Department of Environmental Conservation
Response to Comments

for the

Norton Sound Large Dredge Placer Miners General Permit

APDES Permit No. AKG374000

Public Notice: April 25, 2013 – May 28, 2013

July 16, 2013

Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

1.0 Introduction

1.1 Summary of the Permit

The Norton Sound Large Dredge Placer Miners General Permit (AKG374000) authorizes placer mining by suction dredges with intake diameters greater than ten inches; suction dredge operations with a combination of intake hoses that have a combined intake area greater than 78 square inches; and mechanical dredges, such as excavators. The coverage area includes marine waters of Norton Sound up to three nautical miles offshore between Cape Rodney at 166°24'09" west longitude and Cape Darby at 162°46'54" west longitude with certain restrictions in the permit. Fact Sheet Sections 1.0 and 2.0 provide additional coverage information and regulatory history. Specific conditions under which pollutants may be discharged are detailed in the permit and further explained in the fact sheet.

1.2 Opportunities for Public Participation

The Department proposed to issue an APDES wastewater discharge permit for Norton Sound large dredge placer miners. To ensure public, agency, and tribal notification and opportunities for participation, the Department:

- identified the permit on the annual Permit Issuance Plan posted online at: http://www.dec.state.ak.us/water/wwdp/index.htm;
- notified, via letter, fax and/or email, potentially affected tribes, the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Environmental Protection Agency (EPA) that the Department would be working on this permit;
- posted a preliminary draft of the permit on-line for a 10-day applicant review March 1, 2013 and notified tribes and State and federal agencies, including the Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (DNR), NMFS, the USFWS, and EPA;
- formally published public notice of the draft permit in two newspapers (*Anchorage Daily News* and *The Nome Nugget*), posted the public notice on the Department's public notice web page, and distributed the public notice to tribes and State and federal agencies, including ADF&G, DNR, NMFS, the USFWS, and EPA;
- posted the proposed final permit modification on-line for a 5-day applicant review; and
- sent email notifications via the APDES Program List Serve when the preliminary draft, draft, and proposed final permit were available for review.

The Department received comments written comments on the draft permit from the following interested parties:

- Borell Consulting Services LLC (BCS);
- Freedom Resources Ent., LLC (FRE);
- National Marine Fisheries Service (NMFS);
- Norton Sound Economic Development Corporation (NSEDC);

- AuruMar and SRK Consulting (SRK) on behalf of Placer Marine Mining;
- Sue Steinacher (SS); and
- U.S. Fish and Wildlife Service (USFWS).

The Department wishes to thank those who submitted comments on the draft general permit. This document summarizes the comments submitted and the justification for any action taken or not taken by the Department in response to the comments. Commenter references are included within the comment summaries.

1.3 Final Permit

The final permit was issued by the Department on July 16, 2013 with an effective date of August 15, 2013. There were changes from the public-noticed permit to the final permit based on comments received. Significant changes are identified in the response to comments and reflected in the final permit and fact sheet. Minor edits, such as format changes or correction of typos, were made to the permit and fact sheet for clarification and may not be specifically identified in this document.

2.0 Comments on Permit Coverage

2.1 Comment - Permit Part 1.1:

One comment expressed concern "about the potential for suction dredging to impair water quality by suspending sediments containing heavy metals or other contaminants, and to impact the benthic invertebrates eaten by the threatened spectacled eider in Norton Sound." The comment recommended that spectacled eider critical habitat be excluded from general permit coverage without prior review of the specific project by the USFWS. The comment noted that designated critical habitat occurs south and west of Cape Darby, and is adjacent to, but does not overlap the area proposed for coverage under the GP. (USFWS)

Response:

As noted, the permit was designed to exclude critical habit for spectacled eider that occurs south and west of the coverage area. Based on comments received, additional protections for spectacled eider were implemented in the permit (see Comment 4.4).

2.2 Comment - Permit Parts 1.3.1.1 and 1.3.1.2:

Two comments recommended wording be changed to clarify that the minimum intake diameter is measured at the intake nozzle rather than the hose. (BCS)

Response:

An additional definition has been added under Appendix C to clarify that "intake diameter" or "intake area" refers to "the intake nozzle as measured across the smallest internal cross-section of the primary inlet."

2.3 Comment - Permit Part 1.3.1:

One comment recommended a new section to read "Miners with suction dredges with an intake nozzle diameter of less than 10 inches may also utilize this permit, if so requested." (BCS)

Response:

The Department acknowledges there may be occasions that warrant inclusion of a suction dredge with an intake nozzle diameter less than or equal to 10 inches under an authorization. Therefore, additional language has been added under Permit Part 1.3 to state "Suction dredges with intake diameters less than or equal to 10 inches may be authorized under this permit provided any such dredge is used in conjunction with a larger operation."

2.4 Comment - Permit Part 1.4.1:

Two comments noted that some dredge operators may seek to crush material at sea to increase the volume of material run through section lines and expressed concerns that finely crushed material would significantly alter the seabed, increase the potential for leachate, and increase turbidity. The comments recommended that crushing of material at sea should be prohibited under the general permit. (NSEDC, SS)

Response:

The permit only authorizes discharges from placer mine operations. As described within the permit fact sheet, placer mining involves the mining and extraction of eroded particles gold or other heavy metals and minerals from unconsolidated sediment deposits (e.g., glacial or alluvial deposits of gravel or sand). Due to the nature of placer deposits, gold is generally recovered only through gravity separation. DEC is unaware of any offshore dredge operations, past or present, that have proposed to crush material at sea. Therefore, DEC has determined that an additional prohibition within the permit is unnecessary. In the event an operation proposes to crush material, DEC retains the authority to include additional permit stipulations within an authorization or to deny coverage under the general permit and require the applicant apply for and obtain an individual permit.

2.5 Comment - Permit Part 1.4.1.1:

One comment noted that very limited visual footage exists of the seabed in the lease areas and "assume[s] that the areas of sensitive habitat are known to ADEC and Alaska Department of Fish and Game so that they may advise operators by posting drawings of these areas on line or providing hard copies to the permit holders." (SRK)

Response:

"Sensitive habitat", such as that described under Permit Part 1.4.1.1, is unlikely to occur in the primary coverage area. However, concern exists that operations authorized to discharge in outer areas (Permit Part 1.4.1.2) may encounter such habitat. DEC does not currently have comprehensive maps or drawings available. The permit covers a broad area and habitat characteristics, such as kelp beds, are subject to vary during the season or from year to year. Because a map or line drawing may not adequately depict changing habitat, permittees must be aware of and avoid any "sensitive habitat", as described under Permit Part 1.4.1.1, that is encountered.

2.6 Comment - Permit Part 1.4.2:

Two comments recommended limiting permitting or requiring individual permits for operations in the areas of Cape Nome, Sledge Island, and Bluff due to habitat concerns for shellfish (e.g., red king crab), marine mammals and sea birds. One comment noted that triennial trawl surveys have 1) consistently found order-of magnitude higher abundances of sublegal crab for five miles on both sides of Cape Nome and 2) less frequently, found high abundances in the vicinity of Sledge Island and 10 miles south of the coast from Rocky Point to Bluff. (NSEDC, SS)

Response:

Most operations (greater than 90%) authorized under the permit are anticipated to operate on mineral claims within an offshore lease area auctioned by DNR in 2011. The 2011 lease sale area extends approximately three miles offshore of Nome between the mouth of the Nome River to the east and Rodney Creek to the west (Fact Sheet, Section 1.1.3). Because some additional upland mineral claims extend into marine waters to the west and east of the 2011 lease sale area and may result in similar offshore operations, the permit also covers marine waters westward to Cape Rodney and eastward to Cape Darby. Upland claims outside the lease sale area extend short distances offshore and would attract only a limited number of relatively smaller scale operations. The permit excludes operations in areas of Sledge Island and east of Cape Nome; however, DEC may grant an exception on a case-by-case basis after additional evaluation and review (Permit Part 1.4.2). Any operation authorized in such locations would be subject to additional effluent limitations, monitoring requirements, and site-specific conditions.

Based on comments received, DEC has modified permit stipulations to further protect habitat within the areas of Cape Nome, Sledge Island, and Bluff. First, the boundary line near Cape Nome was shifted from 165°00’00” west longitude to 165°10’00” west longitude to include approximately five miles of additional habitat east of Cape Nome. Second, exceptions to allow authorizations within areas east of Cape Nome or offshore of Sledge Island would only be approved after consultation with ADF&G. Third, expanded mixing zones would be prohibited within areas east of Cape Nome or offshore of Sledge Island (Permit Part 2.3.1.3), effectively limiting the scale of operations within those areas. Finally, based on additional comment from USFWS, stipulations have been added that require a minimum 1000 feet separation from large flocks of spectacled eiders in areas known to have high bird concentrations (Comment 4.4).

2.7 Comment - Permit Part 1.4.2:

One comment voiced concerns for protection of red king crab populations that feed and reproduce near shore during spring. The comment recommended that exceptions to seasonal limitations be removed from the general permit and that any such exceptions be authorized through an APDES individual permit. (NMFS)

Response:

To ensure protection of red king crab populations that feed and reproduce near shore during spring, the exception that allowed operation from March 1 to May 31 was removed from the permit. To further protect winter king crab fisheries and allow offshore areas an opportunity to recover during winter, the exception that allowed operation on sea ice prohibition was also removed.

2.8 Comment - Permit Part 1.4.1.3:

One comment recommended some clarification to define sea ice (e.g., 50% coverage). The comment argued that without some clarification even a few blocks of ice against the shore would prohibit mining. (BCS)

Response:

The intent of the stipulation was to limit operations that propose to operate on top of sea ice. The permit language is revised for clarification to state “discharges from operations on sea ice,” rather than “discharges when sea ice is present.”

2.9 Comment - Permit Part 1.4.1.3:

One comment recommended inclusion of a statement or footnote to read: “Dredging may be allowed during the March 1 to May 31 period after DEC consultation with

NMFS where NMFS determines that dredging in the March 1 to May 31 period will not adversely impact the Red King Crabs." (BCS)

Response:

See comment 2.7.

2.10 Comment - Permit Part 1.4.1:

One comment noted that offshore mining may adversely affect Essential Fish Habitat in depths greater than 30 feet. The comment recommends that mining activities should be limited to water depths less than 30 feet. (NMFS)

Response:

Although the general permit covers approximately 384,000 acres, only a relatively small amount of that acreage, approximately 25,000 acres, is available as offshore mineral claims. Of the anticipated operations under the permit, DEC expects that a relatively small percentage (less than10%) would operate in depths beyond 30 feet and the total annual acreage disturbed at all depths would be less than 0.004% of the total coverage area.

DEC has limited authority within a permit to regulate physical disturbance that occurs directly due to the excavation process. DEC only has direct authority within a permit to regulate wastewater discharges that may result in secondary impacts related to effects on water quality (e.g., turbidity). To protect water quality, operations in depths beyond 30 feet must install downspouts and evaluate additional Best Management Practices (BMPs). The BMPs help ensure solids are returned as close to the excavated area as possible, thus limiting any secondary impacts. The permit also includes seasonal limitations to protect red king crab during spring spawning and feeding periods (Comment 2.7). DEC further retains the ability to expand requirements in permit authorizations on a case-by-case basis.

Although benthic studies have indicated that some areas disturbed during the excavation may be slow to recover, the studies also indicated that regardless of disturbance from mining operations, the benthic habitat offshore of Nome is routinely "reset" by large scale storm events and eventually returns to a "pre-mining" state. It should be further noted the benthic studies only evaluated areas physically disturbed during excavation, and did not evaluate areas beyond the excavation area where impacts from water quality alone would be considerably less. Benthic impacts and water quality concerns are further discussed with the Ocean Discharge Criteria Evaluation for the general permit.

Based on the anticipated level of disturbance, DEC permit authority and permit requirements, existing literature, and 2012 baseline studies, DEC has determined not to establish depth limitations. Alternatively, DEC relies on additional BMPs for operations beyond depths of 30 feet, seasonal limitations, and inclusion of expanded authorization requirements on a case-by-case basis.

2.11 Comment - Permit Part 1.6.5:

One comment recommended a clarification stating that "If an application is received during the 90 day period, for an operation that was not previously permitted, DEC may consider issuance of a permit." (BCS)

Response:

The 90 day limit for applications applies to facilities that are already authorized and wish to ensure coverage under the permit after its expiration. The reapplication requirements are based on standard regulatory requirements (Permit Appendix A, Part 1.3) and do not specifically mention new operations. The permit requires new operations submit an application at least 60 days prior to discharge. To provide flexibility, the 60 day limit has been modified to note "at the Department's discretion, an application may be accepted with less than 60 days notice."

3.0 Comments on Effluent Limitations and Monitoring Requirements

3.1 Comment - Permit Part 2.2.3:

One comment recommended a clarification to read "A permittee who conducts the visual turbidity observation must observe the plume radially from the dredge and record the length and direction the plume extends from the center of the mixing zone at the dredge." The comment argued that with the original wording with the phrase "no longer visible" it could be interpreted that a miner must stay out on the water until the plume is "no longer visible." (BCS)

Response:

The phrase "no longer visible" has been removed from the wording under Permit Part 2.2.3.

3.2 Comment - Permit Part 2.1.1:

One comment noted that the permit authorizes a standard 1,600 feet mixing zone; however, the mixing zone authorized for the WestGold BIMA under AK-004319-2 was 3,281 feet. The comment recommended consideration of a larger mixing zone size based on the extensive groundwork done by the WestGold team as the baseline. (SRK)

Response:

The Department anticipates a 1,600 ft. radius mixing zone would be adequate for the majority of operations (e.g., large suction dredges with intakes less than 20 inches and small excavators with buckets less than 1 cubic yard) covered under the permit.

The Department thoroughly reviewed the BIMA permit and related documents during development of the general permit. However, because the Norton Sound Large Dredge Placer Miners General Permit is designed to cover a "general" group of dischargers (see Fact Sheet 1.1.1), its limitations and conditions must apply to the average discharger covered under the permit. An operation similar to the BIMA is beyond the scale of most operations anticipated under the general permit. It should be noted that although the BIMA permit included a 3,281 feet mixing zone, the BIMA permit also included limitations and monitoring beyond the scope of those required within the proposed general permit.

A 3,281 feet mixing zone would be unnecessarily large for most operations; however, it may still remain inadequate for some larger operations. To accommodate a broad range of operations, the Department incorporated numerous exceptions and variances within the permit (Permit Parts 2.3 and 2.4) that would allow an expanded mixing zone under certain situations.

3.3 Comment - Permit Part 2.4.1:

One comment voiced concerned that the turbidity limit, a fixed 25 Nephelometric Turbidity Units (NTU), presents a potential issue for operators in Norton Sound primarily due to storms and currents that elevate the natural background turbidity levels above the standard. (SRK)

Response:

The Department understands that ambient conditions may exceed 25 NTU under certain situations (e.g., storms or currents). However, the current Alaska Water Quality Standard (WQS) for turbidity in marine waters is 25 NTU and does not consider background conditions [18 AAC 70.020(b)(24), available at http://dec.alaska.gov/water/wqsar/wqs/index.htm]. Although the WQS prior to 1999 and effective during BIMA operations appeared to have considered background conditions, the Department is unable to modify current WQS within a permit.

The WQS do allow the Department to establish site-specific criteria based on concurrent monitoring (Fact Sheet Section 5.3). Therefore, to consider background conditions, the permit includes an option to request a modified limit under Permit Part 2.4.2. It should be further noted that the 25 NTU limit only applies to operations with

mixing zones larger than 1,600 ft. that are otherwise unable to conduct visual monitoring.

4.0 Comments on Special Conditions

4.1 Comment - Permit Part 3.0:

One comment noted that June is a critical month for shellfish (e.g., red king crab) and larval and juvenile finfish (e.g., salmon, herring, capelin, and saffron cod). The comment recommended 1) requirements for screening and maximum velocities around pump intakes and 2) separation distances around river mouths and near-shore waters during the month of June. (NSEDC)

Response:

DEC only has authority to regulate wastewater discharges, and related effects on water quality, within a permit. Requirements for screening and maximum velocities around pump intakes are associated with water intake and usage, rather than wastewater discharge. Therefore, pump intake requirements are considered beyond the scope of the general permit. It should be noted that although the permit does not implement screening requirements, many, if not all, operators already include screens on intake hoses to filter sand, gravel, and other debris.

The permit (Part 3.2) already includes year-round separation distances around the mouths of any anadromous river or streams identified within ADF&G's Anadromous Waters Catalog. Separation distances are further expanded during summer months when fish migration is most likely to occur.

4.2 Comment - Permit Part 3.0:

One comment requested that large mining outfits be required to put enclosures and pump intakes in place to reduce the inevitable plume produced by dredging. **(SS)**

Response:

The permit includes numerous BMPs for outfall configurations, under Permit Part 3.1, intended to reduce turbidity plumes. It is unclear from the comment how enclosures and pump intakes would further reduce turbidity. DEC has determined that the permit BMPs, based on similar requirements for large sediment dredges, already include the most current practices known to reduce turbidity.

4.3 Comment - Permit Part 3.0:

One comment recommended that operators on sea ice be made aware that the intentional harassment of polar bears, other than as authorized under the 50 CFR 18.34, is prohibited. (USFWS)

Response:

To further protect winter king crab fisheries and allow offshore areas an opportunity to recover during winter, the exception that allowed sea ice operation was removed (Comment 2.7). Because the permit does not cover operations on sea ice, recommendations for operations on sea ice are no longer applicable.

4.4 Comment - Permit Part 3.0:

One comment provided information on a voluntary No Traverse Zone in eastern Norton Sound and requested that operators be made aware of the No Traverse Zone which vessel operators are asked to avoid between August 1 through October 31 to avoid disturbing large flocks of spectacled eiders. The comment also recommended that operators stay at least 300 meters away from flocks of spectacled eiders anywhere in Norton Sound, including outside of the designated critical habitat or the No Traverse Zone. The comment noted that [avoidance of the No Traverse Zone and spectacled eiders] may be applicable for operators when in route to the work site. (USFWS)

Response:

DEC has authority over wastewater discharges and the permit only regulates discharges within a limited coverage area. Therefore, DEC has chosen to limit the permit to only include requirements applicable to wastewater discharges within the coverage area. DEC acknowledges that operators may encounter spectacled eiders in route to the work site and is willing to consider other methods, outside the permit, to share information.

To protect spectacled eiders within the permit coverage area, a stipulation was added (Permit Part 3.2.5) that requires permittees to maintain a minimum distance of 1,000 feet from any large flock of spectacled eiders within areas known to have high bird populations (e.g., Sledge Island, Cape Nome, Bluff).

4.5 Comment - Permit Part 3.1.8:

One comment suggested a permittee would find it difficult to comply with the best management practice that states: “Red king crab mating pairs and clusters must be avoided. If red king crab mating pairs or clusters are observed, mining operations must move to an alternate location where no crabs are observed or cease operation until the

crabs move away on their own." The comment recommends that this best management practice be expanded to include information on how it would be enforced. (NMFS)

Response:

The stipulation is included as a BMP, intended to raise awareness among operators, and only requires action if mating pairs or clusters are observed. Most mating pairs are expected to move further offshore prior to the dredging season and any red king crabs present would likely move away from the vicinity once noise from the dredging operation begins. Although some operations, such as mechanical dredges, would have difficulty monitoring for crabs during operation, other operations, such as remote submersibles, are often equipped with video monitors and would, therefore, have the ability to adjust operations if crabs were observed. Similar to other BMPs, operators must comply with the requirement; however, DEC would only take enforcement action once a violation is clearly observed. Furthermore, DEC retains the ability to expand requirements in permit authorizations on a case-by-case basis.

4.6 Comment - Permit Part 3.2.1:

One comment noted that gold is often concentrated in specific areas and that it is likely competing operators will be working in concentrated areas and subsequently have conflicts with overlapping turbidity plumes. The comment requested clarification on how conflicts among operators with overlapping plumes will be handled. (FRE)

Response:

Operations under this permit are expected to occur on separate lease tracts that are spread over a broad area and should only have rare instances of possible plume overlap. Because potential for plume exists under certain situations, Permit Part 1.3.2 explicitly prohibits overlapping turbidity plumes from different operations. The stipulation applies equally to all operations authorized under this permit. To reduce the possibility of plume overlap, and for personal safety concerns, operators should work cooperatively when mining in close proximity to each other.

4.7 Comment - Permit Part 3.2.3:

One comment noted that a number of fish move through Nome's offshore waters, from young salmon leaving the rivers, to herring and capelin that travel coastal waters, to adult salmon and Dolly Varden returning to breed. The comment recommended that for these same reasons, dredging should not be allowed within several miles either side of river mouths. (SS)

Response:

The permit (Part 3.2) already includes year-round separation distances around the mouths of anadromous rivers or streams, as identified in ADF&G's Anadromous Waters Catalog. Separation distances are further expanded during summer months when fish migration is most likely to occur. Therefore, no additional stipulations were included based on this comment.

5.0 Other Comments

5.1 Comment - General:

One comment mentioned that "activity levels are poorly addressed in the permit" and "little consideration is given to what level of activity might cause significant impacts." The comment recommended cumulative impacts need to be considered. **(NSEDC)**

Response:

DEC does not anticipate significant cumulative impacts from operations covered under the permit, primarily due the relatively small area of annual disturbance compared to the total area of the lease sale (Comment 2.10). To further reduce cumulative impacts, the permit 1) establishes separation distances from adjacent operations and around the mouths of anadromous streams to protect fish migration; 2) sets seasonal restrictions to protect red king crab spawning; 3) sets regional restrictions to protects sensitive habitat; and 4) includes limits and monitoring for the primary wastewater concern, turbidity. Permit stipulations combined with the relatively short operating season are unlikely to result in any long-term cumulative effects to the Norton Sound environment that is already adapted to naturally elevated turbidity and sediment loads from the Yukon River and Bering Sea storms. In the event activity levels increase beyond the levels anticipated under the general permit, DEC retains the ability to require individual permits or implement additional requirements within permit authorizations. Habitat considerations are further discussed within the Ocean Discharge Criteria Evaluation for the permit.

5.2 Comment - General:

One comment mentioned that "the oversight that DEC proposes to give to the offshore operators is woefully inadequate". The comment further recommended that "more stringent permit requirements are called for, and a significantly increased policing presence to insure that the regulations are followed." **(SS)**

Response:

The intent of the permit is only to implement effluent limitations, monitoring requirements, and other conditions to regulate water quality. Compliance and enforcement for offshore dredge operations is conducted at a level similar to, if not greater than, other industries (e.g., oil and gas or domestic wastewater) that are regulated under similar wastewater permits. DEC Compliance and Permitting staff conduct routine inspections, site visits, and water quality monitoring of operations offshore of Nome. DEC has also coordinated with DNR and hosted annual educational workshops for Nome dredgers prior to the last two mining seasons. Additionally, DNR has a full-time seasonal employee in Nome who is dedicated to oversight of offshore dredge operations, fully trained in DEC permit requirements, and available to assist DEC Compliance staff.

Regarding permit requirements, the current general permit contains effluent limitations, monitoring requirements, and BMPs that are enhanced well beyond many prior individual permits issued for large dredge operations offshore of Nome. Furthermore, DEC retains the ability to require individual permits or implement additional requirements within permit authorizations as necessary.

5.3 Comment - General:

One comment requested that DEC hold at least one public hearing in Nome as local people have not been adequately informed of permitting plans. The comment requested DEC and other agencies to come to Nome, do direct mail-outs and advertising, and discuss permitting plans and potential impacts in a manner that is understood by locals and can be responded to in a meaningful manner by the people most affected by DEC decisions. **(SS)**

Response:

Prior to permit development, DEC notified local tribes and governments, and other agencies that DEC would be working on the permit. A preliminary draft notice was also sent to local tribes and governments prior to a 10-day applicant review. Finally, local tribes and government were notified prior to the 30-day public notice. The public notice was posted in a local newspaper and mentioned in a front page article that discussed DEC permit plans. To date, DEC has received a limited response from the general public (one comment), local tribes (no comments), and local governments (no comments). Based on the limited response, DEC determined significant public interest did not trigger the need to conduct a public hearing or additional public notice. Note DEC still retains the flexibility to include enhanced stipulations within permit authorizations if additional public concerns become apparent in the future. Response to Comments Section 1.2 outlines the entire public participation process.