



Idaho Department of Environmental Quality Draft §401 Water Quality Certification

March 1, 2016

404 Permit Application Number: NWW-1994-0101520-C09; Emerald Creek Garnet 1994 Permit Extension Request

Applicant/Authorized Agent: Chris Hurren, Opta Minerals, Inc. P.O. Box 190 Fernwood, ID 83830

Project Location: Various locations within the Carpenter Creek and Emerald Creek watersheds near the City of Fernwood, Idaho

Receiving Water Body: Carpenter Creek and Emerald Creek

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review activities receiving Section 404 dredge and fill permits and issue water quality certification decisions.

Based upon our review of the joint application for permit, received on December 10, 2015 and a revision dated February 8, 2016 (received on February 9, 2016), DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the activity will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Project Description

Emerald Creek Garnet, Inc. (ECG), a subsidiary of Opta Minerals Inc. requests a 10 year extension of their 1994 Army Corps permit which allowed placement of fill into 257 acres of wetlands and 7.5 miles of stream channel for a period of 20 years. The permit also required mitigation in the form of stream channel restoration to enhance stream hydraulic geometry and wetland restoration at a ratio of 1.2 acres of wetland restored to every one acre of wetland mined, among other requirements. The entire plan is detailed in an approximately 800 page environmental assessment (EA) dated April 4, 1994 and is part of the 1994 permit requirements. The February 8, 2016 revised extension request is a 123 page document which shows areas where wetlands are proposed to be restored and plans for construction. These documents are available for examination at the DEQ Coeur d'Alene Regional Office.

Currently, ECG lacks 115 acres (final acreage to be determined by the Corps) of restored or created wetlands to compensate for wetlands mined under the 1994 permit. Before any additional mining in wetlands or stream channels can occur, ECG must be current with their restoration work which is the focus of this permit extension. There is one exception: mining unit 301 located in the Emerald Creek watershed is proposed to be mined. This is a 10.23 acre area of high quality garnet containing 1.93 acres of wetlands. The wetlands are proposed to be mitigated at the same ratio as authorized in the 1994 permit (1.2:1).

Following restoration/creation work, the success of each site must be monitored for five years per the 1994 EA. If restoration is not successful, it must be fixed and monitored for an additional five years. To ensure that restoration/creation work occurs in a timely manner, the Corps is requiring that it be completed and its success evaluated by year five of this extension. Any failure of restoration efforts must be addressed in the remaining five years of the permit. In addition to that, there will be no more additional jurisdictional fills added to the permit. DEQ reserves the right to reconsider certification if the Corps considers granting another time extension to the 1994 permit. This certification is predicated on these limitations.

The construction of additional wetland acreage is proposed to occur in the West Fork Emerald Creek watershed, where uplands will be converted to wetlands. No work in existing wetlands in the West Fork Emerald Creek will be authorized by the Corps as part of this permit extension. Forty-four acres of wetland mitigation is proposed for this location. During the wetland restoration/creation work, the upland sites may be re-mined to obtain garnet that was lost in previous efforts. This mining would also allow the size sorting of soil so the rock can be used for armor and erosion control and the finer soils placed on top to encourage growth of seeded and planted vegetation.

The construction of an additional 26 acres of wetland is proposed to occur in uplands located along the main channel of Emerald Creek in mining unit 205. The work will be similar to that in West Fork Emerald Creek watershed. No existing wetlands or the stream channel will be disturbed by this work.

The permit extension request also includes a proposal to reconstruct the upper portion of Carpenter Creek (mining unit 307) where previous restoration was unsuccessful. The channel is proposed to remain in place; however channel hydraulics and floodplain will be modified. The modifications are designed to prevent down cutting of the bed and erosion of the banks.

All areas restored, created and/or mined will be revegetated with native plants appropriate for the sites as specified in the 1994 permit EA. Cattle grazing will be restricted from the area by temporary fencing until revegetation performance standards are met.

Best management practices include armored siltation berms, straw bale sedimentation ponds, rock check dams, dispersion basins, armored interceptor channels, armored overflow channels, timing certain activities during low flow conditions, washed rock bottom for streambeds, grade control structures and a temporary bridge spanning the stream channel for equipment access.

On May 21, 2015 DEQ issued an individual certification authorizing the reconstruction of Carpenter Creek (mining unit 306) which was mined as part of the 1994 permit. This activity required the Corps to issue a permit modification to the 1994 permit because the original design of the reconstructed channel hydraulically failed causing considerable transport of sediment

downstream. The restoration design of the channel was changed and a permit modification was issued by the Corps. This certification for an extension to the 1994 permit does not in any way modify the May 21, 2015 certification. The mining unit 306 restoration effort is now being constructed.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- **Tier 1 Protection.** The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier 1 review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- **Tier 2 Protection.** The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- **Tier 3 Protection.** The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier 1 protection for that use, unless specific circumstances warranting Tier 2 protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The primary pollutants of concern for this project are sediment and temperature. As part of the Section 401 water quality certification, DEQ is requiring the applicant comply with various conditions to protect water quality and to meet Idaho WQS, including the water quality criteria applicable to sediment and temperature.

Receiving Water Body Level of Protection

This project is located on Carpenter and Emerald and West Fork Emerald Creeks within the St. Joe River Subbasin assessment units (AU) 17010304PN014_03 (Carpenter Creek – source to mouth) and AU 17010304PN016_02 and 03 (Emerald Creek – source to mouth). This AU has not yet been designated. Because DEQ presumes most waters in the state will support cold water aquatic life and primary or secondary contact recreation beneficial uses, undesignated waters are protected for these uses (IDAPA 58.01.02.101.01.a). In addition to these uses, all waters of the

state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2012 Integrated Report, these AUs are not fully supporting one or more of their assessed uses. The cold water aquatic life and salmonid spawning uses are not fully supported. Causes of impairment include sedimentation and temperature. As such, DEQ will provide Tier 1 protection (IDAPA 58.01.02.051.01) for the aquatic life use. The contact recreation beneficial use is unassessed. DEQ must provide an appropriate level of protection for the contact recreation use using information available at this time (IDAPA 58.01.02.052.05.c).

The only pollutants of concern associated with this project are sediment and temperature, but these pollutants are not relevant to recreational uses; therefore, it is unnecessary for DEQ to conduct a Tier 2 review for this AU because this project will not create impacts that could affect the recreation use.

Protection and Maintenance of Existing Uses (Tier 1 Protection)

As noted above, a Tier 1 review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing uses and the level of water quality necessary to protect existing uses shall be maintained and protected. The numeric and narrative criteria in the WQS are set at levels that ensure protection of designated beneficial uses.

Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. Once a TMDL is developed, discharges of causative pollutants shall be consistent with the allocations in the TMDL (IDAPA 58.01.02.055.05). Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04).

During the construction phase, the applicant will implement, install, maintain, monitor, and adaptively manage best management practices (BMPs) directed toward reducing erosion and minimizing turbidity levels in receiving water bodies downstream of the project. In addition, permanent erosion and sediment controls will be implemented, which will minimize or prevent future sediment contributions from the project area. As long as the project is conducted in accordance with the provisions of the project plans, Section 404 permit, and conditions of this certification, then there is reasonable assurance the project will comply with the state's numeric and narrative criteria. These criteria are set at levels that protect and maintain designated and existing beneficial uses. In addition, the project will be consistent with the *St. Maries River Subbasin TMDL and the St. Joe River Subbasin Temperature TMDL Addendum*. The primary purpose of the permit extension is to allow time for required wetland and stream channel restoration to be completed. Additional mining in new jurisdictional areas is not being authorized other than in mining unit 301. The restoration of stream channels and the restoration and creation of wetlands along with planting of trees, shrubs and other native vegetation should reduce the amount of sediment currently entering both streams and reduce water temperatures. Both these outcomes are consistent with the TMDLs. Further, salmonid spawning should be enhanced in these channels with the construction of washed rock beds in the stream channels and the creation of shade by the required planting of trees and shrubs along the stream channels.

There is no available information indicating the presence of any existing beneficial uses aside from those that are already discussed above; therefore, the permit ensures that the level of water quality necessary to protect both designated and existing uses is maintained and protected in compliance with the Tier 1 provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

General Conditions

1. This certification is conditioned upon the requirement that any modification (e.g., change in BMPs, work windows, etc.) of the permitted activity shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401. Such modifications may not be implemented until DEQ has determined whether additional certification is necessary.
2. DEQ reserves the right to modify, amend, or revoke this certification if DEQ determines that, due to changes in relevant circumstances—including without limitation, changes in project activities, the characteristics of the receiving water bodies, or state WQS—there is no longer reasonable assurance of compliance with WQS or other appropriate requirements of state law.
3. If ownership of the project changes, the certification holder shall notify DEQ, in writing, upon transferring this ownership or responsibility for compliance with these conditions to another person or party. The new owner/operator shall request, in writing, the transfer of this water quality certification to his/her name.
4. A copy of this certification must be kept on the job site and readily available for review by any contractor working on the project and any federal, state, or local government personnel.
5. Project areas shall be clearly identified in the field prior to initiating land-disturbing activities to ensure avoidance of impacts to waters of the state beyond project footprints.
6. The applicant shall provide access to the project site and all mitigation sites upon request by DEQ personnel for site inspections, monitoring, and/or to ensure that conditions of this certification are being met.
7. The applicant is responsible for all work done by contractors and must ensure the contractors are informed of and follow all the conditions described in this certification and the Section 404 permit.

Fill Material

8. Staged fill material and soil storage areas must be placed so they are isolated from the water edge or wetlands and not placed where it could enter waters of the state. These areas of piled soil/fill shall be protected from erosive forces of flood waters and precipitation.

Erosion and Sediment Control

9. BMPs for sediment and erosion control suitable to prevent exceedances of state WQS shall be selected and installed before starting construction at the site. One resource that may be used in evaluating appropriate BMPs is DEQ's *Catalog of Stormwater Best Management Practices for Idaho Cities and Counties*, available online at <http://www.deq.idaho.gov/media/494058-entire.pdf>. Other resources may also be used for selecting appropriate BMPs.
10. One of the first construction activities shall be placing permanent and/or temporary erosion and sediment control measures around the perimeter of the project or initial work areas to protect the project water resources.
11. Erosion and sediment control measures shall be installed at the earliest practicable time consistent with good construction practices and shall be maintained as necessary throughout project operation.
12. Disturbed areas suitable for vegetation shall be seeded or revegetated to prevent subsequent soil erosion.
13. Maximum fill slopes shall be such that material is structurally stable once placed and does not slough into the stream channel during construction, during periods prior to revegetation, or after vegetation is established.
14. Sediment from disturbed areas or able to be tracked by vehicles onto pavement must not be allowed to leave the site in amounts that would reasonably be expected to enter waters of the state. Placement of clean aggregate at all construction entrances or exits and other BMPs such as truck or wheel washes, if needed, must be used when earth-moving equipment will be leaving the site and traveling on paved surfaces.
15. Earthen berms, diversion channels, interceptor channel, overflow channels, and similar BMPs where they contact flowing water shall be armored or vegetated sufficiently to prevent erosion of the BMP.

Turbidity Monitoring

16. Sediment resulting from this activity must be mitigated to prevent violations of the turbidity standard as stipulated under the Idaho WQS (IDAPA 58.01.02).
17. All practical BMPs on disturbed banks, connected wetlands and within the waters of the state must be implemented to minimize turbidity. Visual observation is acceptable to determine whether BMPs are functioning properly. If a plume in the stream is observed, the project may be causing an exceedance of WQS and the permittee must inspect the condition of the projects BMPs. If the BMPs appear to be functioning to their fullest capability, then the permittee must modify the activity or implement additional BMPs (this may also include modifying existing BMPs). **Visual observation must occur each day** during project implementation when project activities may result in turbidity increases above background levels.
18. If a plume is observed, in addition to activity and/or BMP modification, quantitative turbidity monitoring must be conducted, recorded and reported as described below.
A properly and regularly calibrated turbidimeter is required for quantitative monitoring.

19. If a plume is observed, a quantitative sample must immediately be taken **upstream** of the construction area beyond the influence of the in-water disturbance or discharge, to establish background turbidity levels. Background levels shall be determined at least once during the same day of the downstream sample; or it can be taken for each monitoring event. **Downstream** quantitative sampling in the plume shall be done immediately following the background measurement, approximately 50 feet below the origin of the plume. *Observations and measurements cannot be taken during a cessation of activity if it is the source of the plume.*
20. Monitoring downstream must occur every instance there is a visible plume and again subsequent to BMP modification, maintenance or change to the activity, to ensure that these changes were sufficient to comply with turbidity standards (below). The turbidity, location, date, and time must be recorded for each sample.
21. Results from the compliance point sampling must be compared to the background levels sampled the same day or during each monitoring event. If the downstream turbidity exceeds upstream turbidity by 50 nephelometric turbidity units (NTU) or more, the project is causing an exceedance of the WQS. If an exceedance occurs, the permittee must inspect the condition of the projects BMPs. If the BMPs appear to be functioning to their fullest capability, then the applicant must modify the activity (this may include modifying existing BMPs) sufficient to meet the turbidity standard.
22. Copies of daily logs for turbidity monitoring must be available to DEQ upon request. The log must include background measurements (in NTUs); compliance point measurements; comparison of background and compliance point monitoring as a numeric value (in NTUs); and location, time, and date for each sampling event. The report must describe all exceedances and subsequent actions taken and the effectiveness of the action including results of subsequent monitoring.
23. Turbidity and BMP effectiveness shall be monitored during project implementation until the sites are stabilized with permanent BMPs. BMPs shall be replaced or augmented if they are not effective. **Daily inspections** are required during active construction and **weekly inspections** during shutdown periods until freeze-up. Weekly inspections shall resume when snowfall turns to rain and/or when air temperatures are above freezing. Efforts shall be made to monitor during the precipitation event or peak daytime temperature. If a plume in the stream is observed during these visits, quantitative monitoring must be done to determine if it is coming from the project site and if it exceeds WQS. This must be recorded as directed above.

In-water Work

24. Work in open water is to be kept at a minimum and only when necessary. Equipment shall work from an upland site to minimize disturbance of waters of the state. If this is not practicable, appropriate measures must be taken to ensure disturbance to the waters of the state is minimized. **No in-water travel by equipment is authorized by this certification.**
25. Construction affecting the bed, banks, seeps, springs, contiguous wetlands and connected wet floodplains shall take place only during periods of low flow. This timing may vary by year. The object is to not create turbidity in water that is likely to flow into the stream. Low flow conditions greatly reduce this source of turbidity and sedimentation.

26. Fording of the channel is not permitted. Temporary bridges or other structures shall be built if crossings are necessary.
 - a. Temporary crossings must be perpendicular to channels and located in areas with the least impact. The temporary crossings must be supplemented with clean gravel or treated with other mitigation methods at least as effective in reducing impacts. Temporary crossings must be removed as soon as possible after the project is completed or the crossing is no longer needed.
27. Work in waters of the state shall be restricted to areas specified in the application. No additional areas of fill into wetlands or streams outside of those specified in the permit extension application are authorized by this certification.
28. Stranded fish found in dewatered segments should be moved to a location (preferably downstream) with water.
29. To minimize sediment transport, stream channel or stream bank stabilization must be completed prior to returning water to a dewatered segment.
30. If de-watering of a construction area is necessary, this certification does not authorize discharge of this water into a water of the state.

Pollutants/Toxics

31. The use of chemicals such as soil stabilizers, dust palliatives and fertilizers during construction and operation should be limited to the best estimate of optimum application rates. All reasonable measures shall be taken to avoid excess application and introduction of chemicals into waters of the state.

Vegetation Protection and Restoration

32. Disturbance of existing wetlands and native vegetation shall be kept to a minimum.
33. To the maximum extent practical, staging areas and access points should be placed in open, upland areas.
34. Where possible, alternative equipment should be used if it will lessen impacts to the environment (e.g., spider hoe or crane).
35. If authorized work results in unavoidable vegetative disturbance, riparian and wetland vegetation shall be successfully reestablished to function for water quality benefit at pre-project levels or improved at the completion of authorized work.
36. Soils shall be segregated so as to be replaced for maximum survival of vegetation. Sorted materials shall be segregated so they are available for use to create armored channel beds and other stabilization purposes.

Management of Hazardous or Deleterious Materials

37. Petroleum products and hazardous, toxic, and/or deleterious materials shall not be stored, disposed of, or accumulated adjacent to or in the immediate vicinity of waters of the state. Adequate measures and controls must be in place to ensure that those materials will not enter waters of the state as a result of high water, precipitation runoff, wind, storage facility failure, accidents in operation, or unauthorized third-party activities.

38. Vegetable-based hydraulic fluid should be used on equipment operating in or directly adjacent to the channel if this fluid is available.
39. Daily inspections of all fluid systems on equipment to be used in or near waters of the state shall be done to ensure no leaks or potential leaks exist prior to equipment use. A log book of these inspections shall be kept on site and provided to DEQ upon request.
40. Equipment and machinery must be removed from the vicinity of the waters of the state prior to refueling, repair, and/or maintenance.
41. Equipment and machinery shall be steam cleaned of oils and grease in an upland location or staging area with appropriate wastewater controls and treatment prior to entering a water of the state. Any wastewater or wash water must not be allowed to enter a water of the state.
42. Emergency spill procedures shall be in place and may include a spill response kit (e.g., oil absorbent booms or other equipment).
43. In accordance with IDAPA 58.01.02.850, in the event of an unauthorized release of hazardous material to state waters or to land such that there is a likelihood that it will enter state waters, the responsible persons in charge must
 - b. Make every reasonable effort to abate and stop a continuing spill.
 - c. Make every reasonable effort to contain spilled material in such a manner that it will not reach surface or ground waters of the state.
 - d. Collect, remove, and dispose of the spilled material in a manner approved by DEQ.
44. Any release that causes a sheen (of any size) in waters of the state must be reported *immediately* to the National Response Center at 1-800-424-8802.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the “Rules of Administrative Procedure before the Board of Environmental Quality” (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to June Bergquist at (208) 666-4605 or email at june.bergquist@deq.idaho.gov.

DRAFT

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