

5.0 Health of Aboriginal Peoples

5.1.1 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: implementing fugitive dust best management practices.

Status: Ongoing

Supporting Analysis:

Fugitive dust best management practices implemented during 2017 included; application of calcium chloride on internal and site access roads, utilization of water trucks to spray water on haul roads and light vehicle access roads during non-freezing conditions, speed limit restrictions and enforcement on all internal and external access roads, cleaning and resurfacing of haul roads, utilization of dust control equipment at the primary crusher, on surface rock drills and at aggregate crushing operations. Additional best management practices included; utilizing water during in pit drilling operations under nonfreezing conditions, equipping in pit drill with dust curtains, practicing stemming on drill holes and revegetating disturbed areas after completion of construction,

5.1.2 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: maintaining site roadways to control silt loading.

Status: Ongoing

Supporting Analysis:

During 2017 site roadways were maintained to control silt loading by implementing the following mitigation measures; application of calcium chloride as a dust suppressant on light vehicle roads, restricting all haul traffic to designated heavy haul roads, using water as dust suppression when applicable on heavy haul roads, vegetating disturbed areas using hydroseeding as a tackifier to encourage rapid germination of seeds, restricting speeds to 60 km on all site access roads and 40 km to 20 km on internal site roads, restricting commercial traffic to enter the site along east access or Teeple Road, regular grading and placing of crush material on all site roads, restricting off-road activities, and constructing rock access roads into new areas during construction.

5.1.3 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: using water sprays at the crusher and at active stockpiles.

Status: Ongoing

Supporting Analysis:

In 2017 water spray bars were installed during the non-freezing period at some of the active construction quarries. The primary crusher began operating in Q3 of 2017. It is equipped with a baghouse system to manage dust generated during the crushing process. During Q4 a secondary water and chemical dust suppression system using spray bars was also installed at the primary crusher. Testing of this system continued into the end of Q4.

5.1.4 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: using dust control equipment.

Status: Ongoing

Supporting analysis:

During construction and operations phases, dust control equipment utilized includes; water trucks equipped with spray bars for road dust suppression, spray bars on mobile aggregate crushers, dust control curtains on production drills and dust cyclones on development drills. The primary crusher and conveyor system utilizes baghouses and a chemical spray system to control dust. In the mill processing area dust is controlled by a system of baghouses, wet scrubbers and specialized dust control equipment.

5.1.5 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: using low-Sulphur diesel equipment and using pollution control equipment on mobile heavy equipment and meeting the Canadian Environmental Protection Act for the emissions from this equipment and vehicles.

Status: Ongoing

Supporting Analysis:

New Gold strives to meet the requirements of this condition by purchasing low Sulphur diesel through a single source for use on site. In addition, a maintenance program and surveillance program has been implemented for emissions from mobile equipment and pollution control equipment is installed on mobile heavy equipment that meets the Canadian Environmental Protection Act for the emissions from equipment and vehicles. Two air quality monitoring stations are also installed on site and routinely monitored to ensure there are no air quality exceedances. To date the few air quality exceedances on site have been associated to road dust or air quality effected by forest fires.

5.1.6 The Proponent shall, during the construction, operations, and decommissioning phases of the Designated Project, control exceedances of the Canadian Ambient Air Quality Standards and meet air quality requirements established by Ontario at the nearest human receptor by: revegetating disturbed areas in a manner that minimizes all exposed dust sources.

Status: Ongoing

Supporting Analysis:

Revegetating disturbed areas to minimize exposed dust sources was performed over pipeline corridors, diversion channel slopes and clay stockpiles once construction of critical infrastructure was completed. In total 119 hectares of disturbed area was stabilized and revegetated as per regulatory work permit sediment and erosion plan requirements.

5.2 The Proponent shall monitor air quality to evaluate the effectiveness of mitigation measures under condition 5.1. Monitoring starts with construction and ceases at the commencement of the decommissioning phase.

Status: Ongoing

Supporting Analysis:

An air quality monitoring program was established during Q2 2015. Two air quality sampling stations were established in May 2015: one to the east of the site on Gallinger Road and one to the south of the site near the beginning of the Highway 600 reroute on Tait Road.

These stations are equipped with hi-vol samplers (brush motor and mass flow controlled), PQ200 samplers, dustfall samplers, and passive sampling for SO₂ and NO₂. The hi-vol samplers measure Total Suspended Particulate (TSP) and metal concentrations averaged over 24-hour period. The metals and metalloids analyzed include arsenic (As), cadmium (Cd), chromium (Cr), cobalt (Co), copper (Cu), iron (Fe), lead (Pb), manganese (Mn), nickel (Ni), selenium (Se), vanadium (V), and zinc (Zn). The PQ200 samplers measure particulate matter 2.5 (PM_{2.5}) concentrations averaged over a 24-hour period. The dustfall samplers measure total dustfall deposition over a 30-day period. Passive sampling measures SO₂ and NO₂ concentrations over a 30-day period.

There was one exceedance of the dustfall MOECC AAQC measured in Q2 2017 in April at the Gallinger Station; the laboratory noted some particulate, flies and black particles in the jar upon reception therefore it is classified that it was a contaminated sample.

There was also a second exceedance of the dustfall MOECC AAQC reported in Q4 2017 in October at the Gallinger Station. An ash analysis was performed on the insoluble dustfall fraction and determined 96% - 98% was organic material such as bird droppings, insects and pollen. The conclusion was that, the exceedance was caused by contamination of organics rather than site generated activities.

5.2.1 The Proponent shall alert the Aboriginal groups in cases of exceedances of the Canadian Ambient Air Quality Standards and air quality requirements established by Ontario at the nearest human receptor.

Status: Ongoing

Supporting Analysis:

During 2017 there were two reportable air quality exceedances related to dustfall. The exceedances occurred on April 1 and October 3, 2017. It is believed that the first sample was the result of sampling error and further laboratory analyses into the October 3 event using an ash analysis method revealed that the exceedance was a result of organic material (bird droppings, pollen or insects) accumulating on the filter and not dust. Records indicate that New Gold's Communities Department notified applicable Aboriginal Communities of these events via email on August 28 and December 8. There is a delay in the time communities were notified as New Gold only receives air quality results from these monitoring stations on a quarterly basis.

5.3 The Proponent shall monitor wells located within the open pit dewatering zone of influence, used by Aboriginal groups for drinking water, for water quality and quantity. Monitoring starts with construction and ceases after the first 10 years of the decommissioning phase.

Status: Ongoing

Supporting Analysis:

Through the consultation phase and up to the end of 2017, New Gold has not been informed of the locations of any wells utilized by Aboriginal groups within the proximity of the open pit dewatering zone of influence.

In 2016 New Gold implemented a drinking well sampling program for residents surrounding the project boundary. To date there have been no issues reported to New Gold regarding wells from any of the neighboring land owners.

5.3.1 The Proponent shall alert Aboriginal groups who use wells located within the open pit dewatering zone of influence for drinking water in cases of exceedance of water quality standards established by Ontario. The Proponent shall alert these Aboriginal groups as soon as possible once any exceedance is detected.

Status: Ongoing

Supporting Analysis:

To date New Gold has not been informed of any wells used by Aboriginal groups within the Open Pit zone of influence.

5.4 The Proponent shall monitor key contaminants, including mercury, arsenic, cadmium and lead, for their concentrations in Northern Pike (Esox lucius) and Walleye (Sander vitreus) in the Pinewood River. Monitoring starts with construction and ceases 10 years after the start of the decommissioning phase.

Status: Ongoing

Supporting Analysis:

During the fall of 2017 New Gold hired Minnow Environmental Inc. to conduct a fish tissue assessment throughout the Pinewood River downstream of the Rainy River Mine extending to approximately 450m upstream of the confluence of the Rainy River. The focus of this study was to collect tissue samples from northern pike and walleye. 17 tissue samples were collected from each fish; muscle and liver samples were collected to meet regulatory requirements. Each sample was sent to a certified lab to characterize concentrations of contaminants of potential concern which include; arsenic, boron, cadmium, cobalt, copper, chromium, iron, lead, manganese, mercury, molybdenum, nickel, selenium and zinc. This is the third consecutive year that New Gold has completed this study. It is important to note that during 2017 no water was discharged from the project into the Pinewood River at the Pinewood River Pumphouse.

Results obtained from the study indicated; fish communities are consistent with results from previous sampling efforts, muscle, liver and ovary tissue samples contained metals with established tolerable daily intake values and average mercury values were below the human consumption benchmark however in individual samples it was concluded that mercury in northern pike occurs at concentrations above consumption benchmarks in larger fish (greater than 55cm in length).

These values are consistent with previous baseline values. Mercury concentrations in fish muscle tissue is found to often occur naturally in northern environments. The data indicated that the Project did not have any influence on the concentrations of metals in muscle and liver tissues.

Therefore information obtained doesn't indicate impacts in 2017 from the Rainy River Mine that could affect the health of Aboriginal People through the consumption of northern pike and walleye. Further studies will be conducted in 2018. A copy of the 2017 report on Fish Tissue Quality Monitoring can be found in the Supporting Documentation in Appendix A.

5.4.1 The Proponent shall alert the Aboriginal groups in cases of exceedance of provincial, federal or international health-based criteria. The Proponent shall alert these Aboriginal groups as soon as possible once any exceedance is detected.

Status: Ongoing

Supporting Analysis:

The air quality exceedances discussed in Condition 5.2 were initially considered to be an exceedance of provincial health-based criteria. Applicable Aboriginal Communities were notified via email of these exceedances which were later determined to be caused by sampling error and organic material (insects or bird droppings) being on the air filter and not an air quality exceedance.

5.5 The proponent shall consult with the Aboriginal groups on the implementation of conditions 5.2, 5.3 and 5.4.

Status: Ongoing

Supporting Analysis:

During the Environmental Assessment permitting phase of the New Gold Rainy River Mine, Aboriginal Communities were consulted regarding the project and potential impacts related to conditions 5.2 to 5.4 (air, fish, water quality). Since the approval of the EA New Gold has continued Aboriginal Community involvement by;

- Establishing Environmental Monitoring Boards in 2016. The purpose of these meetings is to ensure community members are engaged in environmental aspects of the project. Some topics that are discussed include; environmental monitoring results (ie; air quality, wildlife monitoring, deer tissue sampling programs, fish tissue sampling programs), exceedances or environmental spills, project design (tailings management, reclamation).
- Conducting on-site tours and discussing fish salvage programs, water quality sampling protocols and sampling results and other environmental monitoring requirements
- Providing email notifications to Aboriginal Communities regarding environmental exceedances (air, water and environmental spills)
- Inviting First Nation members to participate in fish tissue sampling programs and fish salvage programs.

Supporting Documentation

Condition 5.3 – Fish Tissue Quality Monitoring Report, Version 1 (March 26, 2018)