits for number 1 and 5.

1. Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. **Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.**
2. If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).
3. Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.
4. Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the

construction period and after precipitation events capable of causing erosion. Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.

5. Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Per SPCC requirements, Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Operator will construct the production facilities within lined secondary containment to prevent the offsite migration of potential contaminants into the nearby water feature in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.

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COAs that the COGCC will be adding to this location.

- A. All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.
- B. Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.
- C. Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north.
- D. If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.

Brian Christopher
Oil & Gas Location Assessment Specialist



COLORADO
Oil & Gas Conservation
Commission
Department of Natural Resources

P 303.894.2100 x5271
1120 Lincoln Street, Suite 801, Denver, CO 80203
Brian.Christopher@state.co.us | www.colorado.gov/cogcc

Jenna Behm <jbehm@progressivepcs.net>
To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Mon, Feb 10, 2020 at 7:11 AM

Hi Brian,

Thanks so much for getting back to us! I will discuss with my team and get a response back to you shortly!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Thu, Feb 13, 2020 at 3:50 PM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>, Melissa Housey - DNR <melissa.housey@state.co.us>

Cc: Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD

<elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivantc@gmail.com>, Julie Webb

<jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

Please see KODA's responses below regarding the Roaring Fork 14-28 location.

- Clarification for Form:

COGCC Feedback	KODA's additional information/clarification
Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.	Please add to the "Basis for depth to groundwater and sensitive area determination" such that the comment box reads: "Permit Number 37997 was used for distance to closest water well and basis for depth to groundwater and sensitive area determination. Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north are the basis for sensitive area determination for proximity to surface water." As a reminder, we approved changing the distance to the nearest water well to measure to the wildmill and to update the distance from 3433' to 495'.
Please provide updated construction start and interim start dates.	Construction date: April 1, 2020 Estimated interim reclamation start date: August 1, 2020
The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No,	We concur; please proceed with the revision.

uncheck the box, change disposition of application to Waived, and clear the remaining boxes.

• BMP's:

Current BMP with Brian's responses	KODA's additional information/clarification
<p>Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.</p>	<p>Please revise to the following:</p> <p>Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 30 days after drilling operations.</p>
<p>If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).</p>	<p>Agreed</p>
<p>Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.</p>	<p>Agreed</p>
<p>Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been</p>	<p>Agreed</p>

<p>constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the construction period and after precipitation events capable of causing erosion. Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.</p>	
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- COA's:

COA that COGCC will be adding	KODA's response
All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.	Agreed
Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.	Agreed
Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring	Agreed

protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north	
If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.	Agreed

Please let me know if you have any other questions.

Thanks!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Friday, February 7, 2020 2:47 PM

To: Jenna Behm <jbehm@progressivepcs.net>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Melissa Housey - DNR <melissa.housey@state.co.us>

Subject: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Thu, Feb 20, 2020 at 7:23 AM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>, Melissa Housey - DNR <melissa.housey@state.co.us>

Cc: Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhierro <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivan@cdhconsult.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

Per our phone conversation yesterday, please update the fencing and netting BMP to the following:

Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within **3** days after drilling operations.

Thank you,

Jenna Behm

Regulatory Analyst

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due to water resources comment to include the proximity to Adobe Creek.	<p>sensitive area determination" such that the comment box reads: "Permit Number 37997 was used for distance to closest water well and basis for depth to groundwater and sensitive area determination. Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north are the basis for sensitive area determination for proximity to surface water."</p> <p>As a reminder, we approved changing the distance to the nearest water well to measure to the wildmill and to update the distance from 3433' to 495'.</p>
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<p>installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).</p>	
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Regulatory Analyst

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Brian Christopher
Oil & Gas Location Assessment Specialist



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Christopher - DNR, Brian <brian.christopher@state.co.us>

Thu, Feb 20, 2020 at 10:39 AM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivantc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Jenna,

While doing the extra run through of the permit to see if anything else had fallen through a crack I came up with three additional things:

- A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?
- B. On the chain above, there was no discussion of keeping the old BMP #1, General Housekeeping, which is still on the Form. I wanted confirmation that keeping it is appropriate.
"Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur, prompt cleanup will be required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly."
- C. I never asked for confirmation to remove the old stormwater BMP (insufficient, replaced by and covered by the fourth BMP on the table above which is sufficient). Please provide concurrence to remove it.

Let me know and I will get this moving through the system.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



COLORADO
Oil & Gas Conservation
Commission
Department of Natural Resources

P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Thu, Feb 20, 2020 at 4:05 PM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivanc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

Please see KODA's responses below in red.

A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?

Basis for depth to groundwater and sensitive area determination:

The unpermitted windmill located 495' from the pad was used for distance to closest water well. Water well permit number 37997, approximately 3433' southeast from the pad, was used as the basis for depth to groundwater. Adobe Creek, approximately 160 feet to the east, and the drainage to Adobe Creek, approximately 200 feet to the north, are the basis for sensitive area determination for proximity to surface water.

B. On the chain above, there was no discussion of keeping the old BMP #1, General Housekeeping, which is still on the Form. I wanted confirmation that keeping it is appropriate.

Confirmed, this BMP can remain.

"Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur, prompt cleanup will be required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly."

C. I never asked for confirmation to remove the old stormwater BMP (insufficient, replaced by and covered by the fourth BMP on the table above which is sufficient). Please provide concurrence to remove it.

Concur, please remove.

Thank you!

[Quoted text hidden]

Christopher - DNR, Brian <brian.christopher@state.co.us>

Thu, Feb 20, 2020 at 4:26 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhierro <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivan@cdhconsult.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Thanks Jenna. I will get the Objective Criteria Memo together for this site.

Brian Christopher
Oil & Gas Location Assessment Specialist



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Commission
Department of Natural Resources

P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Fri, Feb 21, 2020 at 8:59 AM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Great thank you!

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Fri, Feb 28, 2020 at 11:55 AM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhierro <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivan@cdhconsult.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

As discussed over the phone, can you please make the following updates on the Roaring Fork 14-28 Form 2A?

Form 2A Doc #	Nearest Property line from Well	Nearest Property line from Production Facility	Plant Species Date of Observation
402149030	693'	458'	7/15/2019

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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[Quoted text hidden]

Christopher - DNR, Brian <brian.christopher@state.co.us>

Wed, Mar 4, 2020 at 12:52 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivantc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Jenna,

When this location went through the Objective Criteria Review, two changes were requested:

1. Adding a comment to the Form stating the uses of the two drilling pits (i.e. drilling pit and freshwater pit) on the facilities tab. Please provide a brief comment for me to add to the Form for this.
2. Adding the following COA, due to the shallow depth to potential groundwater and sandy/sandy loam soils:
In addition to collecting and analyzing representative samples of the drilling pit contents in accordance with Rule 905, operator shall collect a sample from the soils at the base of the drilling pit prior to pit closure to ensure the soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.

Please get the comment back to me so I can keep this location moving.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist**COLORADO**
Oil & Gas Conservation
Commission
Department of Natural Resources

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1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>
To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Wed, Mar 4, 2020 at 1:28 PM

Hi Brian,

I will get back to you shortly on this!

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net> Wed, Mar 4, 2020 at 4:56 PM
To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>
Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivanc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

1. The 2 pits will be constructed adjacent to one another and used during drilling operations. One pit will be used for fresh water storage and the other will be a drill pit used to capture drill cuttings.
2. We are ok with the COA as written.

[Quoted text hidden]

Christopher - DNR, Brian <brian.christopher@state.co.us> Fri, Mar 6, 2020 at 10:30 AM
To: Jenna Behm <jbehm@progressivepcs.net>
Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivanc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Jenna,

The Final Review of this location requested a language change to the wildlife BMP. It currently states "*Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 3 days after drilling operations.*" The requested revision is for it to state within 3 days of the end (or another word) of drilling operations (remove question about whether it is the start or end of drilling that the 3 days is related to).

Please let me know about this revision with a concurrence to change.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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Brian.Christopher@state.co.us | www.colorado.gov/cogcc

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Fri, Mar 6, 2020 at 11:40 AM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhiero <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivanvc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

We concur, please revise to the following:

"Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 3 days of the end of drilling operations."

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Friday, March 6, 2020 10:31 AM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivanvc@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

The Final Review of this location requested a language change to the wildlife BMP. It currently states "*Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 3 days after drilling operations.*" The requested revision is for it to state within 3 days of the end (or another word) of drilling operations (remove question about whether it is the start or end of drilling that the 3 days is related to).

Please let me know about this revision with a concurrence to change.

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Brian Christopher
Oil & Gas Location Assessment Specialist



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Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Wed, Mar 4, 2020 at 4:56 PM Jenna Behm <jbehm@progressivepcs.net> wrote:

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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Wednesday, March 4, 2020 12:52 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivan@comcast.net>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

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When this location went through the Objective Criteria Review, two changes were requested:

1. Adding a comment to the Form stating the uses of the two drilling pits (i.e. drilling pit and freshwater pit) on the facilities tab. Please provide a brief comment for me to add to the Form for this.
2. Adding the following COA, due to the shallow depth to potential groundwater and sandy/sandy loam soils:

In addition to collecting and analyzing representative samples of the drilling pit contents in accordance with Rule 905, operator shall collect a sample from the soils at the base of the drilling pit prior to pit closure to ensure the soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.

Please get the comment back to me so I can keep this location moving.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Fri, Feb 28, 2020 at 11:55 AM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

As discussed over the phone, can you please make the following updates on the Roaring Fork 14-28 Form 2A?

Form 2A Doc #	Nearest Property line from Well	Nearest Property line from Production Facility	Plant Species Date of Observation
402149030	693'	458'	7/15/2019

Thank you,

Jenna Behm

Regulatory Analyst

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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Thursday, February 20, 2020 4:27 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivan@comcast.net>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Thanks Jenna. I will get the Objective Criteria Memo together for this site.

Brian Christopher
Oil & Gas Location Assessment Specialist



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Oil & Gas Conservation
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Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Thu, Feb 20, 2020 at 4:05 PM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

Please see KODA's responses below in red.

- A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?

Basis for depth to groundwater and sensitive area determination:

The unpermitted windmill located 495' from the pad was used for distance to closest water well. Water well permit number 37997, approximately 3433' southeast from the pad, was used as the basis for depth to groundwater. Adobe Creek, approximately 160 feet to the east, and the drainage to Adobe Creek, approximately 200 feet to the north, are the basis for sensitive area determination for proximity to surface water.

- B. On the chain above, there was no discussion of keeping the old BMP #1, General Housekeeping, which is still on the Form. I wanted confirmation that keeping it is appropriate.

Confirmed, this BMP can remain.

"Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur, prompt cleanup will be required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly."

- C. I never asked for confirmation to remove the old stormwater BMP (insufficient, replaced by and covered by the fourth BMP on the table above which is sufficient). Please provide concurrence to remove it.

Concur, please remove.

Thank you!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Thursday, February 20, 2020 10:39 AM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivan@comcast.net>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

While doing the extra run through of the permit to see if anything else had fallen through a crack I came up with three additional things:

A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?

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Let me know and I will get this moving through the system.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Thu, Feb 20, 2020 at 7:23 AM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

Per our phone conversation yesterday, please update the fencing and netting BMP to the following:

Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within **3** days after drilling operations.

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Jenna Behm

Sent: Thursday, February 13, 2020 3:50 PM

To: Christopher - DNR, Brian <brian.christopher@state.co.us>; Melissa Housey - DNR <melissa.housey@state.co.us>

Cc: Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan

<rsullivan@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>
Subject: RE: Roaring Fork 14-28 Form 2A Doc# 402149030

Hi Brian,

Please see KODA's responses below regarding the Roaring Fork 14-28 location.

- Clarification for Form:

COGCC Feedback	KODA's additional information/clarification
Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.	Please add to the "Basis for depth to groundwater and sensitive area determination" such that the comment box reads: "Permit Number 37997 was used for distance to closest water well and basis for depth to groundwater and sensitive area determination. Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north are the basis for sensitive area determination for proximity to surface water." As a reminder, we approved changing the distance to the nearest water well to measure to the wildmill and to update the distance from 3433' to 495'.
Please provide updated construction start and interim start dates.	Construction date: April 1, 2020 Estimated interim reclamation start date: August 1, 2020
The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No, uncheck the box, change disposition of application to Waived, and clear the remaining boxes.	We concur; please proceed with the revision.

- BMP's:

Current BMP with Brian's responses	KODA's additional information/clarification

Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.	<p>Please revise to the following:</p> <p>Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 30 days after drilling operations.</p>
If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).	Agreed
Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.	Agreed
Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the construction period and after precipitation events capable of causing erosion.	Agreed

Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.	
<p>Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Per SPCG requirements, Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Operator will construct the production facilities within lined secondary containment to prevent the offsite migration of potential contaminants into the nearby water feature in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.</p> <p>Highlighted text is citing a regulation that COGCC does not directly control or is a repetitive section. Removal is recommended.</p>	<p>Agreed, please revise to the following:</p> <p>Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.</p>

- COA's:

COA that COGCC will be adding	KODA's response
All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.	Agreed
Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.	Agreed
Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek	Agreed

approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north	
If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.	Agreed

Please let me know if you have any other questions.

Thanks!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Friday, February 7, 2020 2:47 PM

To: Jenna Behm <jbehm@progressivepcs.net>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Melissa Housey - DNR <melissa.housey@state.co.us>

Subject: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

I am sorry about the slow response to several of your recent emails. I have recently been consolidating everything for and having some discussion about this location.

Since there are several email chains and several versions of BMPs between us, I am putting this together to consolidate everything into a new and clear email chain to allow for easy attachment of the correspondence for this location. If I have missed anything, please let me know. If others should be on this email, please include them. I have everything on my side in three categories: additional information/clarification, BMPs, and COAs.

Please provide the following information/clarifications to the Form, and concurrence to change the Form to reflect your answers:

- i. Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.
- ii. Please provide updated construction start and interim start dates.
- iii. The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No, uncheck the box, change disposition of application to Waived, and clear the remaining boxes.

Current BMPs from parts of the recent email chain. Red text is my request for edits or clarification. Please let me know if we are in agreement on these and provide edits for number 1 and 5.

1. Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. **Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.**
2. If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).
3. Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.
4. Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the construction period and after precipitation events capable of causing erosion. Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.
5. Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Per SPCC requirements, Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Operator will construct the production facilities within lined secondary containment to prevent the offsite migration of potential contaminants into the nearby water feature in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.

Highlighted text is citing a regulation that COGCC does not directly control or is a repetitive section. Removal is recommended.

COAs that the COGCC will be adding to this location.

- A. All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.
- B. Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.

C. Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north.

D. If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.

Brian Christopher
Oil & Gas Location Assessment Specialist



COLORADO
Oil & Gas Conservation
Commission
Department of Natural Resources

P 303.894.2100 x5271
1120 Lincoln Street, Suite 801, Denver, CO 80203
Brian.Christopher@state.co.us | www.colorado.gov/cogcc

Christopher - DNR, Brian <brian.christopher@state.co.us>

Mon, Mar 9, 2020 at 1:26 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhierro <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivanc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Jenna,

Final Approval of the Koda came up with one additional revision. For floodplain determination, FEMA does not map that area of Lincoln County. Please provide concurrence to remove the selection box for Federal and provide any other methods used to determine whether the location is in a floodplain. During the technical review, we examined the soil types to verify that the soils were not consistent with floodplains and confirmed that the location is on a bench above Adobe Creek. I intend to add the comment "During COGCC technical review, soil classification and local geomorphology were examined to confirm that the location is not within a floodplain.", and check the 'other' box. Please provide concurrence for this.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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P 303.894.2100 x5271
1120 Lincoln Street, Suite 801, Denver, CO 80203
Brian.Christopher@state.co.us | www.colorado.gov/cogcc

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COAs that the COGCC will be adding to this location.

- A. All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.
- B. Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.
- C. Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north.
- D. If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.

[Quoted text hidden]

Jenna Behm <jbehm@progressivepcs.net>

Mon, Mar 9, 2020 at 2:49 PM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>, Ashley Noonan <anoonan@progressivepcs.net>, Chris Delhierro <chris@cdhconsult.com>, ANDERS ELGERD <elgerd@comcast.net>, Joseph Rezendes <rezenjp@gmail.com>, Ryan Sullivan <rsullivantc@gmail.com>, Julie Webb <jwebb@progressivepcs.net>, Tim Rathmann <tim@rivunc.com>

Hi Brian,

We concur with your comments below. Do you need anything else from KODA at this time for the floodplain determination?

Thanks,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>
Sent: Monday, March 9, 2020 1:26 PM
To: Jenna Behm <jbehm@progressivepcs.net>
Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivantc@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>
Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

Final Approval of the Koda came up with one additional revision. For floodplain determination, FEMA does not map that area of Lincoln County. Please provide concurrence to remove the selection box for Federal and provide any other methods used to determine whether the location is in a floodplain. During the technical review, we examined the soil types to verify that the soils were not consistent with floodplains and confirmed that the location is on a bench above Adobe Creek. I intend to add the comment "During COGCC technical review, soil classification and local geomorphology were examined to confirm that the location is not within a floodplain.", and check the 'other' box. Please provide concurrence for this.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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Department of Natural Resources

P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Fri, Mar 6, 2020 at 11:40 AM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

We concur, please revise to the following:

"Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 3 days of the end of drilling operations."

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Friday, March 6, 2020 10:31 AM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivanc@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

The Final Review of this location requested a language change to the wildlife BMP. It currently states "*Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 3 days after drilling operations.*" The requested revision is for it to state within 3 days of the end (or another word) of drilling operations (remove question about whether it is the start or end of drilling that the 3 days is related to).

Please let me know about this revision with a concurrence to change.

Thanks,

Brian Christopher

Oil & Gas Location Assessment Specialist



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P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Wed, Mar 4, 2020 at 4:56 PM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

1. The 2 pits will be constructed adjacent to one another and used during drilling operations. One pit will be used for fresh water storage and the other will be a drill pit used to capture drill cuttings.
2. We are ok with the COA as written.

Thanks!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Wednesday, March 4, 2020 12:52 PM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivan@comcast.net>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

When this location went through the Objective Criteria Review, two changes were requested:

1. Adding a comment to the Form stating the uses of the two drilling pits (i.e. drilling pit and freshwater pit) on the facilities tab. Please provide a brief comment for me to add to the Form for this.

2. Adding the following COA, due to the shallow depth to potential groundwater and sandy/sandy loam soils:

In addition to collecting and analyzing representative samples of the drilling pit contents in accordance with Rule 905, operator shall collect a sample from the soils at the base of the drilling pit prior to pit closure to ensure the soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.

Please get the comment back to me so I can keep this location moving.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Fri, Feb 28, 2020 at 11:55 AM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

As discussed over the phone, can you please make the following updates on the Roaring Fork 14-28 Form 2A?

Form 2A Doc #	Nearest Property line from Well	Nearest Property line from Production Facility	Plant Species Date of Observation
402149030	693'	458'	7/15/2019

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>
Sent: Thursday, February 20, 2020 4:27 PM
To: Jenna Behm <jbehm@progressivepcs.net>
Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhierro <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivanc@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>
Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Thanks Jenna. I will get the Objective Criteria Memo together for this site.

Brian Christopher
Oil & Gas Location Assessment Specialist



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Department of Natural Resources

P 303.894.2100 x5271
1120 Lincoln Street, Suite 801, Denver, CO 80203
Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Thu, Feb 20, 2020 at 4:05 PM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

Please see KODA's responses below in red.

A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?

Basis for depth to groundwater and sensitive area determination:

The unpermitted windmill located 495' from the pad was used for distance to closest water well. Water well permit number 37997, approximately 3433' southeast from the pad, was used as the basis for depth to groundwater. Adobe Creek, approximately 160 feet to the east, and the drainage to Adobe Creek,

approximately 200 feet to the north, are the basis for sensitive area determination for proximity to surface water.

B. On the chain above, there was no discussion of keeping the old BMP #1, General Housekeeping, which is still on the Form. I wanted confirmation that keeping it is appropriate.

Confirmed, this BMP can remain.

"Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur, prompt cleanup will be required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly."

C. I never asked for confirmation to remove the old stormwater BMP (insufficient, replaced by and covered by the fourth BMP on the table above which is sufficient). Please provide concurrence to remove it.

Concur, please remove.

Thank you!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Thursday, February 20, 2020 10:39 AM

To: Jenna Behm <jbehm@progressivepcs.net>

Cc: Melissa Housey - DNR <melissa.housey@state.co.us>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivanc@gmail.com>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>

Subject: Re: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

While doing the extra run through of the permit to see if anything else had fallen through a crack I came up with three additional things:

A. Sensitive Area Water comment. That the closest water well is now the unpermitted windmill, not permit # 37997 (which is still tied to depth to groundwater). Can you update the comment again and send it to me for this?

B. On the chain above, there was no discussion of keeping the old BMP #1, General Housekeeping, which is still on the Form. I wanted confirmation that keeping it is appropriate.

"Housekeeping will consist of neat and orderly storage of materials and fluids. Wastes will be temporarily stored in sealed containers and regularly collected and disposed of at offsite, suitable facilities. If spills occur, prompt cleanup will be required to minimize any commingling of waste materials with stormwater runoff. Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. Cleanup will consist of patrolling the roadways, access areas, and other work areas to pick up trash, scrap debris, other discarded materials, and any contaminated soil. These materials will be disposed of properly."

C. I never asked for confirmation to remove the old stormwater BMP (insufficient, replaced by and covered by the fourth BMP on the table above which is sufficient). Please provide concurrence to remove it.

Let me know and I will get this moving through the system.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist



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Department of Natural Resources

P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc

On Thu, Feb 20, 2020 at 7:23 AM Jenna Behm <jbehm@progressivepcs.net> wrote:

Hi Brian,

Per our phone conversation yesterday, please update the fencing and netting BMP to the following:

Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within **3** days after drilling operations.

Thank you,

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Jenna Behm**Sent:** Thursday, February 13, 2020 3:50 PM**To:** Christopher - DNR, Brian <brian.christopher@state.co.us>; Melissa Housey - DNR <melissa.housey@state.co.us>**Cc:** Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Joseph Rezendes <rezenjp@gmail.com>; Ryan Sullivan <rsullivan@comcast.net>; Julie Webb <jwebb@progressivepcs.net>; Tim Rathmann <tim@rivunc.com>**Subject:** RE: Roaring Fork 14-28 Form 2A Doc# 402149030

Hi Brian,

Please see KODA's responses below regarding the Roaring Fork 14-28 location.

- Clarification for Form:

COGCC Feedback	KODA's additional information/clarification
Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.	<p>Please add to the "Basis for depth to groundwater and sensitive area determination" such that the comment box reads: "Permit Number 37997 was used for distance to closest water well and basis for depth to groundwater and sensitive area determination. Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north are the basis for sensitive area determination for proximity to surface water."</p> <p>As a reminder, we approved changing the distance to the nearest water well to measure to the wildmill and to update the distance from 3433' to 495'.</p>

Please provide updated construction start and interim start dates.	Construction date: April 1, 2020 Estimated interim reclamation start date: August 1, 2020
The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No, uncheck the box, change disposition of application to Waived, and clear the remaining boxes.	We concur; please proceed with the revision.

- BMP's:

Current BMP with Brian's responses	KODA's additional information/clarification
Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.	Please revise to the following: Operator shall protect wildlife, migratory birds and domestic animals (e.g., livestock) from reserve pit (drilling pit) access by installing fencing and netting appropriate for wildlife exclusion within 30 days after drilling operations.
If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed	Agreed

from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).	
Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.	Agreed
Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the construction period and after precipitation events capable of causing erosion. Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.	Agreed
Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Per SPCC requirements, Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Operator will construct the production facilities within lined secondary containment to prevent the offsite migration of potential contaminants into the nearby water feature in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.	Agreed, please revise to the following: Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.

Highlighted text is citing a regulation that COGCC does not directly control or is a repetitive section. Removal is recommended.

- COA's:

COA that COGCC will be adding	KODA's response
All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.	Agreed
Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.	Agreed
Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north	Agreed
If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.	Agreed

Please let me know if you have any other questions.

Thanks!

Jenna Behm

Regulatory Analyst

Progressive Consulting

o: (303) 309-1654

c: (720) 470-6112



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From: Christopher - DNR, Brian <brian.christopher@state.co.us>

Sent: Friday, February 7, 2020 2:47 PM

To: Jenna Behm <jbehm@progressivepcs.net>; Ashley Noonan <anoonan@progressivepcs.net>; Chris Delhiero <chris@cdhconsult.com>; ANDERS ELGERD <elgerd@comcast.net>; Melissa Housey - DNR <melissa.housey@state.co.us>

Subject: Roaring Fork 14-28 Form 2A Doc# 402149030

Jenna,

I am sorry about the slow response to several of your recent emails. I have recently been consolidating everything for and having some discussion about this location.

Since there are several email chains and several versions of BMPs between us, I am putting this together to consolidate everything into a new and clear email chain to allow for easy attachment of the correspondence for this location. If I have missed anything, please let me know. If others should be on this email, please include them. I have everything on my side in three categories: additional information/clarification, BMPs, and COAs.

Please provide the following information/clarifications to the Form, and concurrence to change the Form to reflect your answers:

- i. Please provide an expanded sensitive area due to water resources comment to include the proximity to Adobe Creek.
- ii. Please provide updated construction start and interim start dates.
- iii. The Lincoln County Oil and Gas Exploration Permit is not regarded as a local siting permit. As such there are changes to be made to the Local Government Information in the Location Identification section of the Form. As such, please provide concurrence for me to change the answer to "Does the local government with jurisdiction" to No, uncheck the box, change disposition of application to Waived, and clear the remaining boxes.

Current BMPs from parts of the recent email chain. Red text is my request for edits or clarification. Please let me know if we are in agreement on these and provide edits for number 1 and 5.

1. Operator shall protect wildlife, migratory birds and domestic animal (e.g., livestock) from reserve pit (drilling pit) after drilling and completion operations and prior to closure, by installing and maintaining fencing, netting, and/or other equivalent exclusion measures in accordance with 900-series Rules. **Please tighten the language for the timing of installation so that the fencing and netting is installed after continuous operations end, so that the fencing and netting will be in place in case of a large gap between drilling and completions or if there are no completions. Additionally, unless an alternative to netting is agreed to, we may need to add an additional COA for wildlife protection. It may be advisable to remove the reference to other exclusion measures to avoid this line of discussion. Please expand the description of the BMP to note that the fencing and netting are appropriate for wildlife exclusion.**
2. If Operator completes well after drilling it, temporary tanks, separators, and other temporary facilities necessary to test productivity will be installed. Temporary facilities will be replaced with permanent facilities as soon as possible, but shall not be in service for more than 60 calendar days after well completion activities. Temporary facilities will be cleaned, decommissioned and removed from the location within 30 calendar days after being taken out of service. Temporary facilities will not be installed if the well is abandoned during drilling operations (D&A).
3. Operator intends to construct an unlined earthen reserve pit (drilling pit). If shallow groundwater is encountered during construction of the pit, Operator will notify COGCC that a liner

will be installed or will halt construction of the pit and will notify COGCC that a closed-loop mud system will be used instead of the unlined earthen reserve pit.

4. Due to the proximity of a nearby surface water feature, Operator will employ effective stormwater BMPs to prevent offsite migration of sediment and erosion. Stormwater controls will be installed around the cross-gradient and down-gradient perimeters of the location to prevent offsite migration of sediment into the surface water feature. Once the well pad has been constructed, a variety of BMP's will be utilized, based on site specific conditions. BMP's to be utilized may include, but are not limited to earthen berms, erosion control blankets, straw bale barrier, straw wattles, check dams, culvert and culvert inlet/outlet protection, silt fence, surface roughening and surface ripping. BMPs will be inspected at least every 14 days during the construction period and after precipitation events capable of causing erosion. Maintenance will be conducted as required and new BMPs will be installed if existing BMPs prove ineffective.

5. Due to the proximity of a nearby surface water feature, Operator will employ various BMPs to ensure that wellsite materials do not migrate offsite or into the subsurface. Per SPCC requirements, Operator will construct the permanent production facilities within lined secondary containment consisting of steel ring berms tied into an engineered synthetic liner to prevent the migration of potential contaminants into the underlying soils and groundwater in the event of a spill. Operator will construct the production facilities within lined secondary containment to prevent the offsite migration of potential contaminants into the nearby water feature in the event of a spill. Temporary production facilities will be installed on temporary containment pads with fold-up walls and/or liners draped over dirt berm side-walls around all tanks and treaters/separators. While temporary production facilities and permanent production facilities are in use, Operator will conduct daily inspections of production equipment and tank levels to ensure there are no leaks or spills and respond immediately in the event of a spill. COGCC and other agency spill reporting requirements will be followed.

Highlighted text is citing a regulation that COGCC does not directly control or is a repetitive section. Removal is recommended.

COAs that the COGCC will be adding to this location.

- A. All vessels and liquid containers shall be placed in impervious-lined secondary containment or containers.
- B. Operator shall notify COGCC via a Form 42 Field Operations Notice for Completion of Permit Condition to allow for COGCC inspection at least 48 hours prior to backfilling and closing the drilling pit in accordance with Rule 1003. Operator shall collect representative samples of the pit contents to ensure that the cuttings/soils meet the concentration levels in COGCC Rules Table 910-1 prior to backfilling the pit. The sample results shall be provided to COGCC within 14 days of request.
- C. Operator shall use engineered controls that prevent off-site sediment migration and damage from runoff, ensuring protection of surrounding lands, Adobe Creek approximately 160 feet to the east, and the drainage to Adobe Creek approximately 200 feet to the north.
- D. If groundwater is encountered during construction of the drilling pits, the operator shall line the drilling pits, make use of tanks, or utilize a closed-loop system.

Brian Christopher
Oil & Gas Location Assessment Specialist



COLORADO
Oil & Gas Conservation
Commission
Department of Natural Resources

P 303.894.2100 x5271

1120 Lincoln Street, Suite 801, Denver, CO 80203

Brian.Christopher@state.co.us | www.colorado.gov/cogcc