

STATE OF
COLORADO

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

Form 2A Review Marble-Redstone Doc# 402069851

5 messages

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

Mon, Feb 10, 2020 at 5:43 PM

To: regulatory@ascentgeomatics.com

Cc: Whitney Eberhardt <w.eberhardt@gmtexploration.com>

Justin,

While reviewing GMT's Marble-Redstone location, I came up with the following questions/BMPs to be addressed.

1. Please let us know the tank sizes planned for this location. I am attempting to determine whether this location meets Objective Criteria 8.
2. Please let us know how much of a cut slope there is around the compressors on the production location, for noise mitigation purposes. This is looking at buildings to the south and southwest.
3. Pipeline takeaway. Please let us know if there is pipeline takeaway from this location. Gas takeaway will impact BMP #15.
4. Please provide additional information about what drilling mud is planned for this location. I am trying to determine whether the odor BMP needs to be strengthened.
5. Please provide the GPS location of the SW corner of the pad (near where the access road enters). I am trying to confirm some of the cultural distances and need a more accurate spot than our current submittal system requires.
6. Please let us know more about the new construction in Section 25. I have concerns that the new road may be the closest public road to the location.
7. Please provide an additional secondary containment BMP for the process equipment that is not within the tank secondary containment.
8. Distance to nearest downgradient surface water feature. It appears that the water feature used for this was the livestock tank. If so, please shift this to one of the unnamed drainages to Coal Creek and provide a new distance.
9. Please let me know if I have your concurrence to remove the line noting the 604 citations in the Operator Submittal Comments (see 10.h. for explanation).
10. BMPs
 - a. BMP #4. Stormwater controls. The existing stormwater control BMP is too vague to be used with the topography around this location. The Construction Layout Drawing shows plans. Please flesh out this BMP (such as a perimeter control diverting runoff to another control and if there is an upgradient control preventing run-on). Also, please remove the last sentence of the current BMP as it is citing a SWMP and CDPHE permit that are not under COGCC jurisdiction.
 - b. BMP #8. SPCC. As the COGCC does not review and is not the agency responsible for overseeing SPCC plans, it is advised that this BMP be removed.
 - c. BMP #14. Noise mitigation. Beyond the baseline noise survey, this BMP is so vague that it does not say anything. Please strengthen. I also asked above if the cut slope is sufficient to serve as noise mitigation to the south and southwest. If so, please include here.
 - d. BMP #15. Green Completions. Please let us know if there is pipeline takeaway for this location. If there is pipeline takeaway, we recommend noting that once salable gas is achieved, that it be diverted to the sales line.
 - e. BMP #7, 9. Inspections. Please change these BMPs to inspect the location, production equipment, or something expanded along those lines, instead of just the tanks. These BMPs can also be combined.
 - f. BMP #16. Odor mitigation. As currently written, this BMP does not say much. Please elaborate and expand, potentially including: what mud system is planned, other steps taken to reduce odor, frequency of cuttings removal, etc.
 - g. BMP #20. Interim Reclamation. The activities covered on this BMP are covered strongly by COGCC 1000 series rules. Instead of re-working this BMP, can it be removed?
 - h. Multiple BMPs. I want to strip the 604.c. references off of the BMPs that contain them. As this is not a location in a Buffer Zone, we do not want the citations. Please give me your concurrence to remove the rule citations, leaving the meat of the BMPs intact.

Please let me know if you have any questions about any of this. Due to construction in our office, I am only intermittently reachable by phone, but try to be responsive to email.

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

Ann Feldman <afeldman@ascentgeomatics.com>

Tue, Feb 11, 2020 at 8:16 AM

To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>, Justin Garrett <jgarrett@ascentgeomatics.com>

Cc: Whitney Eberhardt <w.eberhardt@gmtexploration.com>

Good morning, Brian,

We are working through your comments and will get back to you with responses.

Many thanks in advance for your patience.

Best regards,

Ann L. Feldman

Regulatory Manager

Ascent Geomatics Solutions (Formerly PFS)

8620 Wolff Court

Westminster, Colorado 80031

Office: 303-928-7128

Fax: 303-218-5678

TBPLS Firm Registration No. 10194123



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[Quoted text hidden]

[Quoted text hidden]

[Quoted text hidden]

[Quoted text hidden]

Justin Garrett <jgarrett@ascentgeomatics.com>

Tue, Feb 18, 2020 at 12:37 PM

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

Cc: Whitney Eberhardt <w.eberhardt@gmtexploration.com>

Brian –

Please see the responses below in **Red**.

Whitney will call to follow-up on items #3 and #10.d.

She can answer any additional questions, and you can continue to contact me.

Thank you for your patience.

Thanks again

Justin Garrett

Regulatory Analyst

Ascent Geomatics Solutions (Formerly PFS)

Office: 303.928.7128

8620 Wolff Court

Westminster, CO 80031

TBPLS Firm Registration No. 10194123



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

Sent: Monday, February 10, 2020 5:44 PM

To: Regulatory <regulatory@Ascentgeomatics.com>

Cc: Whitney Eberhardt <w.eberhardt@gmtexploration.com>

Subject: Form 2A Review Marble-Redstone Doc# 402069851

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GMT plans to use a Cat II system.

The mud properties will be in the following range:

Oil:Water Ratio	70:30 to 80:20
Mud Weight	9.5 to 10.0 ppg
Yield Point	8 to 12
Plastic Viscosity	12 to 15
Electric Stability	500 mv or higher
Excess Lime	More than 2 ppb
Low Gravity Solids	Less than 5%

5. Please provide the GPS location of the SW corner of the pad (near where the access road enters). I am trying to confirm some of the cultural distances and need a more accurate spot than our current submittal system requires. **The SW corner of the pad is 39.508668, -104.618367**

6. Please let us know more about the new construction in Section 25. I have concerns that the new road may be the closest public road to the location. **The new construction in SEC 25 is associated with Ptarmagin Ranch, a planned community, consisting of 18 un platted lots being sold by the current owner of the land. GMT's access road does not**

utilize any portion of SEC 25, and actually exists on SEC 30 of T6S - 64W. GMT has been working with that owner for access to the parcel in SEC 24. Once in SEC 24, GMT is negotiating utilizing a stretch of land owned by Elbert county for our access road. This will eventually be paved, but the proposed access road will be used as the substructure for the future permanent CR 178.

7. Please provide an additional secondary containment BMP for the process equipment that is not within the tank secondary containment. **Language for secondary containment for process equipment was added to the revised BMP #7,9.**
8. Distance to nearest downgradient surface water feature. It appears that the water feature used for this was the livestock tank. If so, please shift this to one of the unnamed drainages to Coal Creek and provide a new distance. **The distance to the intermittent stream is 904' E of the edge of disturbance as per the Hydrology Map.**
9. Please let me know if I have your concurrence to remove the line noting the 604 citations in the Operator Submittal Comments (see 10.h. for explanation). **Yes, please remove.**
10. BMPs
 - a. BMP #4. Stormwater controls. The existing stormwater control BMP is too vague to be used with the topography around this location. The Construction Layout Drawing shows plans. Please flesh out this BMP (such as a perimeter control diverting runoff to another control and if there is an upgradient control preventing run-on). Also, please remove the last sentence of the current BMP as it is citing a SWMP and CDPHE permit that are not under COGCC jurisdiction. **Revised BMP #4: Storm Water/Erosion Control: Operator will implement and maintain Best Management Practices, including diversion ditches, sediment basins, and ponds as indicated on the construction layout drawings, to control stormwater runoff in a manner that minimizes erosion, transport of sediment off-site, and site degradation. The operator will co-locate gas and water gathering pipelines whenever feasible and will mitigate any erosion problems that arise due to the construction of any pipelines.**
 - b. BMP #8. SPCC. As the COGCC does not review and is not the agency responsible for overseeing SPCC plans, it is advised that this BMP be removed. **Yes, please remove.**
 - c. BMP #14. Noise mitigation. Beyond the baseline noise survey, this BMP is so vague that it does not say anything. Please strengthen. I also asked above if the cut slope is sufficient to serve as noise mitigation to the south and southwest. If so, please include here. **Revised BMP #14: Any operations involving the use of a drilling rig, workover rig, or fracturing and any equipment used in the drilling, completion or production of a well are subject to and will comply with the noise regulations set forth by COGCC Rule 802. If a noise complaint is made to either GMT directly, the COGCC, or the local government, and GMT is notified of the complaint, noise levels will be measured within 48 hours of GMT's receipt of the complaint. GMT will contact the concerned party (if contact information is available) to discuss the complaint and the results of the noise measurements.**
 - d. BMP #15. Green Completions. Please let us know if there is pipeline takeaway for this location. If there is pipeline takeaway, we recommend noting that once salable gas is achieved, that it be diverted to the sales line. **Yes, a pipeline is planned. Revised BMP #15: Green Completions - Flow lines, separators, sand traps, and emission control systems shall be installed on-site to accommodate green completions techniques. When commercial quantities of salable quality gas are achieved at each well, the gas shall be immediately directed to a sales line or shut in and conserved. If a sales line is unavailable or other conditions prevent placing the gas into a sales line, the operator shall not produce the wells without an approved variance per Rule 805.b. (3)C.**
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Please let me know if you have any questions about any of this. Due to construction in our office, I am only intermittently reachable by phone, but try to be responsive to email.

Thanks,

Brian Christopher
Oil & Gas Location Assessment Specialist

[Redacted]

[Quoted text hidden]

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

Wed, Feb 19, 2020 at 4:11 PM

To: Justin Garrett <jgarrett@ascentgeomatics.com>

Cc: Regulatory <regulatory@ascentgeomatics.com>, Whitney Eberhardt <w.eberhardt@gmtexploration.com>

Justin or Whitney,

My additional clarification questions/comments are below in blue. Hans spoke with John Noto and I last week to resolve 3 and 10.d. I am still thinking through sound mitigation and will likely want changes to the sound BMP as what is below is an overcorrection, but want to know more about the cut slope before formulating what to ask about. Our phones should be resolved now, so I should be able to receive phone calls again.

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Going off of what is above, is it accurate to say that GMT uses a IPIECA Group II mud? If so, adding that a Group II mud is being used to the odor BMP is very beneficial and answer this question.

GMT plans to use a Cat II system.

The mud properties will be in the following range:

Oil:Water Ratio 70:30 to 80:20

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b. BMP #8. SPCC. As the COGCC does not review and is not the agency responsible for overseeing SPCC plans, it is advised that this BMP be removed. Yes, please remove.

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f. BMP #16. Odor mitigation. As currently written, this BMP does not say much. Please elaborate and expand, potentially including: what mud system is planned, other steps taken to reduce odor, frequency of cuttings removal, etc. **Revised BMP #16: No noxious, prolonged or unusually high amounts of odor are expected from the proposed drilling of the wells. Oil and gas facilities and equipment shall be operated in such a manner that odors do not constitute a nuisance or hazard to public welfare. Hydrocarbon odors from production facilities are minimized and eliminated by keeping produced fluid hydrocarbons and natural gas contained within pipes, separators, tanks, and combustors. All tanks will be sealed with thief hatches and gaskets. Tank vapors are captured with properly sized piping and combustors. See discussion of drilling mud type above to potentially include a reference to Group II mud, if accurate.**

g. BMP #20. Interim Reclamation. The activities covered on this BMP are covered strongly by COGCC 1000 series rules. Instead of re-working this BMP, can it be removed? **Yes, please remove.**

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Please let me know if you have any questions about any of this. ~~Due to construction in our office, I am only intermittently reachable by phone, but try to be responsive to email.~~

Thanks,

Brian Christopher

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1120 Lincoln Street, Suite 801, Denver, CO 80203

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

[Quoted text hidden]

Whitney Eberhardt <w.eberhardt@gmtexploration.com>
To: "Christopher - DNR, Brian" <brian.christopher@state.co.us>

Mon, Feb 24, 2020 at 3:32 PM

Brian,

Please see my answers below in orange and let me know if you have any questions or need anything else from me.

Thank you!
Whitney

----- Forwarded message -----

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

Date: Wed, Feb 19, 2020 at 4:12 PM

Subject: Re: Form 2A Review Marble-Redstone Doc# 402069851

To: Justin Garrett <jgarrett@ascentgeomatrics.com>

Cc: Regulatory <regulatory@ascentgeomatrics.com>, Whitney Eberhardt <w.eberhardt@gmtexploration.com>

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Going off of what is above, is it accurate to say that GMT uses a IPIECA Group II mud? If so, adding that a Group II mud is being used to the odor BMP is very beneficial and answer this question.

We are planning on using the Group (Catagory) II mud. I would include the following table:

Table 4. Definitions for Group I, II, & III drilling fluids¹

Category	Components	Aromatic content
Group I: high-aromatic content fluids	Crude oil, diesel oil, and conventional mineral oil	5-35%
Group II: medium-aromatic content fluids	Low-toxicity mineral oil, distillate products	0.5-5%
Group III: low/negligible aromatic content fluids	Ester, LAO, IO, PAO, linear paraffin and highly processed mineral oil and synthetic oil	<0.5% and PAH lower than 0.001%

GMT plans to use a Cat II system.

The mud properties will be in the following range:

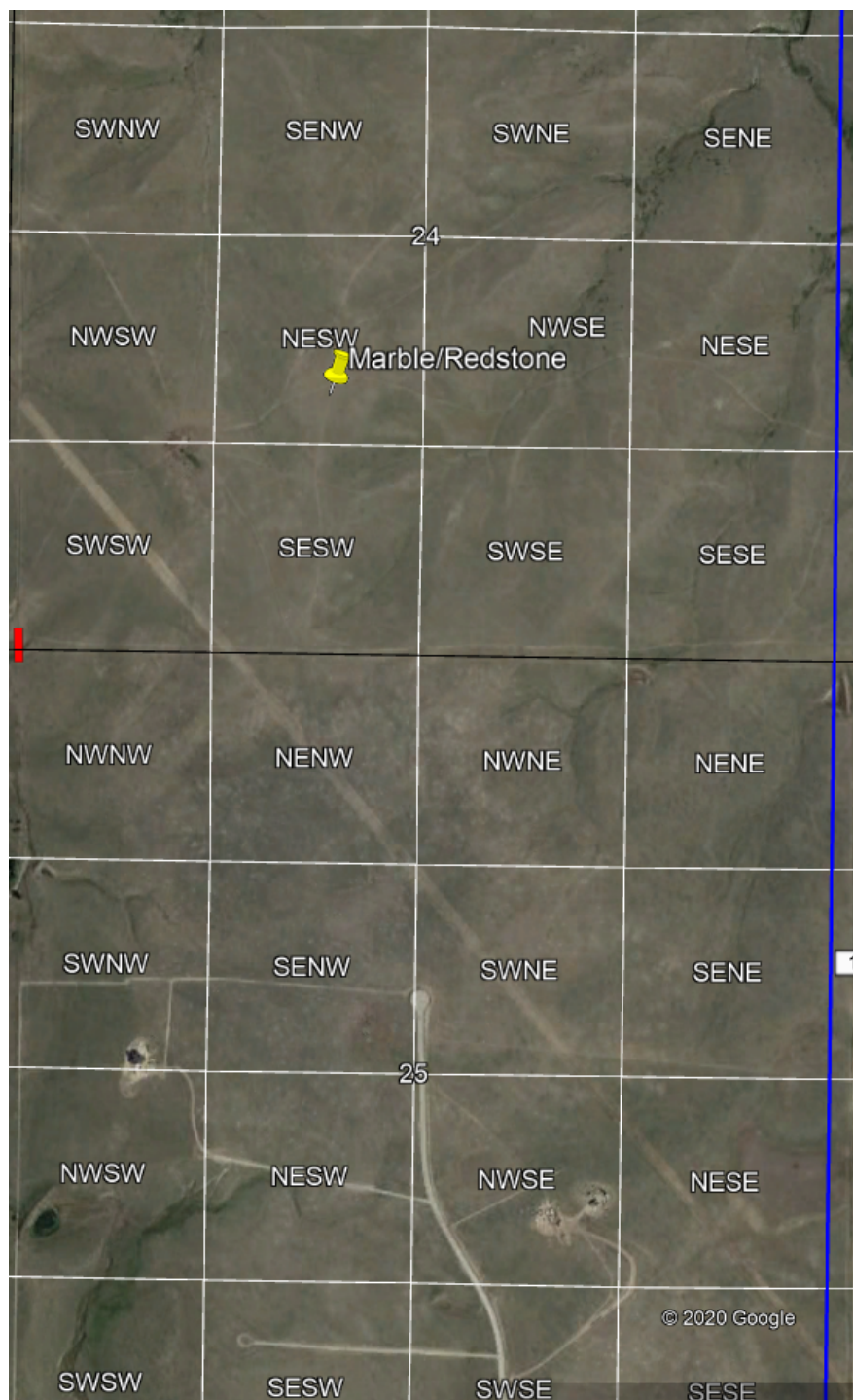
Oil:Water Ratio	70:30 to 80:20
Mud Weight	9.5 to 10.0 ppg
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We are not sure how to respond to the change in cultural distance to the nearest public road. At this time the road has not been built, and could potentially not be built. We are working with the developer who is building to the road to ensure that any construction we do prior to the road being build will be done in a way that it can be used for the final paved road. If the road is built the cultural distances will definitely change, as the road will run along the S2 section line of SEC 22, 23, 24, but until the road is built there is no guarantee.

A review of our 181 buffer map and google earth (photo taken 9/2020) show no construction within 2000'.



7. Please provide an additional secondary containment BMP for the process equipment that is not within the tank secondary containment. **Language for secondary containment for process equipment was added to the revised BMP #7,9.**

8. Distance to nearest downgradient surface water feature. It appears that the water feature used for this was the livestock tank. If so, please shift this to one of the unnamed drainages to Coal Creek and provide a new distance. **The distance to the intermittent stream is 904' E of the edge of disturbance as per the Hydrology Map.**

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b. BMP #8. SPCC. As the COGCC does not review and is not the agency responsible for overseeing SPCC plans, it is advised that this BMP be removed. **Yes, please remove.**

c. BMP #14. Noise mitigation. Beyond the baseline noise survey, this BMP is so vague that it does not say anything. Please strengthen. I also asked above if the cut slope is sufficient to serve as noise mitigation to the south and southwest. If so, please include here. **Revised BMP #14: Any operations involving the use of a drilling rig, workover rig, or fracturing and any equipment used in the drilling, completion or production of a well are subject to and will comply with the noise regulations set forth by COGCC Rule 802. If a noise complaint is made to either GMT directly, the COGCC, or the local government, and GMT is notified of the complaint, noise levels will be measured within 48 hours of GMT's receipt of the complaint. GMT will contact the concerned party (if contact information is available) to discuss the complaint and the results of the noise measurements.**

d. BMP #15. Green Completions. Please let us know if there is pipeline takeaway for this location. If there is pipeline takeaway, we recommend noting that once salable gas is achieved, that it be diverted to the sales line. **Yes, a pipeline is planned. Revised BMP #15: Green Completions - Flow lines, separators, sand traps, and emission control systems shall be installed on-site to accommodate green completions techniques. When commercial quantities of salable quality gas are achieved at each well, the gas shall be immediately directed to a sales line or shut in and conserved. If a sales line is unavailable or other conditions prevent placing the gas into a sales line, the operator shall not produce the wells without an approved variance per Rule 805.b. (3)C.**

e. BMP #7, 9. Inspections. Please change these BMPs to inspect the location, production equipment, or something expanded along those lines, instead of just the tanks. These BMPs can also be combined. **Revised BMP #7,9: Pumper will visit the location daily and visually inspect all wellheads, tanks and fittings to identify leaks. Additionally, recorded inspections will be conducted once a month and annual SPCC inspections will be conducted and documented according to COGCC rules 1101 and 1102. Secondary containment will be installed around separators and treaters consisting of metal berm walls. The separators and treaters will be set on top of compacted road base. Confirming that I can consolidate these BMPs and just delete BMP 9, and use what is provided for BMP 7. I do not see an issue combining the two and eliminating #9.**

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