

CENTER ON RACE, POVERTY, & THE ENVIRONMENT

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November 6, 2009

Via Electronic Mail and Federal Express

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Re: Comments on Draft NPDES Permit and Final SEIS for Red Dog Mine

Dear Ms. Godsey, Ms. Shaw and Ms. McGrath:

The Center on Race, Poverty & the Environment submits these comments on behalf of Enoch Adams, Jr., Leroy Adams, Andrew Koenig, Jerry Norton, Colleen Swan, and Joseph Swan, Sr., all residents of the Native Village of Kivalina (collectively "Kivalina residents"). This letter supplements the letter dated February 3, 2009, in which Kivalina residents objected to, and commented on, the proposed NPDES permit for the Red Dog Mine site, the draft SEIS, and the State of Alaska's § 401 certification.

I. EPA has the Authority to Mandate that the Red Dog Mine Site Discharges by Pipeline to the Chukchi Sea.

The Final SEIS – and the NPDES permit – will violate NEPA and the Clean Water Act because EPA has the authority to mandate, as part of the NPDES permitting process, an alternative location for the mine's point source discharge. *See* 33 U.S.C. § 1342(a)(1)(B) (authority to impose such "conditions as the Administrator determines are necessary to carry out

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Comments on Final SEIS and Draft NPDES permit
Red Dog Mine
November 6, 2009

the provisions of this Act”). The Final SEIS alternative analysis incorrectly claims EPA has no such authority. That is not correct and contradicted by the plain language of section 402(a)(1) of the Act. Moreover, the feasibility of such alternative discharge point source via a pipeline from the mine site to the port site has been conceded by both EPA in the SEIS and Teck Alaska, which agreed to implement such an alternative point source discharge in the *Adams v. Teck Cominco* settlement agreement and consent decree. EPA’s failure to acknowledge its statutory authority under the Clean Water Act, and therefore improper selection of the preferred alternative, violates NEPA; its failure to require such alternative location in the draft NPDES permit for the mine site violates the Clean Water Act.

II. EPA fails to Analyze Feasible Mitigation for Discharges to Red Dog Creek and Fails to Mandate Best Available Technology in the NPDES Permit for Point Source Discharges to Red Dog Creek.

EPA concedes that reverse osmosis with pretreatment for gypsum removal is a proven option to achieve an end-of-the-pipe 170 mg/l monthly average TDS effluent limitation and 198 mg/l daily maximum TDS effluent limitation in the 1998 mine site NPDES permit. Final SEIS at 2-22. EPA concedes that a system with barium hydroxide is technologically feasible, but would require time for full-scale optimization. *Id.* at 2-23; Response to Comment 10.013. EPA makes no effort to determine whether a system with aluminum hydroxide would facilitate a more timely implementation of advanced TDS treatment.

EPA has an affirmative duty to require best practicable control technology currently available for TDS and the Best Available Technology (BAT) in the mine site permit for discharges of lead, cadmium, nickel, silver, arsenic, cyanide, and zinc. 33 U.S.C. §§ 1311, 1317, 1342(a); 40 C.F.R. § 401.15. EPA fails to require best practicable control technology currently available for TDS and BAT for the toxic compounds after conceding the feasibility of a reverse osmosis system with either barium hydroxide or aluminum hydroxide. This violates the Clean Water Act.

Instead of doing its duty – a pattern of neglect that dates back to before EPA issued the 1998 mine site permit – EPA proposes to eliminate *any* end-of-pipe effluent limitations for TDS, total cyanide, nickel, and silver. EPA should not abdicate its duty to protect the environment, the subsistence fish resources in the Wulik River watershed, and the health of Kivalina residents, whose drinking water quality depends on EPA’s diligent implementation and enforcement of the Clean Water Act. Such disparate treatment of approximately 400 residents of the Native Village of Kivalina for the sole economic benefit of the remaining residents of the Borough and non-resident owners of Teck Alaska violates EPA’s obligation to ensure just treatment of low-income and communities of color.

III. The Final SEIS fails to Adequately Analyze Air Quality Impacts.

Instead of conducting an independent analysis of air quality impacts, which is EPA's duty under NEPA, EPA relies on a nine year old air quality analysis prepared by the Alaska Department of Environmental Conservation for a project entirely unrelated to the proposed Aqqaluk expansion. *See, e.g.*, Final SEIS at 3-7. As a result, the entire air quality analysis is fundamentally inadequate for the reasons discussed below.

A. The Final SEIS Fails to Disclose Current and Proposed National Ambient Air Quality Standards for PM2.5 and Nitrogen Dioxide, Respectively.

The air quality section of the Final SEIS identifies the health-based PM2.5 National Ambient Air Quality Standards as 65 micrograms per cubic meter as measured over 24-hours and a 15 micrograms per cubic meter annual average. Final SEIS at Table 3.2-1. The Final SEIS intentionally or irresponsibly misleads the public because *three years ago*, EPA revised the 24-hour PM2.5 National Ambient Air Quality Standard downwards from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$. *See* 71 Fed. Reg. 2620 (Jan. 17, 2006) and 71 Fed. Reg. 61144 (Oct. 17, 2006). The Final SEIS fails to present the current, applicable National Ambient Air Quality Standard against which the SEIS should analyze PM2.5 impacts.

Moreover, EPA fails to conduct an analysis for the mine's impacts on public health and the environment based on proposed standards nitrogen dioxide (NO₂). *See* 74 Fed. Reg. 34404 (July 15, 2009). There is no disclosure or discussion of the health effects of nitrogen dioxide, as disclosed and known to EPA. Even though EPA has not finalized the proposed NAAQS, it is well aware of its own analyses of the health and ecosystem effects of NO₂, which Kivalina incorporates by reference because of their voluminous nature and EPA's ready access to such documents.¹

B. The Final SEIS Fails to Quantify the Mine's Lead, Nickel, Zinc, Arsenic, Cadmium, Nitrogen Dioxide, and PM2.5 Emissions.

The Final SEIS only discloses modeled ambient concentrations of a limited handful of air pollutants. It fails to provide any estimate of total emissions of lead, cadmium, nickel, zinc, nitric oxide, and PM2.5. The fact that lead, cadmium, and arsenic are listed Hazardous Air Pollutants under section 112(b) of the Clean Air Act, 42 U.S.C. § 7412(b), amplifies this complete and utter

Available on the internet at http://www.epa.gov/ttn/naaqs/standards/nox/s_nox_index.html.

Comments on Final SEIS and Draft NPDES permit
Red Dog Mine
November 6, 2009

failure to disclose the amount of HAPs emitted annually. The Final SEIS concedes that ambient concentrations of zinc have never been measured, a fact that resoundingly establishes EPA's utter failure to analyze the effects of an expansion of the world's largest *zinc mine*. Final SEIS at 3-6. An air quality analysis that does not disclose and analyze HAP emissions, disclose zinc emissions or analyze zinc ambient air concentrations unquestionably violates NEPA.

There is absolutely no discussion of lead as measured as Pb-TSP or as Pb-PM10, even after the EPA's recent review of the lead NAAQS and exhaustive discussion of lead bioaccumulation and health effects. *See* 73 Fed. Reg. 66934 (Nov. 12, 2008). Even though the Final SEIS' concedes that lead is a real threat to subsistence consumption of caribou, that there are ambient lead concentrations in Kivalina's and Noatak's ambient air, and that blood levels show lead in Kivalina and Noatak residents, the Final SEIS fails to provide any quantification of total lead emissions from the Red Dog Mine itself (as compared to the fugitive dust from the DTMS road) and the port site facility, and totally omits any discussion of nickel, cadmium, and arsenic emissions.

The Final SEIS also fails to disclose total PM2.5 emissions or ambient concentrations of PM2.5 at the Red Dog mine property line. EPA may not simply rely on a PM10 analysis as a surrogate for PM2.5, since the pollutants are fundamentally different in size and health impacts. Such reliance has been rejected by EPA. A "PM10 surrogacy" approach is no longer appropriate by its own terms because the technical difficulties upon which it is based have been solved. As the U.S. EPA recently noted, there has been "resolution of the technical issues with respect to PM 2.5 monitoring, emissions estimation, and air quality modeling that led to the PM 10 surrogacy policy in 1997."² For example, technical capabilities for modeling PM2.5 do exist, 70 Fed. Reg. 68218, 68234-68235, 40 C.F.R. § 51, App W, 5.1 (e), (t), (h), 5.2.2.1, and U.S. EPA has identified both ISC and AERMOD as available models to analyze the impacts of PM 2.5 in its Guideline to Air Quality Models. 40 C.F.R. § 51, Appendix W. EPA has issued Other Test Method 27 (OTM-27), previously known as Conditional Test Method 40 (CTM-040) for filterable PM_{2.5}. While this is not yet a promulgated test method, it is based on Method 201A, a well-established test method that has been formally adopted by EPA.³ Further, Method 202 is in regular use to measure condensable PM. As with any test method, EPA will continue to assess this method based on user feedback and will make necessary modifications to improve its accuracy and repeatability. EPA

² Exhibit 1, Jackson PM 2.5 Letter at 1 (exhibit electronically mailed); *see also* 73 Fed. Reg. at 28,340; *see also* 72 Fed. Reg. 54,112 (Sept. 12, 2007).

³ 72 Fed. Reg. at 20653 ("we believe that further validation of this method is unwarranted since the technology and procedures are based upon the same as evaluated for promulgated Method 201A").

Comments on Final SEIS and Draft NPDES permit
Red Dog Mine
November 6, 2009

has also developed a test method capable of measuring both filterable and condensable particulate. The draft of this method, known as the "dilution sampling method," is available on the EPA website as CTM-039.⁴ EPA recently granted a petition objecting to a PSD permit on the grounds that the PM10 surrogate approach was not appropriate. *See In the Matter of Louisville Gas and Electric Company*, Petition No. IV-2008-3, attached as Exh. 2 (exhibit electronically mailed).

Finally, the Final SEIS fails to estimate nitrogen dioxide emissions from the mine site and fails to calculate nitrogen dioxide ambient concentrations at the property line. Such impacts should be disclosed and analyzed in this SEIS.

C. The Final SEIS' Public Health Analysis Fails to Consider PM2.5 Impacts.

EPA's own rules promulgating the 2006 PM2.5 standard, as well as its own documents on PM2.5 which Kivalina residents incorporate by reference (available on the internet at http://www.epa.gov/ttn/naaqs/standards/pm/s_pm_index.html), demonstrate the significant public health consequences of short term (24-hour standard) and long-term (annual average standard) exposure to PM2.5. *See* 71 Fed. Reg. 2620 (Jan. 17, 2006) and 71 Fed. Reg. 61144 (Oct. 17, 2006).

Nowhere in the public health analysis does EPA make any effort to discuss and disclose the negative health consequences of the mine's PM2.5 emissions on the public or Red Dog employees. PM2.5 health effects include exacerbated respiratory disease like asthma, and premature death from short and long term exposures. *Id.* EPA's failure to analyze the impact of PM2.5 in the SEIS air quality section is compounded by EPA's total refusal to acknowledge the public health consequences of PM2.5.

IV. Discharge of Red Dog Mine Waste into the Wulik River Inflicts Disproportionate Impacts on the People of Kivalina.

EPA's preferred alternative is to continue to allow the Red Dog Mine to increase its discharges of pollution into Kivalina's source of drinking water. Kivalina – one of eleven villages in the Northwest Arctic Borough – is the only Village to have its drinking water source compromised by the Red Dog Mine. The Final SEIS fails to provide an independent analysis of Kivalina's drinking water, relying instead on sampling by Teck Cominco.

Prior to granting Teck Cominco the license to pollute the Wulik even more, EPA must

⁴ EPA website: www.epa.gov/ttn/emc/ctm.html.

Comments on Final SEIS and Draft NPDES permit
Red Dog Mine
November 6, 2009

independently analyze Kivalina's drinking water quality and the complete chemical nature of the effluent entering Red Dog Creek. Teck Alaska's self-monitoring, which forms the basis of the water quality analysis, should not be the only basis of the SEIS conclusion that Kivalina residents are consuming healthy drinking water.

Kivalina residents are very concerned about a white/grey material in the Village's drinking water. Kivalina residents have sampled such material and sent it to a lab for analysis, and will submit the results under separate cover. A split sample is included here as Exhibit 3 (included in original comment delivered by Federal Express). The sample was taken by Joe Swan, Sr. on November 3, 2009 from the intake container for his reverse osmosis system and shipped to a laboratory for analysis by Brent Newell.

V. The Final SEIS Fails to Adequately Analyze Impacts on Subsistence Consumption of Caribou and Wulik River Fish.

EPA acknowledges the threat of consumption of contaminated fish, but fails to perform any analysis of toxic content of greyling, chum salmon, pink salmon, char, and trout which are sources of Kivalina subsistence fishing in the Wulik River. Final SEIS at 3-243, 248. Such an analysis is reasonable given the sampling of other environmental media in the SEIS and the availability of fish in the Wulik from which to sample tissue and organs. Instead of conducting a reasonable investigation and analysis, EPA relies on the HHRA, which is just a model that used metals associated with the DTMS *only*, rather than that which is discharged into the Wulik River system.

EPA also fails to perform an analysis of the public health threat from subsistence consumption of caribou. EPA admits that the HHRA is defective, stating it underestimates health risks of eating caribou by an order of magnitude. Final SEIS at 3-251. However, EPA fails to perform *any* analysis of the threat.

The SEIS acknowledges the significant cultural value of subsistence activities, yet fails to perform a meaningful analysis of the mine's impacts on caribou and Wulik River fish. This violates both NEPA and EPA's guidance on evaluating environmental justice impacts.

EPA also attempts to dismiss the lead exposure to Kivalina residents because of sampled blood lead levels. However, as EPA is aware and based on EPA's own analysis of the lead National Ambient Air Quality Standard, bone storage of lead is the major repository of lead in the body, with 70% of a child's body burden stored in bone and 90% of an adult's burden stored in bone. *See* 73 Fed. Reg. 66934, 66972 (Nov. 12, 2008).

Comments on Final SEIS and Draft NPDES permit
Red Dog Mine
November 6, 2009

Notwithstanding EPA's failure to consider its own science on body lead load data, adverse health effects occur below a blood level of 10 µg/dL in children, according to the Center for Disease Control and EPA. *Id.* EPA cannot dismiss the impact of lead on subsistence consumption based on a blood target level of 10 µg/dL, as it does when considering the HHRA findings.

VI. Conclusion.

For the reasons described in the Kivalina residents' February 3, 2009 letter and as described above, EPA should not adopt the Final SEIS, should provide a meaningful NEPA analysis, and not issue the woefully inadequate NPDES permit that gives the Red Dog Mine a license to pollute. Forging ahead not only will violate NEPA and the Clean Water Act, but EPA would fail to ensure the fair and just treatment of the people of Kivalina, who depend on a healthy and clean environment.

Sincerely,



Brent Newell