Fact Sheet

NPDES Permit Number: AK0053791
Date: March 7, 2016
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The U.S. Environmental Protection Agency (EPA) Plans To Issue A Wastewater Discharge Permit To:

Gold Vault Mining Company

Eldorado Creek

EPA Proposes NPDES Permit Issuance.

EPA proposes to issue a National Pollutant Discharge Elimination System (NPDES) General Permit (GP) to Gold Vault Mining Company for gold suction dredge mining near Kantishna, Alaska. The draft Permit sets conditions on the discharge - or release - of pollutants from operations into waters of the United States (US).

On October 31, 2008, EPA approved the application submitted by the state of Alaska to administer the NPDES Program. While the Alaska Department of Environmental Conservation (DEC) has authority to issue permits within the state of Alaska, the Alaska Statehood Act, Section 11 states that the US shall exercise exclusive jurisdiction in the [Denali National] Park "as now or hereafter constituted." Since the US has exclusive jurisdiction within Denali National Park (DNP), EPA is the permitting authority for this facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a description of the facility
- a description of proposed effluent limitations, monitoring requirements, and other conditions

The State of Alaska

Since the US has exclusive jurisdiction within DNP, a Clean Water Act (CWA) Section 401 (CWA § 401) Certification from DEC is not required to issue a final permit. See Fact Sheet (FS) VI.D. for consideration given to downstream States.

EPA invites comments on the draft Permit.

EPA will consider all substantive comments before issuing a final Permit. Those wishing to comment on the draft Permit or request a public hearing may do so in writing by the public notice expiration date. Please submit comments to USEPA-Region 10, 1200 Sixth Avenue Suite 900, OWW-191, Seattle, Washington 98101. Comments may be submitted by e-mail to godsey.cindi@epa.gov or faxed to (206) 553-1280. All comments should include name, address, phone number, a concise statement of basis for the comment and relevant facts upon which it is based. A request for public hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number.

After the Public Notice expires and all significant comments have been considered, EPA's regional Director for the Office of Water & Watersheds will make a final decision regarding permit issuance. If no comments requesting a change to the draft permit are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If significant comments are received, EPA will address the comments and issue the permit along with a response to comments. The permit will become effective 30 days after the issuance date, unless the permit is appealed to the Environmental Appeals Board (EAB) within 30 days.

Documents are available for review.

The draft NPDES Permit and fact sheet can be reviewed at EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday. This material is also available for inspection and copying at the following places in Alaska:

USEPA Alaska Operations Office
Federal Building, Room 537
222 West 7th Avenue
Anchorage, Alaska 99513-7588
Telephone: (800) 781-0983 (Within Alaska)

USEPA Alaska Operations Office
709 W. 9th Street, Room 223
Juneau, Alaska 99801
Telephone: (907) 586-7619

The Administrative Record for this Permit primarily consists of the permit application, draft Permit, Fact Sheet and the documents referenced in this Fact Sheet. These are available upon request by contacting Cindi Godsey at (206) 553-1676 or godsey.cindi@epa.gov, or at the above Seattle address.

Copies of the draft Permit and fact sheet can be found on the EPA, Region 10 website at http://yosemite.epa.gov/r10/WATER.NSF/NPDES+Permits/DraftPermitsAK

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LIST OF ACRONYMS

ADF&G	Alaska Department of Fish and Game
AR	Annual Report
AWQS	Alaska Water Quality Standards
BMP	Best Management Practices
CFR	Code of Federal Regulations
CWA	Clean Water Act
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NTU	Nephelometric Turbidity Unit
SPCC	Spill Prevention Control and Countermeasure
USC	United States Code
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey

TECHNICAL INFORMATION

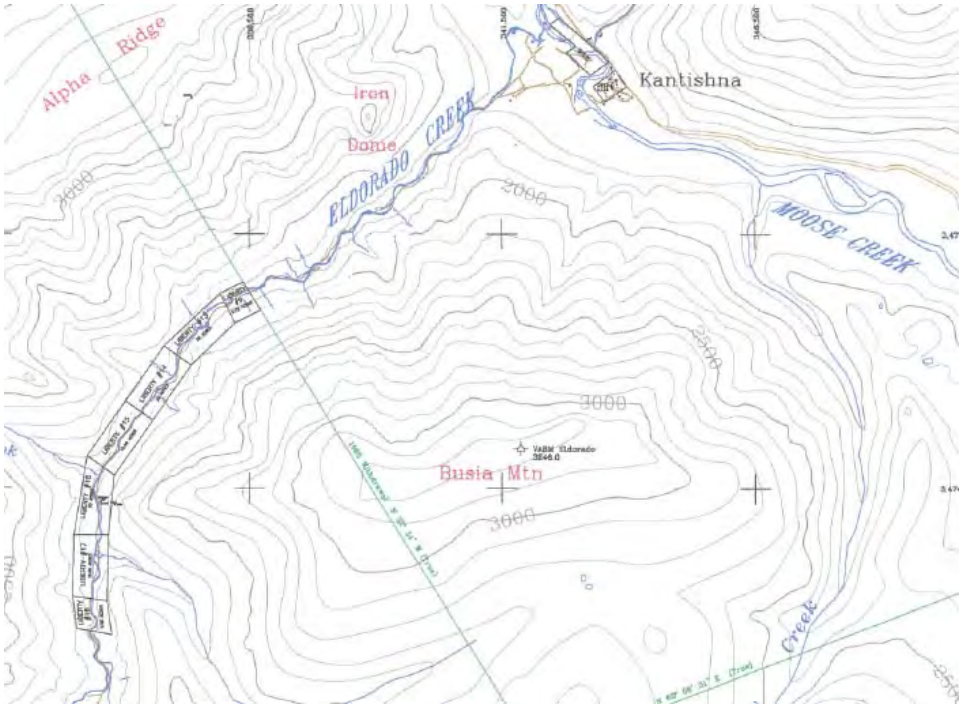
I. APPLICANT

Gold Vault Mining Company
Liberty Claims, Eldorado Creek
Denali National Park

Facility Contact: Kristopher DeVault
Facility Location: near Kantishna, Alaska

II. FACILITY ACTIVITY

The National Park Service gave notice in the Federal Register on February 26, 2016, as required by Public Law 94-429, Section 2 of the Mining in the Parks Act of September 28, 1976 (16 U.S.C. 1901) and in accordance with provisions of 36 CFR § 9.17, that Kris DeVault has filed a proposed plan to conduct mining operations on the Liberty #9 and Liberty #13 through #18 unpatented placer claims near Kantishna, Alaska (see map, below).



Placer mining involves the mining and extraction of gold or other heavy metals and minerals primarily from alluvial deposits. These deposits may be in existing stream beds or ancient, often buried, stream deposits, i.e. paleo or fossil placers. Many Alaskan placer deposits consist of unconsolidated clay, sand, gravel, cobble and boulders that contain very small amounts of native gold or other precious metals. Most are stream deposits that occur along present stream valleys or on benches or terraces above existing streams.

Suction dredges, the most common hydraulic dredging system, are quite popular in

Alaska with the small and recreational gold placer miner. Like all floating dredges, suction dredges consist of a supporting hull with a mining control system, excavating and lifting mechanism, gold recovery circuits, and waste disposal system. All floating dredges are designed to work as a unit to dig, classify, beneficiate ores and dispose of waste. Because suction dredges work the stream bed rather than stream banks, the discharge from suction dredges consists totally of stream water and bed material.

III. RECEIVING WATER

Eldorado Creek is considered waters of United States and even though the Alaska Water Quality Standards (AWQS) [18 AAC 70] do not apply directly to the waterbody, they do apply at the boundary of DNP. As such, the Permit will contain requirements to assure AWQS are met. The AWQS classify freshwaters in Alaska as Classes (1)(A), (B), (C), and (D) for use in drinking, culinary and food processing, agriculture, aquaculture, and industrial water supply; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife.

IV. EFFLUENT LIMITATIONS, MONITORING & REPORTING REQUIREMENTS

In establishing permit limits, EPA first determines which technology-based limits must be incorporated into the permit. EPA then evaluates the effluent quality expected to result from these controls to see if it could result in any exceedences that could affect water quality in the receiving water. If exceedences could occur, EPA must include water quality-based limits in the permit. The draft permit limits will reflect whichever requirements (technology-based or water quality-based) are more stringent.

A. Technology-based Effluent Limitations

Pursuant to CWA § 402(a)(2) and 40 CFR § 122.44(k)(2), Best Management Practices (BMPs) are proposed in the Permit.

Suction dredging's unique method of intake and displacement present unusual permitting issues. As discussed above, a suction dredge is a mechanical device that floats on the stream surface and pumps stream water and stream bed material through a suction intake conduit to a sluice box from which gold or other minerals may be recovered. The discharge from a suction dredge consists totally of stream water and bed material immediately released back into the receiving water.

The BMPs in Permit Part I.C. are being proposed because numeric effluent limitations are infeasible which is allowed under 40 CFR 122.44(k)(3).

B. Water quality-based Effluent Limitations

CWA § 301(b)(1) requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977. Although AWQS are not

directly applicable to the waterbody, EPA is utilizing these standards to assure that water quality at the Park boundary will not be impacted by the discharge.

EPA has determined that turbidity is a pollutant of concern. See Appendix A. Required turbidity monitoring is designed to ensure that the BMPs are implemented properly.

The draft Permit requires a daily visual inspection for turbidity of the area within 500 feet downstream of the suction dredge during operation. When the Permittee is operating 2 dredges within 500 feet of one another, it will be considered a dredge operation and compliance will be measured within 500 feet downstream of the dredge that is furtherest upstream. If 2 dredges are operating more than 500 feet apart, monitoring shall be performed for each dredge and separate records shall be kept. If turbidity is observed beyond 500 feet, the Permit requires the Permittee to modify the operation to meet the permit limitation. If the operation cannot be modified to meet the limitation, the discharge is not authorized. In most cases, water quality will recover rapidly. The daily inspection during operation, combined with the BMPs in Permit Part I.C. will assure that the effluent limitations based on the AWQS are met.

C. Monitoring

CWA § 308 and the federal regulations at 40 CFR § 122.44(i) require that permits include monitoring to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. The Permittee is responsible for conducting the monitoring and for reporting results to EPA.

D. Reporting

The Permit requires the Permittee to submit an Annual Report (AR) by January 31st of each year for activities during the previous calendar year, based on the reporting provisions in 40 CFR § 122.48. 40 CFR § 122.44(i)(2) allows flexibility in determining the frequency of reporting.

E. Additional Permit Provisions

Sections II, III, and IV of the Permit contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

V. BEST MANAGEMENT PRACTICES (BMPs)

BMPs are measures that are intended to prevent or minimize the generation and the potential for the release of pollutants from industrial facilities to the waters of the United States through normal operations and ancillary activities.

Pursuant to CWA § 402(a)(1), development and implementation of BMP Plans may be included as a condition in NPDES permits. CWA § 402(a)(1) authorizes EPA to include miscellaneous requirements that are deemed necessary to carry out the provision of the CWA in permits on a case-by-case basis. BMPs are required to control or abate the discharge of pollutants in accordance with 40 CFR § 122.44(k).

The Permit requires compliance with the following BMPs:

A. Dredging that results in undercutting, littoral channeling, or otherwise results in stream bank or beach erosion, is prohibited.

   This practice will ensure that erosion does not occur and that the finer sediments that may be found in these areas do not cause turbidity problems in the receiving waters.

B. Motorized winches or other motorized equipment shall not be used to move boulders, logs, or other natural obstructions.

   This practice should ensure that important habitat for resident fish and other aquatic life which includes large organic debris and large boulders in these areas will not be destroyed.

C. No wheeled or tracked equipment may be used instream while dredging is in progress.

   This practice should ensure that important habitat in these areas will not be destroyed. Also, additional pollutant loading from any instream operation will not occur.

D. Dredging of concentrated silt and clay should be avoided. The Permittee shall use reasonable care to avoid dredging silt and clay materials that would result in a significant increase in turbidity. Reasonable care includes moving the dredge to a new location or reducing the volume of effluent discharge by limiting operation speed of the suction dredge.

   This practice will decrease the amount of fine material that will be released into the water that could cause turbidity plumes in excess of the permitted distance.

E. Care shall be taken by the operator during refueling of equipment to prevent spillage into surface waters or to groundwater. All spills shall be cleaned up using materials such as sorbent pads and booms. Any spill of a harmful quantity (causing a sheen, sludge or emulsion) of oil to navigable waters or adjoining shoreline must be reported immediately to the National Response Center (NRC) at (800) 424-8802.

   This practice will decrease the potential for contamination of surface water by petroleum products.

VI. OTHER REQUIREMENTS

A. Oil Spill Requirements

CWA § 311 prohibits the discharge of oil and hazardous materials in harmful quantities. The operator shall maintain fuel handling and storage facilities in a manner that will prevent the discharge of fuel oil into the receiving waters. A Spill Prevention Control and Countermeasure Plan (SPCC Plan) shall be prepared and updated as necessary in accordance with provisions of 40 CFR Part 112 for facilities with the capacity to store 660 gallons in a single container above ground, 1320 gallons in the aggregate above ground, or 42,000 gallons below ground.

The Permittee shall indicate in the AR if an SPCC Plan is necessary and in place at the site and if changes were made to the Plan over the previous year.

B. Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. EPA received an official Species List on February 3, 2016, stating that there were no endangered species and no critical habitat designated in the project area. Since there are no threatened or endangered species in the area of the project, EPA has determined that the issuance of this permit will have no effect on any threatened or endangered species.

C. Essential Fish Habitat (EFH)

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act set forth a number of new mandates for NMFS, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish habitat. The action agency needs to make a determination on Federal actions that may adversely impact EFH.

EPA consulted the Alaska Department of Fish and Game (ADF&G) Anadromous Fish Catalog and determined that the likely species in the area downstream of the proposed project would be chum or chinook salmon. Further consultation with ADF&G personnel (personal communication with Jack Winters) confirmed that Eldorado Creek does not have any documented use by chum or chinook salmon.

Salmon are the only freshwater EFH species in Alaska so EPA has determined that the issuance of this permit will have no effect on EFH.

D. State of Alaska

Since EPA utilized AWQS in determining permit requirements, water quality in

Alaska beyond the borders of DNP should not be affected by the issuance of this permit (it is over 35 miles from the confluence of Eldorado and Moose creeks to the DNP border). EPA is providing the Draft Permit and this Fact Sheet to DEC to initiate their 60 day opportunity to determine whether the discharges described in this Fact Sheet will violate any AWQS as provided for in CWA § 401(a)(2). Comments received will be considered in preparing the final permit.

E. Permit Expiration

This permit will expire five years from the effective date of the permit.

APPENDIX A -- SUMMARY OF SUCTION DREDGE STUDY

EPA commissioned a suction dredge study that was conducted on the Fortymile River in 1997 and 1998 by Idaho State University. Two sites were chosen, Site 1 was in the vicinity of a 10 inch suction dredge while Site 2 was in the vicinity of an 8 inch suction dredge. USGS also conducted studies in the same area.

The primary effect of dredging on water chemistry was increased turbidity, total filterable solids, and copper and zinc concentrations downstream of the dredge.

The turbidity plume was visually dramatic at Site 1 but spatially confined to less than 525 feet. At 100 feet downstream, the turbidity values were reported at 19 NTU which, with background levels reported at 2.2 - 2.3 NTU, would exceed the AWQS of 5 NTU above background. But at 200 feet below the dredge, the turbidity values were 3.7 NTU, only 1.4 - 1.5 NTUs above background which is well within the AWQS and the permit limits. The USGS report states that the turbidity values for Site 2 were less than Site 1. In their study, USGS attributes higher turbidity for Site 1 to increased volume of the larger dredge and the finer material being mined. It should be noted that even with these adverse conditions, the ten inch dredge was well within compliance with the discharge requirements of their NPDES permit.

As the sediments were transported downstream, the total copper and zinc concentrations declined. By 262 feet downstream of the dredge, copper and zinc concentrations were similar to those measured upstream of the dredge.

In general, the observed decrease in water clarity was unlikely to have altered ecosystem function in the area of the Fortymile where the dredge was located. There also did not appear to be any downstream influence on bed morphology by dredged sediments, indicating that dredging strongly influenced immediately adjacent substrates but had little effect beyond the dredged area. Based on observations made in both studies it appears that the dredge piles at the examined locations will remain in place no longer that 1 to 3 years and in many cases the stream channel will return to its pre-dredge condition in a year.

As with water clarity, the effect of suction dredging on macroinvertebrate abundance and diversity was confined spatially to a relatively small area downstream of the dredge. Both abundance and diversity were notably reduced for 33 feet downstream of Site 1 with similar occurrence at Site 2. By 262 feet, both appeared to be unaffected by the dredge plume. The results from 1998 indicate that substantial recovery of the macroinvertebrate community occurs within one year after suction dredging. The effects of suction dredge mining on macroinvertebrates are local and short lived.

APPENDIX B – REFERENCES

Permit Application received by EPA, Region 10 on June 1, 2015.

NPDES Permit Writer's Manual. EPA, Office of Water, Office of Wastewater Management, Permits Division. Washington, DC. 20460; EPA-833-K-10-001, September 2010, 269pp.

Technical Support Document for Water Quality-based Toxics Control. EPA, Office of Water Enforcement and Permits, Office of Water Regulations and Standards. Washington, DC, 20460; EPA/505/2-90-001, March 1991, 145pp.

Federal Water Pollution Control Act (Clean Water Act of 1977). 33 U.S.C. §§1251-1387.

40 CFR 122 – EPA administered permit programs: the National Pollutant Discharge Elimination System.

40 CFR 124 - Procedures for Decisionmaking

Impact of suction dredging on water quality, benthic habitat, and biota in the Fortymile River, Resurrection Creek, and Chatanika River, Alaska. Prepared for EPA by Aaron M. Prussian, Todd V. Royer, and G. Wayne Minshall, Idaho State University. June 1999.

Regional Baseline Geochemisty and Environmental Effects of Gold Placer Mining Operations on the Fortymile River, Eastern Alaska. Department of Interior, U.S. Geological Survey. Open-File Report 99-328. 1999.

Regional Geochemical Results from the Analyses of Rock, Water, Soil, Stream Sediment, and Vegetation Samples--Fortymile River Watershed, East-Central Alaska. Department of Interior, U.S. Geological Survey. Open-File Report 99-33. 1999.

Alaska Water Quality Standards. 18 AAC 70.

Personal communication (by e-mail) between Cindi Godsey, EPA, and Jack Winters, ADF&G, regarding anadromous fish in Eldorado Creek. June 17, 2015.

Alaska Statehood Act Public Law 85-508, 72 Stat. 339, July 7, 1958.

EPA 1993. Guidance Manual for Developing Best Management Practices (BMP). Office of Water. October 1993. EPA 833-B-93-004.

IPaC Trust Resource Report for USFWS ESA informational purposes. Generated February 3, 2016.

National Park Service. Notice of Availability for Public Review of Mining Plan of Operations for Claims Within Denali National Park and Preserve, Alaska. 81 FR 9881, February 26, 2016.