GNWT ECC - North Slave Region

Government of Gouvernement des Northwest Territories Territoires du Nord-Ouest

October 9th 2024

Arctic Canadian Diamond Company 900 606 4th St. SW Calgary AB, X2P 1T1 Water Licence W2022L2-0001

Attn: William Liu – Manager Environment and Permitting

Re: August and September 2024 Water Licence Inspection

Dear Mr. Liu,

On August 14-15th and September 11-12th 2024, Water Licence Inspections were conducted at the Ekati Diamond Mine by Jamie Steele, Manager Diamond Resource Management.

As per the noted Land Use Permit granted in accordance with the Mackenzie Valley Resource Management Act, please be advised that the attached Inspection Report is part of the Public Registry and is intended to keep all interested parties informed of the manner in which Permit requirements are being met. This report provides comments based on general observations and highlights any concerns or items that should be addressed by the Permittee.

The following areas were inspected, and the details of the findings are included in the attached report:

- Bearclaw Lake Pumping
- LLCF Dyke D
- Ammonium Nitrate Storage Building
- Landfill
- Laydowns
- King Pond and Two Rock Settling Facilities
- Refueling Stations
- Point Lake Construction
- Waste Management Building and Yard
- Incinerator Building

The Inspector identified some housekeeping issues resulting from this Inspection. Some of the laydowns have spills and debris that need to be addressed. The details of the findings are in the attached report. If you have any questions or concerns, please contact the undersigned at (867) 767-9187 extension 24188. Thank you for your continued cooperation.

Sincerely,

All

Jamie Steele Manager-Diamond Resource Management GNWT- Environment and Climate Change North Slave Region Jamie_Steele@gov.nt.ca

cc: Ms. Rhiana Bams – Regulatory Specialist, Wek'èezhi Land and Water Board Mr. Marc Casas – Executive Director, Independent Environmental Monitoring Agency

| Government of Northwest Territories | ^{Gouvernement des} Territoires du Nord-Ouest | |
|--|--|--|

INDUSTRIAL WATER USE INSPECTION REPORT

| INSPECT Septemb | ION DATES: August per 11-12 2024 | 14-15, and | COMPANY REP : William Liu | | | | | |
|-----------------------------------|--|------------------|---------------------------|------------|------------|-------------|--|--|
| LICENSE | E: | | LICENCE #: | W2022L2- | 0001 (Wate | er Licence) | | |
| Arctic Ca 900 606 Calgary A | anadian Diamond Cor 4 th St. SW AB, X2P 1T1 | mpany (Burgundy) | | | | | | |
| WATER S | UPPLY | | | | | | | |
| Source: | Grizzly Lake | Quantity | Approximate cu | bic meters | Meter | N/I | | |

| OTIZZIY LUKC | Quantity | Approximate cubic meters | WICter | 1 1 1 |
|--------------|----------|----------------------------|---|--|
| | Used: | utilized through August | Rdg: | |
| | | 2024 53,300 m ³ | | |
| | | Used: | Used: utilized through August 2024 53,300 m ³ | Used: utilized through August Rdg: 2024 53,300 m ³ |

| Indicate: A - Acceptable | | | le U - Unacce | acceptable N/A - Not Applicable N/I - N | | | /I - Not Inspected | |
|--------------------------|----|---|------------------|---|------------------|-----|--------------------|-----|
| Intake Faciliti | es | А | Storage | А | Treatment | А | Recycling | А |
| Flow Meas. | | A | Conveyance Lines | A | Pumping Stations | N/I | Modifications | N/A |

WASTE DISPOSAL

| Tailings: | Tailings Pond | N/A | Natural Lake | N/A | Underground | А | | |
|--------------|---------------|-----|---------------|-----|---------------|-----|-------------|-----|
| Sewage: | Sewage | А | Tailings pond | N/A | Natural Water | N/A | | |
| | Continuous | N/A | Inter. | N/A | CSCF | А | | |
| Solid Waste: | Open Dump | N/A | Landfill | А | Burn & Bury | А | Underground | N/A |

| Indicate: A - Acceptable | | | U - Unacceptable | | N/A - Not Applicable N/I - Not Inspected | | | |
|--------------------------|---------|---|------------------|-----|--|---|-----------|---|
| Discharge C | Quality | А | | А | Disch. Meas. Dev. | А | Freeboard | А |
| Decant Stru | ictures | А | Pond Treatment | N/A | Dams, Dykes | А | Seepages | А |
| Dyke Inspec | ctions | А | Runoff Diversion | А | Erosion | А | Spills | А |

GENERAL CONDITIONS

| Indicate: A - Acceptal | ole | U - Unacceptable N/A | A - Not Ap | oplicable N/I - Not Inspect | ted |
|--|-------------|--------------------------------|------------|-----------------------------|----------|
| Ore & Waste Rock | А | Records & Reporting | А | Surv. Net. Prog. | А |
| Geotechnical Inspection | А | Posting, Signage | А | Contingency Plan | А |
| Reclamation Activities | А | New Construction | А | Fuel Storage | А |
| Mine Water Discharge | А | Chemical Storage | А | Annual Report | А |
| Licensee Representative's | Mr | . William Liu – Superinter | ndent Env | ironment | |
| Licensee Representative's Signature | Ins site | pection issues discussed e. | with Dom | inion Diamond Mine Perso | onnel on |
| Inspector's Name | | nia Staala | | | |

Inspector's Name

Jamie Steele

Inspector's Signature

John

Dated September 12th 2024

Comments Section on Specific Aspects Inspected

Bearclaw Lake

Water levels in Bearclaw Lake have been drawn down to target elevation for the season. The Bearclaw Lake pumphouse is now accessible and the pumps will be inspected and serviced to facilitate pumping next year. Flowmeters have been removed and are scheduled for recalibration (Photo 1).

<u>LLCF</u>

There was no discharge from Cell E to Leslie Lake this year. Water is being pumped back from Cell E to Cell D in order to maintain Cell D water levels. Water levels need to be maintained at a minimum elevation to accommodate the reclaim barge that draws recycled water from Cell D for the Process Plant (Photos 2 and 3).

Ammonium Nitrate Building

The area around the AN building was clean and well maintained. There was no evidence of any spills or loss of containment. Perimeter sumps around the building are designed to catch any contaminated runoff from the location. The sumps were relatively dry and there was plenty of capacity to contain any runoff if necessary (Photos 4 and 5).

<u>Landfill</u>

The Ekati Landfill is the designated disposal area for inert solid waste that is not incinerated or sent off site for recycling. The landfill receives wastes such as rubber, plastics, wood, and metal. The landfill had been recently covered with coarse processed Kimberlite and appeared to be well maintained with no indication of any misdirected waste (Photo 6). The burn bin was actively burning at the time and could not be inspected properly (Photo 7).

Boneyard

The "Boneyard" is the designated storage area for broken down equipment used for salvage parts. Some of the downed equipment has been removed and some significant clean-up has happened in this area; however, regular maintenance is required in this area as equipment continues to leave hydrocarbon staining on the ground. Much of the equipment has drip drays installed to contain leaks and drips. These drip trays should be checked and changed out as required (Photos 8 and 9).

Two Rock Sedimentation Pond

The Two Rock Sedimentation Pond has been pumped to target elevation for the season. Flowmeters have been pulled and are scheduled for calibration. Water from Two Rock was still being used for road watering dust suppression (Photo 10).

Sable Refuelling and Tank Farm

The Sable refuelling area was clean and well maintained with no indication of any hydrocarbon leaks or spills. Spill response equipment was fully stocked and easily accessible (Photo 11).

Point Lake Construction

Point Lake construction is well underway. A perimeter ditch is being constructed around the waste rock pile to catch any problematic runoff that may occur. The ditch is lined to prevent seepage. Any runoff will be collected and pumped into the King Pond Settling Facility. Waste bins were properly labelled and had no misdirected waste. Parked equipment had drip trays deployed to catch any potential leaks or drips (Photos 12 through 16).

King Pong Settling Facility (KPSF)

The KPSF has been pumped to the target elevation for the year. The Inspector verified that the pipe insulation and debris has been cleaned up, and the area is clean and well maintained. Arctic has installed a Mud Wizard to help reduce TSS within King Pond resulting from sediments being disturbed from Point Lake dewatering (Photos 17 and 18).

Misery Laydown

The Misery laydown requires a general clean-up as there are broken pallets and bags of bentonite spilling onto the ground. The inspection did not note any hydrocarbons or hazardous materials being stored in the laydown (Photo 19).

Misery Refuelling Station and Tank Farm

The Misery refuelling area was clean and well maintained with no indication of any hydrocarbon leaks or spills. Spill response equipment was fully stocked and easily accessible. The containment sump at the refuelling area was full of water. This needs to be pumped out to ensure spill containment capacity. The tank farm itself had a small amount of water accumulated inside but still has plenty of capacity. Accumulated water is an indicator that the liner is still competent and capable of containing a major spill (Photos 20 through 22).

Process Plant Laydown

The Process Plant laydown requires a general clean-up as there are broken pallets and bags of floc and other reagents spilling onto the ground. The inspection did not note any hydrocarbons or hazardous materials being stored in the laydown (Photos 23 and 24).

Waste Management

The Waste Management Yard was clean and well organized. Waste materials are staged in labelled containers for eventual shipment off site to and approved facility for final disposal. The Waste management Building was clean and well maintained. The building is used to collect and sort waste materials in preparation for shipment off site. Waste products such as plastic and drums are crushed or shredded to reduce landfill volume and to make shipment off site more cost effective (Photos 25 through 28).

Main Camp Refuelling and Tank Farm

The Main Camp refuelling area was clean and well maintained with no indication of any hydrocarbon leaks or spills. Spill response equipment was fully stocked and easily accessible. Containment sumps were dry and had plenty of capacity to contain any potential spills (Photos 29 through 31).

Incinerator Building

Food waste and other combustible waste collected around camp is directed to the incinerators and the composter for final disposal. Waste is sorted inside the building by Ekati staff and suitable organic material is sent to the composter, the remaining waste is incinerated. The incinerators have wet scrubbers to clean incinerator stack gas before venting to the atmosphere. Scrubber water is collected in a storage tank and disposed of in the Long Lake Containment Facility. Incinerator ash is collected in bins and disposed of in the landfill. The ash bin was inspected and showed some incomplete incineration. This issue should be rectified when the burners are tuned for optimal performance. Burner tuning and stack testing is scheduled later in 2024 (Photos 32 through 36).



Photo 1 – Bearclaw Lake – Bearclaw Lake has been drawn down enough to provide access to the pump facility. The facility will require some repairs before next pumping season.



Photo 2 – Long Lake Containment Facility – Water levels in Cell D of the LLCF need to be maintained above minimum target elevation to ensure there is enough water for the Process Plant Reclaim Barge. The Process Plant gets nearly all of its water from Long Lake for processing diamonds.



Photo 3 – Long Lake Containment Facility – Discharge point from Cell E to Cell D of the LLCF.



Photo 4 – Ammonium Nitrate Storage – The area around the Ammonium Nitrate storage building was clean and well maintained with no indication of spills or loss of containment.



Photo 5 – Ammonium Nitrate Storage – The perimeter sumps around the AN building are designed to contain any seepage from the building. The sumps were well maintained with plenty of holding capacity.



Photo 6 – Landfill – The landfill has been recently covered by coarse process plant reject materials. The landfill is being well maintained with no indication of misdirected waste.



Photo 7 – Burn Bin – Combustible waste was being burned in the burn bin located at the landfill.



Photo 8 – Heavy Equipment "Boneyard" – Broken pallets and debris are present in the boneyard. This is a housekeeping issue that needs to be addressed.



Photo 9 – Heavy Equipment "Boneyard" – Some broken down equipment has been removed and has left some hydrocarbon staining. This contaminated material needs to be cleaned up and disposed of as per the approved Waste Management Plan.



Photo 10 – Two Rock Settling Facility – Two Rock has been drawn down to target elevation. Photo shows a water truck being filled for road watering dust suppression.



Photo 11 – Sable Refuelling Station – The Sable Refuelling Station was clean and well maintained with no indication of any leaks or spills.



Photo 12 – Point Lake Waste Rock – A perimeter ditch is being constructed to catch any runoff that may cause water quality concerns.



Photo 13 – Point Lake Construction – The perimeter ditch is lined and graded to catch runoff.



Photo 14 – Point Lake Construction – Equipment parked over spill pads to catch any leaks or drips.



Photo 15 – Point Lake Construction – Waste bins are placed at the work site and are properly labelled.



Photo 16 – Point Lake Construction – Waste Bins are well maintained and show no indication of misdirected waste.



Photo 17 – King Pont Settling Facility – A mud wizard is used to settle out TSS within King Pond that has been disturbed from the addition of water from Point Lake dewatering.



Photo 18 – King Pond Settling Facility – Kind Pond has been drawn down to the target elevation. Photo shows the outlet from Point Lake to King Pond.



Photo 19 – Misery Pit Laydown – Broken bags of Bentonite are spilling onto the ground. The laydown will need a clean-up.



Photo 20 – Misery Refuelling Station – The Misery Refuelling Station was clean and well maintained with no indication of any leaks or spills.



Photo 21 – Misery Refuelling Station – The containment sump at the Misery Refuelling Station was full of water. This containment will need to be pumped out to ensure emergency spill containment.



Photo 22 – Misery Tank Farm – Misery Tank Farm has a small amount water accumulated from a recent rainfall. The accumulated water shows the lined containment is competent and will contain a spill.



Photo 23 – Process Plant Laydown – Process plant laydown is used to store process plant reagents used in diamond processing. The laydown had several broken bags and small spills. The area will need a clean-up.



Photo 24 – Process Plant Laydown – Broken bags of flocculant on the ground require clean-up.



Photo 25 – Waste Management Yard – The Waste Management Yard was clean and well organized with no indication of leaks, spills, or misdirected waste.



Photo 26 – Waste Management Building – The Waste Management Building was clean and well organized. Waste products not suitable for disposal on site are sent off site for final disposal or recycling at an approved facility.



Photo 27 – Waste Management Building – Plastic waste is shredded to reduce volume before recycling or disposal.



Photo 28 – Waste Management Building – Waste oil Drums are drained and crushed in a drum crusher to reduce waste volume being disposed of in the landfill.



Photo 29 – Main Camp Tank Farm Transfer Area – The Main Camp Tank Farm Transfer Area us used to fill and draw down the main tank farm on site. The area was clean and well maintained with no indication of any leaks or spills.



Photo 30 – Main Camp Tank Farm Transfer Area – The containment sump at the transfer area was empty with plenty of capacity to contain any spills during fuel transfer.



Photo 31 – Main Camp Refuelling Station – The Main Camp Refuelling Station was clean and well maintained with no indication of any leaks or spills.



Photo 32 – Incinerator Building – All food waste generated at the site is sent to the incinerator building for final disposal. This facility accepts food, paper and other combustible waste that is not sent out for recycling.



Photo 33 – Incinerator Building – The building contains two dual chambered incinerators. Both incinerators are functional at the time of inspection.



Photo 34 – Incinerator Building – Incinerators use wet scrubbers for pollution control. The scrubbers wash out any ash and particulate before exhausting out the stacks. Scrubber water is disposed of in the long lake containment facility.



Photo 35 – Incinerator Building – Much of the food waste is separated into the composting waste stream. The waste is sent through the composter then disposed of in the landfill as inert waste.



Photo 36 – Incinerator Building – Incinerator ash is collected in bins and disposed of in the landfill. This batch of ash shows that some of the waste isn't being incinerated completely. This issue should be rectified after the burners have been tuned for optimal performance. Stack testing and burner tuning is scheduled for later in 2024.