

STATE OF
COLORADO

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

Safi 1224 Form 2A Doc 402010466

4 messages

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

Wed, Oct 16, 2019 at 1:04 PM

Ms. Mitchell,

I am conducting the Oil and Gas Location Assessment for the Safi 1224 location, Doc #402010466, and have the following questions:

1. Do you have any updated BMPs for this location? If so, this could answer multiple questions on my list.
2. BMP #4, storm water/erosion control. Please provide site specific BMPs.
3. BMP #8, noise mitigation. Please provide site specific BMP.
4. Please expand/add LDAR BMP.
5. Are there any plans to build a vehicle tracking pad at this location? Related to BMP #3, mud control, also potentially stormwater. If so, can you send additional language to expand this BMP?
6. Please provide secondary containment BMP. Please include discussion on what is beneath the separators.
7. I want your concurrence to add DSU Docket # 190700515 to the location.
8. Can you provide updated construction start and reclamation start dates?
9. As this location is in the Greater Wattenberg Area, please send us your Waste Management Plan.
10. Please provide language to add to the comment in the submit tab about how no Rule 306 consultation is needed as Verdad is the surface owner.
11. Will any of the wells on this location be producing minerals from Section 12? If not, do I have your concurrence to change the minerals beneath the oil and gas location question to no?
12. With your concurrence, the depth to ground water will be changed to 23 ft. to reflect the static water level from the referenced water well, Permit # 12389R. With the soil types at this location being clay loams, infiltration is likely high enough to make this a sensitive area.
13. With your concurrence, the distance to the nearest surface water feature will be shifted to the irrigation ditch, approximately 38 ft. east of the location. If you have a surveyed distance to this ditch, etc., please let me know.
14. Under the construction tab, commercial disposal is selected for both drilling fluids disposal and cuttings disposal. The comment in the submittal tab seems to contradict this. What are Verdad's disposal plans?
15. The distance to property lines on cultural setbacks and the location map do not match the locations of property lines in the access road map. Please advise and let me know what corrections are needed to make this consistent.
16. Hydrology map does not show the irrigation pond or irrigation ditch next to the location. These do not show up on the topographic map, but do need to be accounted for. Please send us an updated Hydrology map.
17. If the number of tanks at this location are being reduced, please let me know.
18. This location meets the Director's Objective Criteria 5.c., a Sensitive Area for water resources.
19. This location meets the Director's Objective Criteria 8, related to number/volume of hydrocarbon or produced liquid storage tanks.

Please provide me with this additional information within the next 30 days.

Please contact me with any questions.

Thank you,

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

VR Regulatory <Regulatory@verdadoil.com>

Thu, Oct 17, 2019 at 11:43 AM

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

Hi Brian – see my responses below and also the revised attachments.

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

Sent: Wednesday, October 16, 2019 1:05 PM

To: VR Regulatory <Regulatory@VerdadOil.com>

Subject: Safi 1224 Form 2A Doc 402010466

Ms. Mitchell,

I am conducting the Oil and Gas Location Assessment for the Safi 1224 location, Doc #402010466, and have the following questions:

1. Do you have any updated BMPs for this location? If so, this could answer multiple questions on my list.
2. BMP #4, storm water/erosion control. Please provide site specific BMPs.

A Stormwater management plan (SWMP) will be in place to address construction, drilling, and operations associated with the CDPHE permit. Control measures for stormwater will be implemented around the perimeter of the pad prior to construction. The control measures will include: a large volume detention ditch and diversion berm around the perimeter of the pad disturbance, to keep stormwater from flowing off the pad to sediment removal control measures; two sediment traps with armored inlets and outlets at the northside and southeast corner of the pad to detain stormwater runoff from the pad and allow sediment to settle from the stormwater; and wattles at the sediment trap outlets to slow the departure of the water from the sediment trap and further remove any remaining sediment from the stormwater as well as a crop vegetative buffer over 50 feet to the North and over 200 feet to the East, the most likely directions of flow from the sediment trap outlets. These control measures will remain in place and maintained throughout operations until final reclamation and be modified as appropriate to observations during Stormwater inspections. The control measures described will manage stormwater flow to prevent erosion and sediment transport to the centerline ditch to the East of the pad.

3. BMP #8, noise mitigation. Please provide site specific BMP. We will install sound walls to the south and west. We will also commit to quiet frac fleets.
4. Please expand/add LDAR BMP.

AVO (Audio, Visual, Olfactory) inspections of pipe and connections will be performed daily on production equipment to detect leaks which will be immediately corrected, repaired and reported to COGCC as required.

5. Are there any plans to build a vehicle tracking pad at this location? Related to BMP #3, mud control, also potentially stormwater. If so, can you send additional language to expand this BMP?

Mud control: Operator will implement effective, temporary vehicle tracking control at the location egress to prevent transport of sediment offsite and onto the public road during construction, drilling, completions, stimulation, and flowback operations. Appropriate vehicle tracking control, such as a properly sized cattle guard or 2-inch to 4-inch stone, will still be required during production operations.

6. Please provide secondary containment BMP. Please include discussion on what is beneath the separators.

Separators are encompassed by steel berms and surrounded road base that is approximately 1-2 feet and it is sufficiently impervious per SPCC regulation to greatly minimize impact to the soil from any potential leak or drip from the separators. Sites are visited daily so a spill would be detected and cleaned up before any significant infiltration could occur. The berms would contain a spill from leaving the area around the separators.

7. I want your concurrence to add DSU Docket # 190700515 to the location. **These are all Wellbore Spaced Units.**
8. Can you provide updated construction start and reclamation start dates? **02/01/2019 and 08/01/2019**
9. As this location is in the Greater Wattenberg Area, please send us your Waste Management Plan. **Attached**

10. Please provide language to add to the comment in the submit tab about how no Rule 306 consultation is needed as Verdad is the surface owner.

Verdad Resources is the surface owner of this location and no rule 306 consultation is needed.

11. Will any of the wells on this location be producing minerals from Section 12? If not, do I have your concurrence to change the minerals beneath the oil and gas location question to no? **I concur**
12. With your concurrence, the depth to ground water will be changed to 23 ft. to reflect the static water level from the referenced water well, Permit # 12389R. With the soil types at this location being clay loams, infiltration is likely high enough to make this a sensitive area. **I concur**
13. With your concurrence, the distance to the nearest surface water feature will be shifted to the irrigation ditch, approximately 38 ft. east of the location. If you have a surveyed distance to this ditch, etc., please let me know. **We show 29'NW of the pad on our revised location drawing.**
14. Under the construction tab, commercial disposal is selected for both drilling fluids disposal and cuttings disposal. The comment in the submittal tab seems to contradict this. What are Verdad's disposal plans? **Let's remove that comment. Our contractor put that in there, I believe in the event we do something besides commercial disposal. The waste management plan is also consistent with commercial disposal.**
15. The distance to property lines on cultural setbacks and the location map do not match the locations of property lines in the access road map. Please advise and let me know what corrections are needed to make this consistent. **The access road was right and I have corrected distance for the 2A is 392' W from the Safi 1224 01H and 104' N from a VOC. I will have the form 2s updated.**
16. Hydrology map does not show the irrigation pond or irrigation ditch next to the location. These do not show up on the topographic map, but do need to be accounted for. Please send us an updated Hydrology map. **Attached**
17. If the number of tanks at this location are being reduced, please let me know. **We have reduced the number of tanks to 20 oil tanks and 10 water tanks on a revised location drawing (attached) because we reduced the tanks, the cultural distances from production equipment changed as well. .**
18. This location meets the Director's Objective Criteria 5.c., a Sensitive Area for water resources.
19. This location meets the Director's Objective Criteria 8, related to number/volume of hydrocarbon or produced liquid storage tanks.

Additional BMPs we have added since the submittal of this 2A below

Stormwater management plans (SWMP) will be in place to address construction, drilling, and operations associated with CDPHE permits. The location will have stormwater control measures consisting of a berm around the perimeter of the location to divert clean water away from disturbed areas and to divert onsite runoff into a sediment trap, a ditch around the location to collect and divert runoff to a sediment trap, and two to four sediment traps to allow sediment to settle out of diverted stormwater runoff. Sediment trap spill way will use rip-rap, aggregate and/or wattles to further filter runoff. These control measures will be inspected at the following frequencies: or 2-inch to 4-inch stone

Every 14 days during construction, drilling and completions. Once per month after that, until interim reclamation is completely established (approximately 2 years). Once per year after that until facility abandoned.

During drilling operations 12 inches of cement is placed under the rig surrounded by a compacted soil berm to prevent any soil contamination. Drilling mud is stored in large volume tanks that will be surrounded by impervious secondary containment.

Verdad will employ automated tank gauges to allow for the gauging of liquids without opening the thief hatch. This will minimize the number of times a thief hatch will be opened and further reduce the vapor emissions from tank.

Verdad wells have remote shut-in capabilities to mitigate spills and safety issues. Remote shut-in will allow Verdad to immediately shut a well in the event of a reported problem on location or in the event of a potential threat such as a grass fire or flood.

[Quoted text hidden]

3 attachments

 **F2A_SAFI_1224_LOCATION_DRAWING_REV4.pdf**
749K

 **F2A_SAFI_1224_HYDROLOGY_REV4.pdf**
220K

 **VR WMP 10.09.19.pdf**
55K

Christopher - DNR, Brian <brian.christopher@state.co.us>
To: VR Regulatory <Regulatory@verdadoil.com>

Fri, Oct 18, 2019 at 1:49 PM

Heather,

I have several of the responses you made that I need additional clarification on:

2. BMP #4, storm water/erosion control. Please provide site specific BMPs.

A Stormwater management plan (SWMP) will be in place to address construction, drilling, and operations associated with the CDPHE permit. Control measures for stormwater will be implemented around the perimeter of the pad prior to construction. The control measures will include: a large volume detention ditch and diversion berm around the perimeter of the pad disturbance, to keep stormwater from flowing off the pad to sediment removal control measures; two sediment traps with armored inlets and outlets at the northside and southeast corner of the pad to detain stormwater runoff from the pad and allow sediment to settle from the stormwater; and wattles at the sediment trap outlets to slow the departure of the water from the sediment trap and further remove any remaining sediment from the stormwater as well as a crop vegetative buffer over 50 feet to the North and over 200 feet to the East, the most likely directions of flow from the sediment trap outlets. These control measures will remain in place and maintained throughout operations until final reclamation and be modified as appropriate to observations during Stormwater inspections. The control measures described will manage stormwater flow to prevent erosion and sediment transport to the centerline ditch to the East of the pad.

And from the bottom of your email.

Stormwater management plans (SWMP) will be in place to address construction, drilling, and operations associated with CDPHE permits. The location will have stormwater control measures consisting of a berm around the perimeter of the location to divert clean water away from disturbed areas and to divert onsite runoff into a sediment trap, a ditch around the location to collect and divert runoff to a sediment trap, and two to four sediment traps to allow sediment to settle out of diverted stormwater runoff. Sediment trap spill way will use rip-rap, aggregate and/or wattles to further filter runoff. These control measures will be inspected at the following frequencies: or 2-inch to 4-inch stone

Every 14 days during construction, drilling and completions. Once per month after that, until interim reclamation is completely established (approximately 2 years). Once per year after that until facility abandoned.

Are these meant to overlap and cover the same ground? If not, can you reconcile these and give me one BMP?

6. Please provide secondary containment BMP. Please include discussion on what is beneath the separators.

Separators are encompassed by steel berms and surrounded road base that is approximately 1-2 feet and it is sufficiently impervious per SPCC regulation to greatly minimize impact to the soil from any potential leak or drip from the separators. Sites are visited daily so a spill would be detected and cleaned up before any significant infiltration could occur. The berms would contain a spill from leaving the area around the separators.

Please also include the tank battery containment construction for this BMP.

8. Can you provide updated construction start and reclamation start dates? 02/01/2019 and 08/01/2019

Dates in past

Please let me know if you have any questions.

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]

VR Regulatory <Regulatory@verdadoil.com>

Mon, Oct 21, 2019 at 8:39 AM

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

Hi Brian – Please see below.

2. BMP #4, storm water/erosion control. Please provide site specific BMPs.

A Stormwater management plan (SWMP) will be in place to address construction, drilling, and operations associated with the CDPHE permit. Control measures for stormwater will be implemented around the perimeter of the pad prior to construction. The control measures will include: a large volume detention ditch and diversion berm around the perimeter of the pad disturbance, to keep stormwater from flowing off the pad to sediment removal control measures; two sediment traps with armored inlets and outlets at the northside and southeast corner of the pad to detain stormwater runoff from the pad and allow sediment to settle from the stormwater; and wattles at the sediment trap outlets to slow the departure of the water from the sediment trap and further remove any remaining sediment from the stormwater as well as a crop vegetative buffer over 50 feet to the North and over 200 feet to the East, the most likely directions of flow from the sediment trap outlets. These control measures will remain in place and maintained throughout operations until final reclamation and be modified as appropriate to observations during Stormwater inspections. The control measures described will manage stormwater flow to prevent erosion and sediment transport to the centerline ditch to the East of the pad.

Every 14 days during construction, drilling and completions. Once per month after that, until interim reclamation is completely established (approximately 2 years). Once per year after that until facility abandoned.

Please also include the tank battery containment construction for this BMP.

To minimize potential impacts to soil, the operator shall line the secondary containment areas for the tanks with an impervious poly or spray in liner.

8. Can you provide updated construction start and reclamation start dates? **02/01/2020 and 08/01/2020**

Thanks,

Heather Mitchell

Regulatory Manager

Verdad Resources

HMitchell@verdadoil.com

720-845-6917

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

Sent: Friday, October 18, 2019 1:50 PM

To: VR Regulatory <Regulatory@VerdadOil.com>

Subject: Re: Safi 1224 Form 2A Doc 402010466

Heather,

I have several of the responses you made that I need additional clarification on:

2. BMP #4, storm water/erosion control. Please provide site specific BMPs.

A Stormwater management plan (SWMP) will be in place to address construction, drilling, and operations associated with the CDPHE permit. Control measures for stormwater will be implemented around the perimeter of the pad prior to construction. The control measures will include: a large volume detention ditch and diversion berm around the perimeter of the pad disturbance, to keep stormwater from flowing off the pad to sediment removal control measures; two sediment traps with armored inlets and outlets at the northside and southeast corner of the pad to detain stormwater runoff from the pad and allow sediment to settle from the stormwater; and wattles at the sediment trap outlets to slow the departure of the water from the sediment trap and further remove any remaining sediment from the stormwater as well as a crop vegetative buffer over 50 feet to the North and over 200 feet to the East, the most likely directions of flow from the sediment trap outlets. These control measures will remain in place and maintained throughout operations until final reclamation and be modified as appropriate to observations during Stormwater inspections. The control measures described will manage stormwater flow to prevent erosion and sediment transport to the centerline ditch to the East of the pad.

And from the bottom of your email.

Stormwater management plans (SWMP) will be in place to address construction, drilling, and operations associated with CDPHE permits. The location will have stormwater control measures consisting of a berm around the perimeter of the location to divert clean water away from disturbed areas and to divert onsite runoff into a sediment trap, a ditch around the location to collect and divert runoff to a sediment trap, and two to four sediment traps to allow sediment to settle out of diverted stormwater runoff. Sediment trap spill way will use rip-rap, aggregate and/or wattles to further filter runoff. These control measures will be inspected at the following frequencies: or 2-inch to 4-inch stone

Are these meant to overlap and cover the same ground? If not, can you reconcile these and give me one BMP?

[Quoted text hidden]

[Quoted text hidden]