



REALtime Aquifer Services

March 5, 2020

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Mr. Elliott Russell  
Colorado Division of Reclamation, Mining and Safety  
1313 Sherman Street, Room 215  
Denver, Colorado 80203

Subject: Board Order, Gillette Sand & Gravel, Inc., No. M-1992-009, MV-2019-033  
Impasse to Legal Access for Permit Modification and Proposed Technical Revision to  
Address the Order

Dear Mr. Russell:

On behalf of Mr. Chris Pyles, owner and operator of the Gillette Sand and Gravel Mine (“the mine”), Realtime Aquifer Services (“RAS, Inc.”) has prepared this letter to document that Gillette Sand and Gravel has been unable to gain legal access to the expanded permit area, as required by Board Order No. M-1992-009, MV-2019-033.

To mitigate potential future off-site releases, the Order mandated that the mine permit boundary be extended to the immediate west to include a buffer area. The Order was largely in response to a release of water and sediment from the process ponds located along the western permit boundary. The release has since been corrected, affected land has been reclaimed to pre-release conditions, and the ponds have been reconstructed to mitigate potential future releases. As a result of the release event, the mine remains under a Cease and Desist Order.

The Ordered permit area expansion requires a 112c permit amendment application. The Order mandates Mr. Pyles to reach an access agreement, or purchase the land from Mr. Ernest Snare, the adjacent landowner. Despite continued and ongoing good-faith negotiations since before the November 13, 2019, Board hearing, Mr. Pyles has been unable to reach an agreement for legal access to the land with Mr. Snare. At this time, it is unlikely that an agreement can be reached.

Mr. Pyles’ primary objective is to bring the Gillette Mine back into compliance and to have the Cease and Desist Order lifted, while protecting the environment through the use of sound engineering and work practices. As a potential alternative to the expansion of the mine permit boundary, Mr. Pyles requests that the Board consider corrective measures similar to those mandated by the Order, but exclusive of the permit area expansion (all changes will take place on the existing mine permit area). Because the mine permit area will be unchanged, Mr. Pyles respectfully proposes to incorporate the permit changes in the form of a Technical Revision (TR) that will be submitted to the Colorado Division of Reclamation, Mining and Safety (DRMS).



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The proposed changes will provide permanent, robust corrective measures and workable solutions to the compliance issues cited at the mine. We also believe that we can adequately address these measures in the form of a TR before the Board's April 12, 2020, deadline.

The key elements of our proposed TR are outlined below. Necessary plans and engineering details will be documented and detailed upon plan approval.

### Technical Revision Summary

#### **Process Ponds**

To mitigate potential future releases from the wash/process ponds to Beaver Creek, the west boundary of the wash ponds will be moved and reconstructed to the east of the existing property line, and the pond-retaining berms will be enlarged and fortified to mitigate the potential for off-site release. The three process (wash water settling) ponds are part of a closed loop system that is not intended to discharge to the surrounding environment. There is no discharge point. Make-up water is purchased from the City of Cripple Creek through an on-site, metered system.

In their present configuration, the ponds are located in the northeast quadrant of the site, immediately adjacent to the western property boundary, which corresponds with the Gillette Mine permit boundary. To control the risk of potential future off-site release, the ponds will be relocated entirely within the permit boundary, on Gillette Sand and Gravel, Inc. property, a minimum of 30 feet eastward from the western mine permit boundary. The property line (coinciding with the permit boundary) will be marked with a surveyed single-strand fence line.

Process water from the wash plant will be gravity flow fed to Pond 1 (southernmost). The pond will act to remove the initial sediment load from the process water and will measure 40 feet (north-south) by 60 feet (east-west).

Gravity outflow from Pond 1 will be to the immediate north into Pond 2, through a spillway. Pond 2 will measure 100 feet (north-south) by 60 feet (east-west). Ponds 1 and 2 will be located 30 feet west of the eastern boundary. Both of these ponds will have western berms of earthen construction that will be 20 feet wide to allow a Volvo EC300 excavator (or equivalent) to track on them for periodic sediment cleanout and maintenance. Pond 1 will have a 10-foot wide southern berm and Pond 2 will have a 20-foot wide northern berm and a pad on the east side of the pond for sediment excavation.

Maximum water depth in the ponds will be approximately three feet with three feet of freeboard. A clearly visible staff gauge will be installed in Pond 2 to alert operators when sediment removal is required. Periodic records of the pond level will be maintained on site.



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Sediment will be excavated before the minimum freeboard level of three feet is reached. The excavated pond sediment is used as subbase fill in the reclamation process, where it is graded, covered with topsoil and seeded. It will be stored to the south of Pond 1, away from the permit boundary. Runoff from the sediment storage will be controlled by best management practices.

Water from Pond 2 will be gravity-fed to Pond 3 through a concrete trough to Pond 3, which will be located to the east of Ponds 1 and 2. This final sedimentation pond will measure 70 feet square. Clear water from this pond will be pumped to the wash plant through an underground return pipe, completing the cycle. This pond will be contained by 10-foot wide earthen berms.

The proposed changes described above will be effective in bringing the Gillette Mine into permanent operational compliance. We respectfully request that these changes be implemented through a TR, to be submitted to the DRMS, rather than a 112c Application Amendment, as described in the Order.

In addition to the work proposed above, the following corrective measures have already been completed and documented:

- The west berm of the sediment retention pond was significantly enlarged and reinforced, particularly in the part of the pond that had overtopped. The pond freeboard has been increased to reduce the likelihood of future overtopping.
- Sediment that had been released beyond the western permit boundary was graded back onto the Site and the off-permit area was regraded to approximately pre-release conditions. The area has been reclaimed to mimic pre-release conditions.
- An area of upwelling groundwater has been backfilled to effectively isolate the shallow groundwater system from the surface.
- Excavation and construction of a sediment retention pond has been completed in the southeast part of the mine to control the release of sediment into the wetlands area using a concrete outlet structure and check dam.

Concurrent work will be commenced on other mine facilities, unrelated to the Order. These improvements will include changes to stormwater discharge controls in the Central Culvert/Beaver Dam area and in the North Pit area, and the mining plan will be revised to include use of a crusher in the process area. These changes will be addressed through the DRMS under a separate Technical Revision.

### Summary

Since the initial event, Mr. Pyles has responded to, and has fully complied with all corrective orders. Mr. Pyles has been unable to reach an agreement with the adjoining landowner. To effectively respond to the spirit of the Order, we respectfully request that the Board consider our proposal to return the mine to compliance by allowing changes within the existing permit footprint, in lieu of the



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land access required by the Order. We further request for the Board to consider our request to permit these changes through a Technical Revision, to be submitted to the DRMS.

The proposed measures are based on Mr. Pyles' commitment to bring the Gillette Mine back into compliance using robust engineering and sound work practices. We are confident that the measures proposed herein will result in bringing the Gillette Mine back into compliance and will allow Mr. Pyles to resume mine operations with minimal delay.

We are anxious to work with the Board and DRMS to fine-tune the proposed measures to ensure that they are compliant, complete and will achieve the objectives of the Board's Order.

We will await your response and will provide any requested information in a timely manner. Should you have any questions of concerns, please contact me at 303-808-6133 or at [bren.shine@q.com](mailto:bren.shine@q.com). To avoid potential delays in getting Mr. Pyles and his staff back to work when the area becomes accessible in springtime, your prompt response to this matter is appreciated.

Regards,

Realtime Aquifer Services

Brendan Shine, P.E.

Senior Geological Engineer