

Appendix I

2018 EAAR Correspondence



SEP 25 2018

Mr. Gord MacDonald
Principal Advisor, Sustainable Development
Diavik Diamond Mines (2012) Inc.
300, 5201 50TH STREET
YELLOWKNIFE NT X1A 2P8

Dear Mr. MacDonald:

Satisfactory determination of the 2017 Diavik Environmental Agreement Annual Report

On June 30, 2018 Diavik Diamond Mines (2012) Inc. (Diavik) distributed copies of the 2017 Environmental Agreement Annual Report (Annual Report) directly to Parties of the Environmental Agreement (the Agreement), including: Aboriginal Peoples (as defined by the Agreement), Environment and Natural Resources (ENR), the Government of Nunavut (GN), and to the Environmental Monitoring Advisory Board (Advisory Board) per Article 12.1(a) of the Diavik Environmental Agreement.

An opportunity to review the Annual Report was provided by ENR to the Advisory Board, the Department of Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), the GN and the Aboriginal Peoples as required under Article 12(e) of the Agreement. The Advisory Board provided written comments; however, they were delivered past the 45-day review period and are attached for Diavik's awareness. Additionally, an attached response containing no comment was received from DFO. No response was received from ECCC, INAC, GN, or the Aboriginal Peoples.

The Government of the Northwest Territories (GNWT) has reviewed the Annual Report and provided written comments (attached). The GNWT acknowledges Diavik's efforts to incorporate the recommendations from last year's Annual Report and the recommendations on the draft report made by the Advisory Board and ENR. The GNWT is satisfied that the contents of the Annual Report are in accordance with Article 12.1 and finds the 2017 Annual Report to be satisfactory. There are some outstanding issues in the attached comments that the GNWT requests Diavik address, either by addendum or an updated Annual Report within 45 days.

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The GNWT looks forward to working with Diavik and the Advisory Board on the 2017 Annual Report. If you have any questions about this process please contact Ms. Lee Ann Malley, Environmental Assessment Analyst, at (867) 767-9233 extension #53098 or LeeAnn_Malley@gov.nt.ca.

Sincerely,



Dr. Joe Dragon
Deputy Minister
Environment and Natural Resources

Attachments

- c. Grand Chief George Mckenzie, Tłı̨chǫ Government
Chief Edward Sangris, Dettah, Yellowknives Dene First Nation
Chief Ernest Betsina, N'dilo, Yellowknives Dene First Nation
Chief Darryl Boucher-Marlowe, Łutsel K'e Dene First Nation
Mr. William (Bill) Enge, President, North Slave Metis Alliance
Mr. Stanley Anablak, President, Kitikmeot Inuit Association
Mr. Napoleon Mackenzie, Chair, Environmental Monitoring Advisory Board
Mr. John McCullum, Executive Director, Environmental Monitoring Advisory Board
Ms. Allison Rodvang, Environmental Specialist, Environmental Monitoring Advisory Board
Mr. Sean Sinclair, Environmental Superintendent, Diavik Diamond Mines (2012) Inc.
Ms. Laura Duncan, Tłı̨chǫ Executive Officer, Tłı̨chǫ Government
Ms. Jessica Hum, Lands Protection Manager, Tłı̨chǫ Government
Ms. Phoebe Rabesca, Lands Administrative Officer, Tłı̨chǫ Government
Ms. Grace Mackenzie, Mines Liaison Officer, Tłı̨chǫ Government
Mr. Ray Griffith, Manager, Wildlife Lands and Environment, Łutsel K'e Dene First Nation
Ms. Joanne Black, Director Lands Management, Yellowknives Dene First Nation
Ms. Nicole Goodman, Regulatory Analyst, North Slave Metis Alliance
Mr. Shin Shiga, Environment Manager, North Slave Metis Alliance

Mr. Paul Emingak, Executive Director, Kitikmeot Inuit Association
Mr. Geoff Clark, Director, Lands, Environment & Resources,
Kitikmeot Inuit Association
Ms. Wynter Blais, Senior Lands Officer, Kitikmeot Inuit Association
Mr. Jared Ottehof, Lands and Environment Officer, Kitikmeot Inuit Association
Ms. Jessica Taylor, Fisheries Protection Biologist, Fisheries and Oceans
Canada
Ms. Angie McLellan, Fisheries Protection Biologist, Fisheries and Oceans
Canada
Mr. Bradley Summerfield, Environmental Assessment Coordinator,
Environment and Climate Change Canada
Mr. Michael Roesch, Senior Program Manager, Indigenous and Northern
Affairs Canada
Mr. Steve Pinksen, Assistant Deputy Minister, Department of Environment,
Government of Nunavut
Mr. Marty Sanderson, Manager, Diamonds Resource Management,
GNWT-Lands
Ms. Georgina Williston, Head, Environmental Assessment North,
Environment and Climate Change Canada

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
GOVERNMENT OF THE NORTHWEST TERRITORIES (GNWT) COMMENTS

#	TOPIC	COMMENT	RECOMMENDATION
1	Article 12.1 (b) of the Diavik Environmental Agreement, early disclosure & discussion	Environment and Natural Resources (ENR) thanks Diavik Diamond Mines (2012) Inc. (DDMI) for early discussions on the content of the Diavik 2017 Environmental Agreement Annual Report (EAAR). Items identified by ENR were adequately addressed and updated in the final report where applicable.	None.
2	Page 8, Monitoring Programs, Table 3	It is noted that wolverine DNA data was not completed in 2017. The report on PDF page 84 indicates that this survey was last completed in 2014. The 2014 data summary analysis report from ENR has been provided as per references on page 84 of the EAAR.	It is recommended Diavik resume wolverine DNA surveys to rely on abundance data, rather than ambiguous sighting data found in Table 9 and 10 of the EAAR. Please confirm what date the next wolverine DNA survey will be scheduled for.
3	PDF Page 35, Figure 5 Regional Wildlife Study Area for the Diavik Mine	The wildlife effects monitoring area does not take into consideration effects occurring just north of the mine site.	It is recommended that wildlife effects monitoring be completed with Ekati to consider the full impacts.
4	Page 67 PDF, Climate and Air Quality Section	TSP stations [in 2017] had valid daily data for 71% and 69% of days at the communications building and A154 Dike stations, respectively.	It is recommended that Diavik include steps in their EAAR (appendix for Adaptive Management & Mitigation) and the Environmental Air Quality Monitoring Plan to continue improving on the rate of efficacy for TSP data collection.
5	References, PDF page 98, air quality subsection.	The link provided on page 98 of the EAAR takes readers to the online library for the Environmental Monitoring Advisory Board (EMAB). The link does not lead to the air quality monitoring plan. This was requested prior to final submission, but this link doesn't provide the sought after content.	Please ensure that links to current monitoring and/or management plans are accurate.

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
GOVERNMENT OF THE NORTHWEST TERRITORIES (GNWT) COMMENTS

6	PDF Page 82, Table 8 Grizzly Bear Observations	Table 8 of the EAAR shows a camp population to bear correlation. The data provided is not true science and may not support adequate conclusions regarding the mine's impact on bears.	It is recommended that 1) DNA surveys combined with visual tracking of individuals on the site would suffice for a more accurate demonstration of the bear's presence on the site; 2) Wider discussion on the trends to explain how mining activities may influence the presence of the grizzly bear can be improved on for future reports.
7	PDF Page 82 Grizzly Bear Zone of Influence and Abundance/Distribution	Related to abundance/distribution is relocation of bears and denning in October.	It is recommended Diavik include efforts to relocate bears given this impacts the local population regarding abundance/distribution.
8	PDF Page 83, Wolverine	Details are provided to indicate that wolverine mortality has occurred on Diavik's site.	It is recommended that Diavik provide necropsy results and cause of death for wolverine mortality events. It is recommended Diavik contact ENR Wildlife Division for Veterinary assistance for wildlife related mortality investigations.
9	PDF Page 84, Wolverine, Table 10 Track Index	It is difficult to interpret the annual variability in snow tracks, thus the data is not reliable and does not support strong scientific analysis. Regional DNA surveys are far more robust and defensible when making determinations on density and abundance of wolverine.	It is recommended Diavik resume DNA wolverine survey's to honor monitoring commitments.

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
GOVERNMENT OF THE NORTHWEST TERRITORIES (GNWT) COMMENTS

10	Appendix II - Waste (PDF page 16)	Overall, grizzly bears and wolverine are frequently observed on the mine site. The discussion on measure effectiveness for waste may not be fully developed in this table. The statement that "improper disposal of waste is identified during DDMI waste inspections (including food waste) despite training and awareness sessions with site staff, but it is minimal when compared to the volume of waste disposed" does not seem relevant, as scent is a powerful attractant regardless of the volume of other wastes.	It is recommended that statements supporting the effectiveness of waste measures (in relation to wildlife presence due to scent attractant) is added..
11	Appendix II - Wildlife (PDF page 20)	Given the statement in comment 10 waste management systems as a mitigative measure could be more robust to bring site interactions with wildlife (bear, wolverine) to a lower state.	It is recommended that waste management mitigative measures and their effectiveness be reconsidered and discussed. No discussion on waste management effectiveness in relation to wildlife is provided in the table.
12	Appendix II - Air Quality (PDF page 23)	No discussion noted on effectiveness of TSP monitors.	It is recommended effectiveness of measures section regarding Air Quality be expanded.
13	References, PDF page 98	A link to the environmental agreement would be beneficial.	Please provide a link in future reports to where readers can view the Agreement
14	Table 3: Monitoring Programs for Diavik Mine, PDF P. 26	There is a lack of clarity regarding frequency of monitoring in Table 3, making it difficult for readers to understand the broad summary of the monitoring schedules.	To strengthen table 3 in relation to clause 12.1 (c) (vi) for abstract of plans and programs, the following is recommended: 1) Add a column for 'monitoring frequency'. 2) In the column 'Completed (Y/N) please add the year that the monitoring was last completed. 3) Add a column for 'Next Monitoring Date'.

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
GOVERNMENT OF THE NORTHWEST TERRITORIES (GNWT) COMMENTS

15	Observations, PDF p. 58 & 61	The first bullet mentions that participants in the 2015 AEMP Traditional Knowledge study commented on the present status of the fish and water. It is unclear: if there was a similar study done in 2016 or 2017; how often these studies are undertaken; what number and composition of participants attend; which IGOs or communities attend; how often this community based monitoring approach is supposed to occur, or the reporting structure for it.	It is recommended that more details about the frequency of this program be provided (as per comment 14), in addition to the number of participants, composition, and which IGOs/ communities were present.
16	General Report Comment	The report does not mention Diavik's obligations under its surface land leases, although the leases are addressed in the Environmental Agreement and defined as being amongst the Regulatory Instruments "required for the carrying out of the Project" (3.1 Definitions, Page 8 of the Agreement).	Please ensure that your report addresses all regulatory instruments, including surface land leases, where appropriate.

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
GOVERNMENT OF THE NORTHWEST TERRITORIES (GNWT) COMMENTS

17	General Preamble for comment 18a, b, c	<p>The most relevant references to the leases in the context of the Annual Report are found in the Agreement as follows: (1) 5.1 Compliance, (d), Page 17: "DDMI shall carry out the Project in compliance with all environmental laws and regulations and Regulatory Instruments applicable to the Project including, without limitation ... (d) the Land Leases"; (2) 7.1 Provision of Environmental Monitoring Programs (a), Page 21: "The Environmental Monitoring Programs shall include activities designed to: (a) meet the monitoring requirements of all Regulatory Instruments..."; (3) 12.1 Annual Report (c) (ii), Page 26: "Each Annual Report shall include, but not be limited to, ... (ii) a comprehensive summary of all compliance reports required by the Regulatory Instruments;"</p> <p>The following are specific instances within the report where additional information of benefit to Lands, or required by Lands, could be supplied by Diavik to fully meet its obligations:</p>	See below:
18a	Section 2, Table 1, pages 22-23.	<p>a. Under Table 1, 'Environmental Agreement Annual Reporting Commitments', reference is made to "Comprehensive summary of all compliance reports required by the Reporting Instruments", for which it is reported that "a full summary of all reports on how Diavik has followed all rules and regulations in the Regulatory Instruments".</p>	<p>It is recommended that compliance related to land leases be included in future reports: (1) Obligations of the five Diavik land leases are articulated in these Regulatory Instruments under the Environmental Agreement, and should be spelled out (in Section 6 "Operational Activities and Compliance"). (2) In the Section 3 "Summary of Management Plans", list the several Management Plans which require the approval of the Lands Minister, as well as submission of the Annual Report on "ongoing restoration completed... as well as any variances".</p>

DIAVIK 2017 ENVIRONMENTAL AGREEMENT ANNUAL REPORT (EAAR)
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18b	Section 3, Table 2, pages 23-26	b. On table 2 "Management & Operations Plans for the Diavik Mine", a reference is made to both the Closure & Reclamation Plan and its sub-plan, the North Country Rock Pile Final Closure Plan. As both the main Plan and sub-plan are part of the same overall site closure plan, both updated versions must be submitted to the Lands Minister for approval.	Because this is a requirement of the leases, it is recommended the column entitled "Updated in 2017 (Y/N)" be revised to include reference to obligations under the leases, <i>e.g.</i> , "Updated versions of the Closure & Reclamation Plan (or North Country Rock Pile Final Closure Plan) will be submitted to the GNWT Lands Minister, in 2018, once approved by the WLWB." Similarly, it is recommended the column entitled "Updated in 2017 (Y/N)" in respect of the Contingency Plan be revised so as to reference the land leases, <i>e.g.</i> , "The Updated version of the Contingency Plan is to be submitted to the GNWT Lands Minister, in 2018, once the Plan (or Sub-Plan) is approved by the WLWB." This information should be appended to the column or stated elsewhere in the report where appropriate.
18c	Table 13 – "Community Engagement during 2017", 5. Community Engagement and Traditional Knowledge, chronological Pages 89-93 (listed Pages 71-75),	Reference is made to some Regulatory Instruments under the Environmental Agreement in table 13 (i.e., the Water Licence and Land-Use Permit) but NOT to others such as the Land Leases.	In regard to "Community Engagement during 2017", it is recommended references be expanded to include "Other Regulatory Instruments" noting that these will be discussed during Community Engagement as appropriate in future. (The topic section should include lease-related engagement).

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Joe Dragon, Deputy Minister
Environment and Natural Resources
PO Box 1320
Yellowknife, NT X1A 2L9
Canada

27 September 2018

Dear Mr. Dragon:

Subject: Satisfactory Determination of the 2017 Diavik Environmental Agreement Annual Report

Diavik Diamond Mines (2012) Inc. (DDMI) is in receipt of the Government of the Northwest Territories department of Environment and Natural Resources (GNWT-ENR) letter dated 25 September 2018, indicating that the 2017 Environmental Agreement Annual Report (EAAR) has been deemed satisfactory.

DDMI appreciates GNWT-ENR's determination though we are seeking clarification on the 'outstanding issues' received as an attachment to the above-referenced letter, and which require a response from DDMI within 45 days. Article 12.1(f) of the Environmental Agreement (the 'Agreement') provides an opportunity for the Minister to determine and advise DDMI whether the EAAR has been deemed satisfactory, or is deficient. It is DDMI's understanding that if a report is deemed satisfactory, no further follow up is required. If the report is deemed deficient, a process to communicate and address the deficiencies is provided within the Agreement. This includes issuance of a Minister's Report, as per Article 12.1(f) and (g), and 60 days for DDMI to respond to the Minister's Report (Article 12.1(h)). The process suggested by the GNWT-ENR in their 25 September letter does not align with the terms outlined in the Agreement.

Furthermore, it is DDMI's view that much of the additional information requested in the comments is either beyond the scope of the EAAR, as outlined in the Environmental Agreement, or can be addressed in the following years report. Specifically, comments 1-4, 6-12 and 15 relate to the methodology and efficacy of environmental monitoring programs that should more appropriately be addressed during the GNWT-ENR's technical reviews of the annual reports specific to those programs, i.e. the annual Wildlife Monitoring, Environmental Air Quality Monitoring and Aquatic Effects Monitoring reports, which are largely submitted in advance of the EAAR. The EAAR is intended to be a plain language summary document that compiles results from annual monitoring program reports over time. Given that the 2017 EAAR has been deemed satisfactory, the remaining comments (5, 13, 14 and 16-18) are not considered urgent and DDMI suggests that these can be addressed in the 2018 EAAR.

Lastly, as per Article 12.1(d) of the Agreement the GNWT-ENR had an opportunity to review a draft copy of the EAAR prior to its issuance. Had these comments been provided during the draft review

DDMI would have had an opportunity to discuss these issues with the GNWT-ENR prior to finalizing and distributing the EAAR.

DDMI anticipates a timely response from the GNWT-ENR and requests that, should there be any outstanding requirements to be addressed in an updated 2017 EAAR, they be due 60 days from the date that GNWT-ENR issues their response to this letter. Should you have any questions regarding this letter or the EAAR, please contact the undersigned at gord.macdonald@riotinto.com.

Yours sincerely,



Gord Macdonald
Manager, Closure

cc: Rita Mueller, GNWT-ENR
Lee Ann Malley, GNWT-ENR
Grand Chief George Mackenzie, Tłı̨chǫ Government
Chief Edward Sangris, Dettah, Yellowknives Dene First Nation
Chief Ernest Betsina, N'dilo, Yellowknives Dene First Nation
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Mr. William (Bill) Enge, President, North Slave Métis Alliance
Mr. Stanley Anablak, President, Kitikmeot Inuit Association
Mr. Napoleon Mackenzie, Chair, EMAB
Mr. John McCullum, Executive Director, EMAB



OCT 30 2018

Mr. Gord Macdonald
Manager, Closure
Diavik Diamond Mines (2012) Inc.
PO BOX 2498
SUITE 300, 5201-50TH AVE
YELLOWKNIFE NT X1A 2P8

Dear Mr. Macdonald: *Gord*

Follow up to the Satisfactory Determination of the 2017 Diavik Environmental Agreement Annual Report

Thank you for your September 27, 2018 letter seeking clarification on the Government of the Northwest Territories' (GNWT) Department of Environment and Natural Resources (ENR) satisfactory determination of the 2017 Environmental Agreement Annual Report (EAAR) for Diavik Diamond Mines (2012) Inc. (DDMI). ENR reiterates that the 2017 EAAR is satisfactory, as previously communicated in our letter to DDMI dated September 25, 2018. We thank DDMI for acknowledgement of the comments to be addressed in the following 2018 annual report. ENR looks forward to your 2018 submission.

ENR is dedicated to our responsibilities under all Environmental Agreements and views the work of annual reporting as highly valuable. In follow up to your letter, ENR would like to ask for an opportunity to further discuss the EAAR review process, comment scope, plain language summarization, and early disclosure requirements with DDMI. We seek to build on DDMI's feedback in the September 27 letter, and mutually explore next steps.

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Ms. Loretta Ransom, Manager of Environmental Impact, Assessment and Monitoring, will contact you to arrange a mutually acceptable meeting date.

Sincerely,



Dr. Joe Dragon
Deputy Minister
Environment and Natural Resources

- c Grand Chief George Mckenzie, Tłı̨chǫ Government
- Chief Edward Sangris, Dettah, Yellowknives Dene First Nation
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- Mr. William (Bill) Enge, President, North Slave Metis Alliance
- Mr. Stanley Anablak, President, Kitikmeot Inuit Association
- Mr. Napoleon Mackenzie, Chair, Environmental Monitoring Advisory Board
- Mr. John McCullum, Executive Director, Environmental Monitoring Advisory Board
- Ms. Rita Mueller, Assistant Deputy Minister, Operations, Environment and Natural Resources
- Mr. Robert Jenkins, Assistant Deputy Minister, Environment and Climate Change, Environment and Natural Resources

Appendix II

Summary of Adaptive Management & Mitigation Measures

Table I-A Adaptive Management & Mitigation

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
Waste	<ul style="list-style-type: none"> - Minimize waste management issues. - Maintained dump site for inert waste materials. - Waste rock is managed to reduce the chance of acid runoff. 	<ul style="list-style-type: none"> - All domestic and office wastes are incinerated at the waste transfer area. - Use of clear plastic bags in all areas for domestic and office space waste. - New WTA facility incorporated access road around the facility to allow equipment access and snow removal during winter to reduce opportunities for animals to climb over the fence; fencing angled and extended further in to ground to prevent access to burrowing animals; extensions placed on gate & gate automated in an effort to prevent animal access; improved sump facilities for contaminated soil containment area. - New incinerator housed in a building to further prevent animal attraction & rewards. - New, more efficient incinerator that burns more cleanly & completely. - Inert solid waste facility (landfill) access restricted. - A new landfill was approved within the WRSA-NCRP. - Storage procedure for empty waste bins to minimize wildlife incidents - Liner repairs conducted in areas where seepage from the dam was 	<ul style="list-style-type: none"> - All employees and contractors are provided orientation on proper waste management. Color-coded collection bins and posters for non-food waste around site. - DDMI Environment Staff conduct regular toolbox meeting discussions regarding waste management. - Regular waste inspections are conducted by Environment Staff at the Waste Transfer Area and Landfill. A site-wide compliance inspection is completed weekly. - Site Services implemented clear plastic bags in all domestic and office areas to allow staff to verify contents prior to disposal. - Surface Operations staff collecting waste bins inspect bins prior to pick-up and notify Environment department to arrange for sorting. - Gate installed at inert solid waste facility to limit access to dump area. - Waste rock is classified according to sulphur level and is tested and sorted prior to disposal; Underground waste rock is all classified as Type III. - The waste rock pile is designed to encapsulate the rock with the highest sulphur content, and the PKC contains 	<ul style="list-style-type: none"> - During Inspector’s visits in 2018, no concerns were raised regarding food waste, or the landfill. - Bear visits on East Island remained similar to past & bears sightings were not associated with waste management areas. - Wolverine visits on East Island were lower than in previous years. - Improper disposal of waste is identified during DDMI waste inspections (including food waste) despite training and awareness sessions with site staff, but it is minimal when compared to the volume of waste disposed. - There were no wildlife deaths in 2018. - Compliance issues from waste rock management practices regarding incorrect placement of Type III rock were addressed in 2018. - Installation of seepage interception wells at the PKC have proven effective. - Seepage and runoff events have occurred in the past, but there were no such events in 2018. - Significant efforts undertaken to identify, inventory, remove, re-use or

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
		<p>found.</p> <ul style="list-style-type: none"> - More instrumentation was added in some areas to monitor dam and rock pile temperatures and movement. - Seepage monitoring stations changed in response to observations over the years. - Re-vegetation research is testing the use of waste rock as a substrate for plant growth. - Engagement conducted and Water License Amendment Application submitted with considerations for placing PK within mine infrastructure. 	<p>the waste kimerlite rock; each of these areas are surrounded by collection ponds to capture seepage or runoff.</p> <ul style="list-style-type: none"> - Seepage interception wells have been added to PKC Dams to prevent seepage through the dam. - Granite (lowest sulphur content) is the rock permitted for use as a construction material at the mine site. - Instruments were installed to monitor performance of structures such as the PKC dam and the rock pile. - Extensive lab and field (test piles) experiments are done to test how the rock pile will perform. - Sewage sludge holding cell relocated to prevent human health concerns. - Installation of a waste oil heater for the batch plant. - New approach to waste management plans includes Solid Waste & Landfill, Hydrocarbon Contaminated Materials, Incinerator Management and Dust plans. - Storage and testing procedures developed and implemented for ash. - Investigation into rock management process that resulted in incorrect placement of Type III rock; areas where Type III rock was placed have been identified, recorded and tested as required. The Inspector is satisfied that concerns have been addressed. 	<p>dispose of site infrastructure as a means of progressive reclamation.</p> <ul style="list-style-type: none"> - Progressive reclamation opportunity for WRSA-NCRP continued with re-sloping, cover placement and instrumentation installations in 2018. - Development of the WRSA-SCRIP continued in 2018 which includes reporting of any metasediments identified in the A21 pit and a 2% Type III rock trigger action response plan.

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
Water	<ul style="list-style-type: none"> - Effluent is treated before being discharged to Lac de Gras, or is recycled. - Ammonia levels within water license limits. - Prevent seepage water entering Lac de Gras. - Decrease freshwater use. - Have fish and water quality that are safe for use. 	<ul style="list-style-type: none"> - Review loading and blasting procedures and materials for opportunities to reduce ammonia levels in pit and underground water. - Re-use North Inlet water as supply water to facilities at the mine site. - Treatment plant expanded and some components re-designed to accommodate additional water flow from underground. - Evaluated the use of treated effluent for dust suppression. - Conducted a study with the University of Alberta to evaluate the biological removal of ammonia and other nitrogen compounds in the North Inlet. - Special Effects Studies (SES) are completed when unexpected effects are measured during the AEMP. - Established Action Levels to respond to findings of various parameters of the AEMP. - Evaluate seepage prevention or interception methods upstream or downstream of areas of concern. - Investigate, assess and repair site infrastructure where seepage issues arise, and where possible. - Improve turbidity curtain anchors in response to elevated TSS levels due to deep water trench and site-specific exposure issues. 	<ul style="list-style-type: none"> - The North inlet provides retention time for mine water before treatment, allowing for ammonia reduction by natural attenuation; mine water discharge located far away from treatment plant intake. - Influent and effluent in the NIWTP is monitored consistently via instream sensors (immediate feedback) and the SNP for parameters that are indicators of water treatment effectiveness. - Daily sampling of pit, underground & effluent water to produce trends & track compliance. - Plant able to automatically stop discharging treated water that meets or exceeds DDMI's <i>internal</i> limits (which are set below the water license limits). - Sulphuric acid is available for secondary treatment of water with high ammonia levels. - Ammonia Management Plan followed to minimize ammonia loss. - Batch and paste plants utilize treated effluent as a water source instead of fresh water. - Sumps and pumps installed underground to collect and transport water to the North Inlet. - Ability to re-use water from the North Inlet and PKC, prior to 	<ul style="list-style-type: none"> - Ammonia levels in 2018 were well below the license limit of 12 mg/L. - Ammonia levels in mine water and effluent have remained low over time. - Parameters regulated in the Water License in NIWTP effluent remain well below discharge criteria. - No seepage events occurred in 2018. - Over 700 toxicity tests have been done on treated effluent since 2002 and most have been non-toxic. - Traditional Knowledge study of fish and water health completed in 2018; fish and water quality were found to be good. - Action Level response plans for AEMP results are being identified and implemented. - PK trial to reduce amount of water in fine PK and increase coarse PK completed and successful; methods implemented to Plant operations. - TSS exceedance during A21 construction; management actions in response to exceedance effective for remainder of construction season.

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
		<ul style="list-style-type: none"> - Retrofit Process Plant to change the waste stream ratio; reduce fine PK and increase coarse PK. - Preventative work-stop measures and a TARP were established for A21 construction to reduce potential for TSS exceedances. - Clarification of License requirement for water against the PKC dams with WLWB. 	<p>treatment, to reduce freshwater intake volumes.</p> <ul style="list-style-type: none"> - Frequent visual inspections of areas downstream of dams, dikes & ponds. - Seepage intercepted with the use of wells and pumps installed in PKC dams. - Repairs to damaged infrastructure to prevent seepage. - Source water (North Inlet, Collection Ponds, PKC) chemistry around site are monitored as part of the SNP. - SES to determine mercury concentration/availability in fish and sediments within Lac de Gras. - Evaluation of hydrocarbon levels in North Inlet. - Separation of water collection systems underground to capture clean groundwater and divert it to the North Inlet prior to it coming in contact with mine infrastructure/ water. - Use of absorbent berms or skimmers to remove oil from water in underground sumps. - Sediment collection sumps installed underground to separate dirt from the mine waste water. - Turbidity curtain and anchors for A21 dike construction redesigned and reinforced. 	

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
Wildlife	<ul style="list-style-type: none"> - Minimize wildlife-related compliance issues. 	<ul style="list-style-type: none"> - Wildlife monitoring programs are adjusted based on results of previous years of studies. - Review of wildlife monitoring programs has been done with all 3 mines, Monitoring agencies, government and communities. - Study area expanded for caribou based on potentially larger mine zone of influence than predicted. - Participation in a regional wolverine DNA study with Ekati and GNWT to gain further insight on the wolverine population in the Lac de Gras region and around the mine. - Monitoring methods for grizzly bear changed to consider a more regional objective, while being safer for field crews; DNA study on the population in the Lac de Gras region. - Pit wall & infrastructure surveys for raptors that may nest in the pit or on other structures was added to the raptor monitoring program. - Raptor surveys changed to align with the North American Peregrine Falcon Survey. - Nests relocated or work activity ceased in response to wildlife presence. - Bird mortality monitoring conducted after installation of wind turbines. - Building installed to contain new 	<ul style="list-style-type: none"> - Orientation and environmental awareness training related to wildlife on site is provided to all employees. - Employees notify Environment department of any wildlife sightings; these are then recorded. - Caribou advisory board & site-wide radio notifications for caribou presence on island. - Waste inspections conducted regularly. - Waste management system in place. - Caribou are herded away from high-risk areas, such as the airstrip, as required. - Bears are deterred from the mine site, as required. - Problem wildlife is relocated or destroyed, in consultation with the GNWT. - Wildlife reporting system is in place site-wide, for wildlife observations. - Wildlife have the 'right-of-way' on site. - No hunting or fishing is permitted by employees. - Buildings are skirted and higher-risk areas are fenced or bermed in an effort to deter animal access. - Surveys have been completed to look for caribou on roads, the rockpile and PKC when caribou are getting close to the mine. 	<ul style="list-style-type: none"> - Mine-related wildlife incidents and mortalities have remained low over the years. - No caribou herding events occurred during 2018. - There were no wildlife deaths from mining in 2018.

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
		<p>incinerator and prevent wildlife attraction.</p> <ul style="list-style-type: none"> - New Waste Transfer Area designed to minimize opportunities for scavengers to enter the area and access attractants/rewards. - Storage procedure for empty waste bins to minimize wildlife incidents. - Inclusion of community members in wildlife monitoring programs to allow consideration of both TK and science when evaluating impacts. - Recommended reduction in PVP and lichen monitoring frequency based on results and slow growth of species in sub-arctic conditions. 	<ul style="list-style-type: none"> - Wind turbines equipped with flashing beacons designed to reduce wildlife impacts. - Mine-altered pond water levels are kept low to discourage use by waterfowl. - Re-vegetation research has been on-going for 10 years and will help to determine habitat available for wildlife after closure. - TK Panel focuses on wildlife concerns when considering closure planning options and monitoring programs. - Ground-based caribou surveys initiated when caribou are seen on site or collar maps show them approaching. - Revised storage procedure for empty waste bins on site. 	

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Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
Dust	<ul style="list-style-type: none"> - Isolated higher deposition levels due to construction activities (dust deposition is expected to decrease as construction activities at Diavik decrease and the mine switches from open pit to underground operations). 	<ul style="list-style-type: none"> - Evaluate dust control measures used to minimize dust released from construction and operations. - Evaluate the use of treated mine effluent for dust suppression, which would reduce fresh water use from Lac de Gras. - Evaluate dust suppressants that can be used in key areas to reduce dust levels. - Assess vegetation and dust sample locations to provide better coverage of the area for improved data collection. - Recalculate dust emission predictions to consider underground mining methods and construction activities. - Use of BC Objectives for Dustfall at mining operations as a comparison for DDMI levels. - Additional snow core sample stations added to program. - Additional dustfall monitoring stations added to program. 	<ul style="list-style-type: none"> - Dust suppression on roads and mine areas using water during non-freezing periods. - New crusher commissioned in 2009 is contained inside a building and has an advanced dust control and collection system. - Dust suppressant used on the apron, taxiway, airport parking lot and helipad (approved by both the Lands Inspector and Transport Canada). - Trial use of dust suppressant on parking pads and some site roads. - Addition of vegetation monitoring stations to improve ability to detect potential changes to plant cover or composition. - Modified lichen monitoring program to obtain more samples from further distances & link metal levels to caribou exposure. - Use of blast mats to control dust in smaller-scale blasts. - Transition to a completely underground mine has reduced dust levels from previous years. - Obtained far-far-field (100 km away) lichen samples in 2016 to determine differences from far-field (40 km) results, in response to community concerns; little difference observed. 	<ul style="list-style-type: none"> - Control of dust from crusher, small blast areas and roads. - Dust suppressant continued to be used on the airport's taxiway, apron, parking lot and helipad in 2018. - A21 operations resulted in higher dust levels during 2018, but they remained below the BC Objectives for mining operations. - TSP levels in 2017 were below the GNWT 24-hr Ambient Air Quality Guideline within the vicinity of the mine site, except for 1 reading.

Aspect	Compliance	Adaptive Management Response	Mitigative Measures	Effectiveness of Measures
Air Quality	<ul style="list-style-type: none"> - Measure consumption of applicable sources of GHGs - primarily diesel combustion. - Meet Internal GHG Reduction Targets. - Report GHG Emissions to regulatory agencies and within Rio Tinto. 	<ul style="list-style-type: none"> - Evaluate new technologies and equipment that may allow for pollution controls/reduced emissions. - Wind power generation research. - Determine energy draws, optimal use and options to reduce power requirements for buildings on site. - Various fuel consumption reduction initiatives, e.g. no idling. - Review of air quality monitoring program and equipment requirements. - Added monitoring of TSP in 2013 with 2 on-site stations. - Conducted energy audits on site buildings in 2014. - Determine optimal operating temperatures for the underground mine. - Evaluate energy efficient equipment options. - Evaluate and optimize transportation schedules and volumes to/from site. 	<ul style="list-style-type: none"> - Use of low sulphur diesel. - Archaeological assessment for areas where wind turbines could be installed. - Installation of Delta V fuel consumption monitoring system for all key power consuming buildings on site. - Boiler optimization program. - Installation of 4 wind turbines, integrated into the power distribution system, to reduce fuel consumption. - New waste incinerator (with pollution prevention device). - "Waste" heat from powerhouse generators used to heat facilities connected to powerhouse (camps, maintenance shops, etc.). - Underground air quality monitoring conducted. - Improving efficiencies of plant operations to reduce power draw. - 2 TSP monitors installed at the mine site. - Installation of waste oil heaters on site. - Adjust (lower) underground mine operating temperature by 1°C. - Install energy efficient motors on underground haul truck fleet. - Optimize the glycol heat recovery system in Powerhouse 2 to reduce boiler use. - Waste Management Plan revisions to test incinerator ash and stack tests procedures. 	<ul style="list-style-type: none"> - DDMI reports GHG emissions annually to appropriate regulators and internally to Rio Tinto. - The wind turbines offset fuel consumption by 4.5 million litres in 2018.

Appendix III

Traditional Knowledge Panel Session 11 Recommendations

Traditional Knowledge Panel Recommendations – Session #11, 10-14 May 2018

Processed Kimberlite and Pits/Underground

11.1 If the PK goes to the mine area, the TK Panel recommends that all of the PKC slimes also be put into the pits. There is interest in moving as much of the slimes as possible from the PKC into the mine area and away from the surface where wildlife might gain access.

11.2 If Diavik moves ahead with putting PKC slimes into the mine areas, the Panel requests to review any changes to the PKC closure plan. For example, if it is not possible to move all of the slimes in the PKC to the mine area and some of the slimes remain in the PKC, the TK Panel may recommend that the PKC is topped with large boulders to discourage wildlife and people from entering.

11.3 The beach materials and rough kimberlite should stay in the PKC area (i.e., anything that can support a rock cover).

Fish and Water

11.4 TK holders know that fish generally go where there is food (nutrients) and oxygen so they are unlikely to go to the depth where PK would be.

11.5 The Panel would like additional scientific research to see what the effects of PK (ingestion) might be on fish specific to Lac de Gras.

11.6 If PK were to go in any mine area, the Panel requests an opportunity to learn more about the depth of water for fish habitat to cover PK (TK and western science).

Watching PK

11.9 The TK Panel recommends that their members are present for at least some of the time when the slimes are moved from the PKC into the A418.

11.10 The TK Panel wants to monitor how water behaves when placed on PK. They would like to see the PK and water in the A418 as soon as it is safe to do so and when there is a good visual of the material, as well as at regular intervals afterwards.

11.11 The TK Panel recommends that they monitor the fish habitat within the pits, shoreline modifications (e.g., ramps) for wildlife as well as the stability of the dikes on a regular and ongoing basis.

11.12 The TK Panel recommends that they monitor freeze-up and break-up within the contained areas (i.e., within the dikes) to see if the formation and melting is any different—with a view towards safety for people and wildlife.

11.13 The TK Panel would like to see the PK vegetation plots again.

11.14 The TK Panel recommends that we test slimes/PK in a fish tank to see if any water plants would grow on the PK.

Wind

11.15 The TK Panel would like to see wind behaviour on water within the contained pits/dikes over a period of time (i.e. throughout all seasons).

11.16 The TK Panel would like to see wind behaviour on Lac de Gras in and around the dikes. [How is the water on the outside of the dikes and breach areas affected by wind?]

Next Steps

11.7 The TK Panel recommends a future TK Panel session dedicated to the health of the North Inlet upon closure and to decide if there is anything to address with the sediments.

11.8 The Panel requests that Diavik provide a list of items/equipment that will remain and be removed from underground before flooding or filling the mine with PK/water.