ABOUT THE AGENCY

The Independent Environmental Monitoring Agency was formed in 1997 to act as a public watchdog over the Ekati Diamond Mine. We are governed by a Board of Directors appointed by:

- Akaitcho Treaty 8 First Nations (specifically, Lutsel K’e Dene First Nation and Yellowknives Dene First Nation)
- T’uqeh Governmment
- North Slave Metis Alliance
- Kitikmeot Inuit Association
- Government of Canada
- Government of the Northwest Territories
- Dominion Diamond Ekati ULC (Dominion Diamond)

AGENCY MANDATE

- Review, report or make recommendations on the environmental programs, reports and activities of Dominion Diamond and government and the integration of the experience and Traditional Knowledge of Aboriginal peoples;
- Participate as an intervenor in regulatory and other legal processes concerning the environment;
- Maintain a resource library of environmental information relevant to Ekati;
- Distribute information about Ekati to Aboriginal peoples and the general public; and
- Provide an effective means to bring to Dominion Diamond and governments the concerns of Aboriginal peoples and the general public.

Closure and Reclamation:
Satisfactory

- Dominion Diamond was directed by the Wek’eezhii Land and Water Board in 2017 to submit an updated single integrated Interim Closure and Reclamation Plan (ICRP). An updated ICRP has recently been received and will be reviewed starting in the fall of 2018. Reclamation research continues to lag behind schedule, however a revised reclamation research plan is expected to be submitted along with the ICRP. The reclamation of Old Camp is well behind schedule but is expected to be completed during the summer of 2018.

Financial Security:
Satisfactory

- The GNWT holds an appropriate amount of security for the existing liability onsite.

Water and Aquatic Life: Satisfactory

- There are no new water quality issues this year, however selenium levels in sediment are increasing as are potassium concentrations in water downstream of the Long Lake Containment Facility. The Aquatic Response Framework continues to help with early identification of potential issues of concern.

Air Quality: Good

- The 2015 - 2017 Air Quality Monitoring Report shows that monitoring results were similar to historical data. Dominion Diamond continued its dust suppression pilot study in efforts to reduce dust levels on site.

Wildlife: Satisfactory

- The grizzly bear monitoring program continued in 2017. Record numbers of caribou from both the Bathurst and Beverly/Ahiak herds have visited the site in recent years but they are now seen more often during winter months. Monitoring of and reporting on site permeability for caribou (crossing success at different scales) should be enhanced.

Traditional knowledge: Satisfactory

- The Traditional Knowledge Elders Group continues to meet regularly and provides input on site wide topics and is not restricted to the Jay Project. Unfortunately, a decision was made to delay construction of the cultural camp.
MESSAGE FROM THE CHAIR

I am pleased to present the 2017-18 annual report of the Independent Environmental Monitoring Agency (Agency). Our report this year comes in two versions, a technical report and a plain language version. The report summarizes the Agency’s activities and offers recommendations for Dominion Diamond Canada Ltd. (Dominion Diamond) and for the regulators.

This past spring the Agency celebrated our 100th Board meeting. We have seen many changes to the mine over the years and continue to participate in regulatory processes, closely review all the monitoring reports and contribute to the improvement of monitoring plans and programs to ensure good environmental performance at the mine.

This year there was a change in the Director appointed by the North Slave Metis Alliance as Arnold Enge stepped down and Bill Staton was appointed. Jessica Simpson, our Communications and Environmental Specialist, also left the Agency. I would like to take this opportunity to thank both Arnold and Jessica for their contributions and welcome Director Bill Staton and our new Communications and Administrative Specialist, Shannon Moore.

The government of the Northwest Territories, Department of Lands worked with the Department of Environment and Natural Resources to develop a legal or policy framework that enables land and water-related reclamation securities to be managed under a single regulatory instrument.

Despite the above-mentioned recommendation, FPP has analyzed its involvement in the Ekati project and its role and activities related to the plans. In the 2017-2018 year, FPP has participated and/or is currently involved in several reviews in regards to the Ekati mine. This includes, but is not limited to:

- January, 2017: FPP participated in Dominion’s community engagement sessions on the proposed Jay offsetting plan
- February, 2017: FPP reviewed Dominion’s proposal to construct and install two wastewater crossings for the construction of the Jay Road
- April 2017: FPP issued a Letter of Advice for two watercourse crossings as part of the construction of the Jay Road
- August 2017: FPP reviewed the Sable Dewatering Plan and provided comments
- July 2017: FPP reviewed the Aquatic Effects Monitoring Plan 2016 Annual Report and provided comments
- September, 2017: FPP conducted a site visit at Ekati, specifically at the Jay Road, and other sites of interest to the Department including the Panda Diversion Channel (PDC) and the Pigeon Stream Diversion (PSD)
- October, 2017: FPP reviewed the PDC offsetting monitoring report(s)
- December, 2017: FPP reviewed the as-built designs and fish salvage monitoring reports for the construction of wastewater crossings BO and AC3 as part of the Jay Project
- Winter, 2018: DFO-FPP reviewed the habitat offset plan and recommendations on the fisheries Act
- May 2018: FPP participated as an interviewer in the review of the Misery Underground (MUS) Project
- Winter, 2018: FPP participated at an interim closure reclamation plan (CRP) workshop
- Winter, 2018: FPP has continued to review the proposed income stocking plan for the Jay Project. The draft plan was reviewed by DFO Science (Canadian Scientific Advisory Committee) and provided to the Fisheries Act.
- May, 2018: FPP reviewed the proposal Sable duffer construction plan
- June, 2018: FPP and Dominion are arranging a follow-up site visit for the Jay project area and other sites at the Ekati mine of interest to DFO.

As demonstrated by the above examples, FPP participates in the review of proposed activities at the Ekati mine that have the potential to impact fish and fish habitat, and conducts follow-up in relation to those works, undertakings and activities for which it has issued approvals. DFO will continue to conduct monitoring, review and reporting activities according to our mandate “to maintain the sustainability and ongoing productivity of commercial, recreational and Aboriginal fisheries.”

RECOMMENDATIONS

1. RECOMMENDATIONS

Dominion Diamond use “Effective Neutralizing Potential” for determining the availability of neutralizing potential in waste rock.

DOMINION DIAMOND RESPONSE:

The Neutralizing Potential correction factor proposed by IEMA in the comments from the Waste Rock and Ore Management Plan (WROMP) Version B (ENP) was temporarily calculated by subtracting 10 kg CaCO₃/t from the measured bulk NP (neutralization potential) for each sample, based on the water-related reclamation security (WRRS) program plan. This method is not appropriate given the significant limitations associated with the MDAG work. The method for assigning effective NP in MDAG proposed in 1995 was (based on a review of the literature) a description of the MDAG process and not a method for determining effective NP. The use of this method is not appropriate for future use as it is not based on the chemistry of rocks or minerals in the waste rock.

Therefore, given the different mineralogical compositions and textural characteristics of each rock type, the rate of reaction of minerals may also vary according to factors relating to grain sizes and mineral textures. This variability, which the approach applied by IEMA does not address, makes it difficult to provide information on waste rock acidity potential. In addition, the approach proposed by IEMA does not account for rock type specific factors that may influence effective NP including, but not limited to, the mineralogical source of NP, mineral textures, impurities, and mineralogical alteration. In the case of the waste rock at Ekati, the mineralogical fingerprints observed in the extended geochemical data set collected by the project includes a large range of NP. DOMINION DIAMOND (DOMINION DIAMOND RESPONSE:)

This continues to be a significant challenge as the potential acidity of the waste rock is not appropriate to apply the NP correction factor proposed by IEMA.

2. RECOMMENDATIONS

Dominion Diamond initiate and enhance monitoring programs needed to support development and verification of Waste Rock Storage Area water balance and thermal models.

DOMINION DIAMOND RESPONSE:

Dominion’s existing seepage and thermal monitoring programs (summarized below) have been developed, and will continue to develop data in the development and calibration of Waste Rock Storage Area (Waste Rock Piles) thermal models, where appropriate, those programs can be supplemented to fit specific model needs such as planned activities to evaluate surficial temperatures. Seepage Monitoring:

Dominion monitors the seepage from the Waste Rock Piles twice per year and presents the data in the annual seepage survey report. The seepage surveys are conducted at all the Waste Rock Piles on-site at the Ekati mine and include site visits during spring and in the fall to collect seepage samples. In 2018, in addition to the seepage surveys, Dominion will conduct mapping of surface flow pathways where Waste Rock Piles and CRK seepage flows daylight and, if possible, seepage flow pathways downstream of the Waste Rock Piles and the Coarse Process Kimberlite Storage Area. Dominion is also conducting a waste rock seepage hydrology investigation to monitor seasonal flow variations. Thermal Monitoring:

Dominion will continue to collect ground temperature monitoring data and provide a summary of the ground temperature data. Ground Temperatures in Waste Rock Piles are measured using a minimum of four times annually, using ground temperature cables (OTCs) installed in the existing ground temperature data from bores and Waste Rock Piles at Ekati. Dominion installed a new OTC at Misery Waste Rock Piles as part of the recent water monitoring and this OTC will be incorporated into the annual ground temperature monitoring data collection program.

3. RECOMMENDATIONS

Department of Fisheries and Oceans Canada improve the level and rigor of their evaluation of activities, programs and management plans related to fish and fish habitat at the Ekati mine.

DFO RESPONSE:

In response to the above-mentioned recommendation, FPP has analyzed its involvement in the Ekati project and its role and activities related to the plans. In the 2017-2018 year, FPP has participated and/or is currently involved in several reviews in regards to the Ekati mine. This includes, but is not limited to:

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