STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814 • (208) 769-1422

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

May 21, 2015

Chris Hurren, Geologist
Opta Minerals Inc.
59652 Highway 3
P.O. Box 190
Fernwood, ID 83830

RE: Final §401 Water Quality Certification Emerald Creek Garnet Company/Opta Minerals Inc. Reconstruction of Carpenter Creek; NWW-1994-0101520

Dear Mr. Hurren,

Enclosed is the final water quality certification for the above referenced project. The draft certification was advertised for public comment for 21 days from April 28 to May 19, 2015. No comments were received and no substantive changes have been made to the final certification. If you have any questions or concerns, please contact June Bergquist at 208.666.4605 or via email at june.bergquist@deq.idaho.gov .

Sincerely,

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office

c: Michael Burgan, Corps of Engineers – Coeur d'Alene Field Office
Stephen Berry, DEQ State Office

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Idaho Department of Environmental Quality

Final §401 Water Quality Certification

May 21, 2015

404 Permit Application Number: NWW-1994-0101520; Reconstruction of Blown-Out Carpenter Creek Channel

Applicant/Authorized Agent: Opta Minerals Inc. also known as Emerald Creek Garnet Ltd.

Project Location: T43N, R1E section 7; latitude 47°05'14.86" longitude 116°22'44.85"

Receiving Water Body: Carpenter 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 its review of the joint application for permit and supplemental documents, received on March 20, 2015, 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

This certification addresses proposed modifications of an existing individual permit (IP-NWW-1994-0101520) that DEQ previously certified on July 13, 1994. These modifications are a result of non-compliance issues first observed during a series of site visits by the Corps and DEQ beginning approximately on June 7, 2011. The original stream restoration projects on two previously mined properties (the Hassan and McCall properties) subject to the 1994 permit failed. A subsequent effort to fix the lower portion of Carpenter Creek (Hassan property) also didn't comply with the 1994 permit requirements. This situation resulted in the proposed revisions and a request for certification due to significant changes related to water quality. The modifications include restoration of 3,100 feet of stream channel and the creation of 12.6 acres of wetlands (5.35 scrub-shrub and 7.25 acres emergent wetlands). The work includes realignment of the stream channel, placement of root wads, rock weirs, riprap, pools, J-hook

weirs, point bars and vegetation including riparian and wetland plants. A portion of the Hassan property will be mined for garnet concurrent with the restoration project.

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 Creek within the St. Joe River Subbasin assessment unit (AU) 17010304PN014_03 (Carpenter 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 2010 Integrated Report, this AU is not fully supporting one or more of its assessed uses. The aquatic life use is not fully supported. Causes of impairment include sediment 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 they 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 Assessment and Total Maximum Daily Loads* (DEQ, July 2003). As a result of the restoration work this project should reduce sediment and temperature in Carpenter Creek by increasing shade and reducing bank and bed erosion.

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 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. 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.
6. 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

1. 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 re-enter waters of the state uncontrolled. These areas of piled soil/fill shall be protected from erosive forces of flood waters and precipitation.

Erosion and Sediment Control

1. 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.

2. 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.
3. Structural fill or bank protection shall consist of materials that are placed and maintained to withstand predictable high flows in the waters of the state.
4. BMP effectiveness shall be monitored during and after project implementation until the site is stable. 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 will resume when snowfall turns to rain.
5. Disturbed areas suitable for vegetation shall be seeded or re-vegetated to prevent subsequent soil erosion.
6. 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.
7. 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.

Turbidity Monitoring

1. 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).
2. All practical BMPs on disturbed banks 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 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.
3. 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.*
4. 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.*

5. 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.
6. 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.
7. 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.

In-water Work

1. 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.
2. Construction affecting tributaries to Carpenter Creek or the bed, banks or hyporheic waters of Carpenter Creek shall take place only during periods of low flow.
3. Stream diversions shall be constructed of non-erosive materials.
4. Work in waters of the state shall be restricted to areas specified in the application.
5. Stranded fish found in dewatered segments should be moved to a location (preferably downstream) with water.
6. To minimize sediment transport, stream channel or stream bank stabilization must be completed prior to returning water to a dewatered segment.
7. 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

1. The use of chemicals such as soil stabilizers, dust palliatives, and fertilizers 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

1. Disturbance of existing wetlands and native vegetation shall be kept to a minimum.
2. To the maximum extent practical, staging areas and access points should be placed in open, upland areas.

3. Where possible, alternative equipment should be used if it will lessen impacts to the environment (e.g., spider hoe or crane).
4. 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.

Management of Hazardous or Deleterious Materials

1. 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.
2. Vegetable-based hydraulic fluid should be used on equipment operating in or directly adjacent to the channel if this fluid is available.
3. 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.
4. Equipment and machinery must be removed from the vicinity of the waters of the state prior to refueling, repair, and/or maintenance.
5. 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.
6. Emergency spill procedures shall be in place and may include a spill response kit (e.g., oil absorbent booms or other equipment).
7. 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
   a. Make every reasonable effort to abate and stop a continuing spill.
   b. Make every reasonable effort to contain spilled material in such a manner that it will not reach surface or ground waters of the state.
   c. Immediately notify DEQ of the spill by calling the Idaho State Communications Center at 1-800-632-8000.
   d. Collect, remove, and dispose of the spilled material in a manner approved by DEQ.

Required Notification

The permittee must notify the Coeur d'Alene Regional Office when authorized work begins by leaving a message at (208) 666-4605.

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 .

Daniel Redline
Regional Administrator
Coeur d'Alene Regional Office