

Table of Contents

18.0	SUBJECT OF NOTE: BIOPHYSICAL ENVIRONMENT MONITORING AND MANAGEMENT PLANS	18-1
18.1	Introduction.....	18-1
18.1.1	Context.....	18-1
18.1.2	Purpose and Scope.....	18-1
18.1.3	Content	18-3
18.2	Summary of Community Engagement.....	18-4
18.3	Environmental Management System	18-4
18.3.1	Proposed Framework.....	18-4
18.3.2	Reporting	18-6
18.4	Principles of Monitoring	18-7
18.4.1	Types of Monitoring Programs	18-7
18.4.2	Effective Monitoring Practices	18-7
18.5	Operational Management Plans and Monitoring Programs	18-9
18.5.1	Operational Management Plans.....	18-9
18.5.2	Monitoring Programs.....	18-9
18.5.2.1	Air Quality Effects Monitoring Program.....	18-10
18.5.2.2	Aquatics Effects Monitoring Program.....	18-10
18.5.2.3	Vegetation Monitoring.....	18-11
18.5.2.4	Wildlife Effects Monitoring Program.....	18-12
18.6	References	18-13

TABLES

Table 18.1-1: Subject of Note: Biophysical Environment Monitoring and Management Plans Concordance with the Terms of Reference	18-2
Table 18.1-2: Biophysical Monitoring and Management Plans SON Organization.....	18-3
Table 18.5-1: Proposed Biophysical Monitoring Programs and their Duration	18-9

FIGURES

Figure 18.3-1: Overview of Biophysical Monitoring Programs in Relation to the Environmental Management System	18-5
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18.0 SUBJECT OF NOTE: BIOPHYSICAL ENVIRONMENT MONITORING AND MANAGEMENT PLANS

18.1 Introduction

18.1.1 Context

This section of the Developer's Assessment Report (DAR) for the NICO Cobalt-Gold-Copper-Bismuth Project (NICO Project) consists solely of the Subject of Note (SON) for the biophysical monitoring and management programs. In the Terms of Reference (TOR) for the NICO Project's DAR issued on 30 November 2009, the Mackenzie Valley Review Board (MVRB) outlined their requirement for a summary of all biophysical environment monitoring programs, and management programs (MVRB 2009).

This SON for the biophysical monitoring and management plans provides the plans and programs that will be completed by Fortune to mitigate, manage, and evaluate effects from the NICO Project on valued components assessed in this DAR. Some of the plans and programs are intended to be conceptual and will be completed during the permitting phase with input from the communities, government, and regulatory agencies. The Key Lines of Inquiries (KLOIs) and SONs that overlap with this SON include the following:

- KLOI: Water Quality (Section 7);
- KLOI: Caribou and Caribou Habitat (Section 8);
- KLOI: Closure and Reclamation (Section 9);
- SON: Air Quality (Section 10);
- SON: Water Quantity (Section 11);
- SON: Fish and Aquatic Habitat (Section 12);
- SON: Terrain and Soils (Section 13);
- SON: Vegetation (Section 14); and
- SON: Wildlife (Section 15).

18.1.2 Purpose and Scope

The purpose of the SON: Biophysical Environment Monitoring and Management Plans is to meet the TOR issued by the MVRB and describe the plans and programs for monitoring, evaluation, and adaptive management of biophysical effects from the NICO Project. The terms for the SON: Biophysical Monitoring and Management Plans are shown in Table 18.1-1. The entire TOR document is included in Appendix 1.I and the complete table of concordance for the DAR is in Appendix 1.II of Section 1.

FORTUNE MINERALS LIMITED NICO DEVELOPER'S ASSESSMENT REPORT

Table 18.1-1: Subject of Note: Biophysical Environment Monitoring and Management Plans Concordance with the Terms of Reference

Section in Terms of Reference	Requirement	Section in Developer's Assessment Report
3.3.11	Biophysical Environment Monitoring and Management Plan Monitoring in the environmental assessment is to focus only on monitoring activities required for recognizing potentially significant impacts and ensuring that they are mitigated by adapting the management of the development. For clarity, this excludes monitoring details related to routine regulatory compliance monitoring and state of the environment monitoring, <i>unless these relate to potentially significant impacts</i>. Describe conceptual plans for monitoring, evaluation and adaptive management for biophysical impacts. Specify which phase of the development each plan is for. Show that monitoring plans have representative baseline information, consider the natural range of variability, and will detect any relevant impacts before they become significant. Describe how project management will be adapted if necessary to prevent significant impacts.	18.0
Appendix J	Biophysical Environmental Monitoring and Management Plans	
	The developer is encouraged to provide a summary section with:	
	Reports of all discussions and agreements with communities, federal and territorial governments related to collaborative monitoring and adaptive management of impacts of the project on the environment.	18.2, Section 4
	1) A list all of its proposed monitoring and management plans, identifying:	
	a. where they are being adopted as commitments for the NICO Project;	18.5
	b. addressing previous comments expressed by interested parties about the adequacy of the plans; and	Not applicable, as the plans have not been previously circulated
	c. where plans are being strengthened or otherwise altered in light of changing circumstances or advances in best practice of environmental management (the developer will cite any specific best management plan being adopted).	18.5.2
	2) If adopting an existing plan, policy or other commitment, the developer will provide a rationale for why that commitment is adequate in light of proposed changes to the development required for full-scale mining.	Not applicable, as there are no existing biophysical monitoring or management programs for the NICO Project
	3) All conceptual monitoring and management plans as identified in the appendices, including:	
	a. An overall Waste Management Plan, including commitments for management of solid, liquid, hazardous and airborne wastes, and associated monitoring programs; and	Section 3, Appendix 3.IV
	b. A conceptual framework for an integrated Aquatic Effects Monitoring Plan developed in discussions with Fisheries and Oceans and Environment Canada.	Appendix 18.I

FORTUNE MINERALS LIMITED NICO DEVELOPER'S ASSESSMENT REPORT

Table 18.1-1: Subject of Note: Biophysical Environment Monitoring and Management Plans Concordance with the Terms of Reference (continued)

Section in Terms of Reference	Requirement	Section in Developer's Assessment Report
Appendix J (continued)	4) Plans for communicating results of mitigation, monitoring and adaptive management programs to regulators, responsible government authorities and the public.	18.2, 18.3.1
	5) A summary table listing all biophysical environmental monitoring and management systems, where they are described in the Developer's Assessment Report, the length of time the monitoring is proposed for, and a rationale for each timeline.	Section 18.5 Table 18.5-1
Appendix L	8) A description of how project-specific monitoring can contribute to and be compatible with regional monitoring programs such as the NWT Cumulative Impact Monitoring Program (see http://www.nwtcimp.ca for details).	Section 18.5.2

The TOR indicate that monitoring in the environmental assessment should focus on recognizing potentially significant impacts, rather than monitoring related to routine regulatory compliance monitoring and state of the environment monitoring (Table 18.1-1). Regardless, most monitoring programs for the NICO Project will contain some compliance and environmental monitoring components. The biophysical environment comprises biological (e.g., plants, wildlife, and fish) and physical components (e.g., soil, water, and air). Considering these criteria, not all of the mitigation and management plans, and monitoring programs required for the NICO Project are summarized in this section. For example, the Closure and Reclamation Plan (Section 9) and operational management plans are not described in this section.

18.1.3 Content

The general organization of this SON is outlined in Table 18.1-2. To verify that the contents of the TOR are addressed in this report, a table of concordance that cross-references the TOR to the information and location in this DAR is contained in Table 18.1-1.

Table 18.1-2: Biophysical Monitoring and Management Plans SON Organization

Section	Content
Section 18.1	Introduction – Provides an introduction to the biophysical monitoring and management programs by defining the context, purpose, scope, and an overview of the Subject of Note organization
Section 18.2	Summary of Community Engagement – Provides a summary of Fortune's community engagement activities
Section 18.3	Environmental Management System – Provides an overview of the framework and approach to adaptive management through implementation of an Environmental Management System
Section 18.4	Principles of Monitoring – Provides a description of the different types of monitoring programs and key principles and practices of effective monitoring
Section 18.5	Operational Management Plans and Effects Monitoring Programs – Identifies the location of existing operational management plans and provides a summary of the proposed environmental and follow-up monitoring programs

In addition to the content included in this SON, the following Appendices are included to provide more detailed information:

- Appendix 18.I: Aquatic Effects Monitoring Program (AEMP)
- Appendix 18.II: Conceptual Wildlife Effects Monitoring Program (WEMP)

18.2 Summary of Community Engagement

Fortune has established relationships with the Tl̓ich̓ Government and local communities, and has been interacting with their representatives since the first land use permit in 1996. Fortune has maintained a record of all communications, which shows that the company has routinely provided timely information, both verbal and written, on the progress of the NICO Project development (Section 4). The local communities are interested in employment or business opportunities, and in the potential improvements to the roads and power supply in the region. Many local residents have worked at the site during the exploration activities from 1998 to present.

Fortune will provide continuous updates on the NICO Project through direct participation and regular communication through community and site visits, regulatory meetings, public information sessions, annual reports, audit results, and the Fortune website.

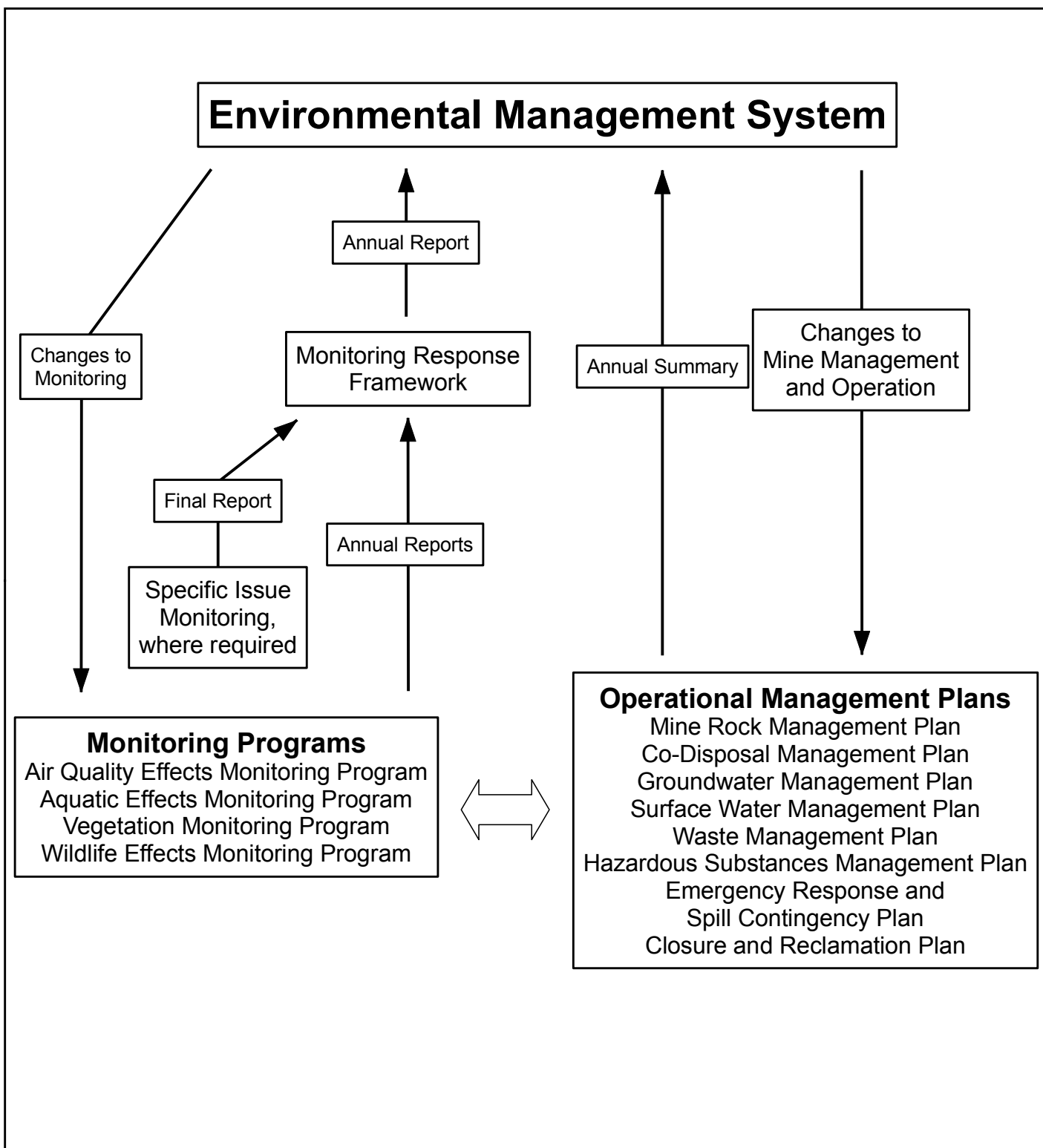
It is essential that communities be involved with monitoring to judge how well Fortune is doing at reducing effects and improving environmental management. Fortune plans to involve communities in environmental monitoring by:

- developing monitoring programs that include input from communities, including people holding local and traditional ecological knowledge;
- developing monitoring programs that reflect community priorities and values;
- including community members in monitoring activities and hiring local residents as environment staff;
- presenting the results of monitoring with the communities; and
- providing an opportunity for communities to comment on the findings.

18.3 Environmental Management System

18.3.1 Proposed Framework

Using the principles of adaptive management, Fortune intends to implement an Environmental Management System (EMS) that reviews all monitoring information, identifies areas of concern, and then makes appropriate changes to the operation of the mine to reduce or remove effects to the biophysical environment. Adaptive management is a structured process of decision making in the face of uncertainty. The objective of adaptive management is to reduce uncertainty through monitoring, or 'learning by doing'. The goal of the EMS is to avoid significant environmental effects, and the 'doing' is the environmental monitoring to provide information, while the 'learning' involves continual improvements to mine operation and environmental monitoring. The EMS is the framework to guide the flow of information and continual improvement among the mine operational management plans, monitoring programs, and the Environmental Manager (Figure 18.3-1).



Included within the EMS are operational management plans, monitoring programs, specific issue monitoring programs, and a monitoring response framework. The operational management plans should clearly define the steps in procedures used to manage various aspects of the mine that have potential to affect the environment (e.g., hazardous materials and surface runoff), and how to prepare for events such as mine closure, emergencies, and spills. The monitoring programs are intended to detect NICO Project-related effects to the surrounding biophysical environment. Specific issue monitoring may also be required to fill information gaps, and are generally short-term. Information from all monitoring would flow into a Monitoring Response Plan. The Monitoring Response Plan would require documenting the following information (WLWB 2010):

- a summary of environmental pathways and effects predictions from the NICO Project;
- a description of how changes to the biophysical environment will be measured and considered;
- a description of action levels and significance thresholds, where available, for measurement endpoints (or indicator variables) of valued components; and
- a description of the mitigation and management actions that will need to be submitted if action levels are reached.

The Wek'èezhii Land and Water Board (WLWB) Response Framework (WLWB 2010) suggests that the response to effects approaching potential significance involves 3 action levels: low, moderate, and high, and each level corresponds to a set of management actions (WLWB 2010). If a low action level is reached, then the proponent would submit a Monitoring Response Plan, take investigative actions, set moderate and high action levels, and begin planning mitigation actions to respond to continued environmental change. If a moderate action level is reached, then the proponent might implement the identified mitigations and/or perform a risk assessment. High level actions would be intended to reverse measured trends and improve environmental conditions.

18.3.2 Reporting

The EMS will require annual reports from all monitoring programs, and an annual Monitoring Response Plan report that discusses results in terms of action levels and recommended follow-up, if required. Fortune will actively seek input from regulatory authorities and communities through annual reports. These reports will be an opportunity for Fortune to present the findings of the monitoring programs, and for communities and regulatory agencies to provide feedback and direction. The annual reports for the monitoring programs will contain a summary of methods and all data collected to date. Due to the large degree of natural variation inherent in ecosystems, it is often difficult to detect effects until several years of data have been collected. Therefore, a comprehensive analysis and discussion of all data from a monitoring program will be completed on a longer cycle, likely 2 to 5 years depending on the program.

The Monitoring Response Plan is expected to be the overarching document to summarize all environmental monitoring results, record all trends, issues approaching significance, suggested mine operation changes and mitigation actions considered for future years, and an evaluation of the success in limiting effects to the biophysical environment (as suggested by WLWB 2010). The Monitoring Response Plan will be an evolving document subject to updating action levels, for a particular measurement endpoint (parameter) and the associated change in mitigation.

18.4 Principles of Monitoring

18.4.1 Types of Monitoring Programs

A range of monitoring programs will be likely required at the NICO Project, which can be classified into 5 categories.

- 1) Compliance/Certification monitoring for the activities, procedures, and programs required to demonstrate compliance with certification and regulatory license and/or permit requirements.
- 2) Environmental monitoring is intended to track conditions or issues during the development lifespan, and subsequent implementation of adaptive management, if required (e.g., monitoring for soil erosion during construction, and fresh water intake and treated water discharge volumes during the life of a project).
- 3) Follow-up monitoring is used to determine the effectiveness of environmental design features and mitigation, test impact predictions, reduce uncertainty, and provide feedback to operations for modifying or adopting new mitigation designs, policies, and practices. Results from these programs can be used to increase certainty of impact predictions in future environmental assessments.
- 4) Regional monitoring provides information to regulatory authorities, participating industries, and communities that can be used for the assessment and management of potential cumulative effects. Unlike compliance/certification, environmental, and follow-up monitoring programs, regional monitoring programs are typically not project-specific, and are less likely to provide relevant information for management decisions at a project site.
- 5) Specific issue monitoring is occasionally required to address issues raised during the environmental assessment process that require additional data because of uncertainty around particular elements of the assessment (e.g., decrease the variance in a model input or output parameter), or because of the requirement for additional baseline data to support future interpretation of monitoring data.

To meet the requirements of the TOR, this document focuses on environmental and follow-up monitoring. Regional monitoring is not included in this document. However, some of the follow-up monitoring programs are designed to contribute to regional monitoring data, and Fortune may directly contribute to existing regional monitoring efforts such as the Northwest Territories (NWT) Cumulative Impact Monitoring Program or the Marian River watershed group initiative.

18.4.2 Effective Monitoring Practices

There are limitations to environmental effects monitoring that should be considered in the development and implementation of an effective monitoring program. Monitoring may be undertaken for many purposes, some of which are not compatible with others. For example, site-specific monitoring data are typically not directly applicable to regional cumulative effects monitoring. Further, there are some effects that cannot be practically assessed through monitoring (e.g., survival and reproduction rates), or the number of samples required to satisfy statistical requirements may not be attainable (see Marshall 2009 for a summary of these issues at the existing EKATI, Diavik, and Snap Lake mines).

There are a number of principles related to the implementation of environmental monitoring.

- 1) Monitoring is not research. Monitoring supports decision-making by the operator and regulator, and provides direct feedback to the operator regarding the effectiveness of current mitigation and the potential need for adaptive management. Monitoring also provides information to communities and other people interested in the development on the potential effects, and the success of mitigation and adaptive management. In comparison, research is typically completed to test hypotheses and usually tries to answer more fundamental questions regarding properties of ecosystem structure and function.
- 2) Monitoring must address a specific question or objective. Monitoring is only useful if it provides answers to specific compliance or follow-up questions, such as: What is the current status? Are there spatial extent (area) or temporal (time) trends? Is there a change in some environmental parameter?
- 3) Measurement endpoints (indicator variables) must have a clear purpose and are typically associated with effects predictions in the environmental assessment (i.e., the DAR). Measurement endpoints used in monitoring programs can be physical, chemical, or biological attributes of a population, community, or ecosystem, and provide an indication of the amount (magnitude), duration, and spatial extent of the effect. Measurement endpoints are selected because they are of intrinsic importance, provide early warning, are sensitive to the stressors of concern, and provide information about potential effects to ecosystem processes.
- 4) Measurement endpoints should meet the following criteria:
 - a) high signal-to-noise ratio so changes can be distinguished from natural background levels;
 - b) rapid response so changes and potential effects can be detected as early as possible;
 - c) repeatable and reliable response that should be as specific to the stressor of concern as possible;
 - d) robust against observer bias;
 - e) avoids lethal sampling of fish and wildlife;
 - f) ease/economy of monitoring;
 - g) importance to the ecosystem or society; and
 - h) effectiveness of feedback to adaptive management so that information can be acted upon with confidence.
- 5) Define action levels and thresholds where applicable and possible. Monitoring information is most useful when it guides decisions. Therefore, monitoring programs must identify how the information provides the basis for decisions regarding possible adaptive management. The basis is usually a clear action level where it is determined that a response would be required. Action levels and thresholds determined for use in decision-making will differ depending on the objectives and nature of the monitoring program.
- 6) Not all effects can be detected. Detecting an effect on an environmental receptor or valued component can be difficult, as the monitoring data will also contain noise from natural variability. Often, the number of samples required to satisfy statistical requirements may be unattainable.

18.5 Operational Management Plans and Monitoring Programs

As described in Section 18.3, the EMS includes a number of operational management plans and monitoring programs (Figure 18.3-1). A summary of the various plans and programs proposed for the NICO Project are provided here.

18.5.1 Operational Management Plans

Operational management plans provide mine managers with clear instructions for the safe long-term operation of the NICO Project. They are required not only as a set of instructions to mine managers, but also to show diligence on the part of Fortune, which may be needed to fulfill legal requirements or for certification. The NICO Project will require a number of operational management plans. Following approval of the NICO Project, some of these plans will be developed during the permitting phase, while other required plans are presented in this DAR:

- Mine Rock Management Plan (Section 3, Appendix 3.I);
- Co-Disposal Facility Management Plan (Section 3, Appendix 3.II);
- Water Management Plan (Section 3, Appendix 3.III);
- Waste Management Plan (Section 3, Appendix 3.IV);
- Hazardous Substances Management Plan (Section 3, Appendix 3.V);
- Emergency Response and Spill Contingency Plan (Section 3, Appendix 3.VI);
- Closure and Reclamation Plan (Section 9); and
- Incineration Management Plan (Section 10.9.3).

18.5.2 Monitoring Programs

Four biophysical monitoring programs are proposed for the NICO Project (Table 18.5-1). These environmental and follow-up monitoring programs correspond to the key issues and impact predictions in the DAR. Currently, the monitoring programs are conceptual and provide the objectives and framework of the study designs and sampling methods. The details of the programs are expected to be developed and completed with input from the communities and government and regulatory agencies.

Table 18.5-1: Proposed Biophysical Monitoring Programs and their Duration

Monitoring Program	Location in the DAR	Duration	Rationale for Duration
Air Quality Effects Monitoring Program	Section 10.9	Construction, operations, and closure	It is anticipated that effects to air quality will be reduced to baseline levels soon after following closure.
Aquatic Effects Monitoring Program	Appendix 18.I	Construction, operations, and closure, and possibly post-closure	The AEMP would continue into closure with the monitoring frequency being dictated by the status of remediation activities and effluent quality. The AEMP would continue into post-closure only if water quality results were above site-specific objectives. Further, if the mine has achieved 'Closed Mine Status' under the MMER regulations or is a zero discharge facility, then periodic to no monitoring is required.

Table 18.5-1: Proposed Biophysical Monitoring Programs and their Duration (continued)

Monitoring Program	Location in the DAR	Duration	Rationale for Duration
Vegetation Monitoring Program	Section 14.10	Construction, operations, closure, and post-closure	Vegetation monitoring will be mostly linked to reclamation and closure, so most monitoring is not anticipated to commence until operations.
Wildlife Effects Monitoring Program	Appendix 18.II	Construction, operations, and closure	Wildlife monitoring is required while staff are regularly at site, both to limit effects to wildlife and for human and wildlife safety.

DAR = Developer's Assessment Report; AEMP = Aquatic Effects Monitoring Program; MMER = Metal Mining Effluent Regulations

18.5.2.1 Air Quality Effects Monitoring Program

The NICO Project is anticipated to affect air quality through the release of emissions from fuel combustion and fugitive dust. An Air Quality Effects Monitoring Program (AQEMP) will be implemented to determine if changes in air and dust emission parameters from the NICO Project are within concentrations predicted from air dispersion modelling. Mitigation and changes to mine operation may be suggested to reduce emissions and fugitive dust. Environment Canada confirmed in May 2010 that detailed operational plans and a monitoring plan should be required when the NICO Project progresses to the permitting stage (D. Fox, Environment Canada, 2010, pers. comm.).

Evaluation of local air quality conditions and predicted air concentrations should be considered when defining the monitoring requirements. The process of developing an air quality monitoring program will likely include the following tasks:

- identification of monitoring requirements;
- description of monitoring techniques and equipment appropriate to meet the monitoring requirements;
- defining procedures for the compilation and analysis of the monitoring data;
- defining Quality Assurance/Quality Control procedures;
- describing the schedule and resources (including training) necessary to implement the AQEMP;
- describing the procedures for recordkeeping for the information related to the AQEMP, and for the purpose of audits and continuous improvement of the program; and
- describing the procedures for the periodic review of the AQEMP (continuous improvement), including stages to reduce the monitoring requirements.

Along with the evaluation of local air quality conditions, ongoing monitoring of the NICO Project emissions should also be considered in developing this component of the monitoring program. The AQEMP may include quantifying NICO Project emissions and fuel use.

18.5.2.2 Aquatics Effects Monitoring Program

Upon approval of the NICO Project, an AEMP will be implemented to limit effects to aquatic components, including fish habitat, fish health, and fish use to test impact predictions (Appendix 18.I). The final AEMP will include provisions for biophysical monitoring as required under the Metal Mining Effluent Regulations of the

Fisheries Act (see Environment Canada 2002). The AEMP will consider the Indian and Northern Affairs Canada (INAC) Guidelines on designing and implementing aquatic effects monitoring programs in the Northwest Territories (INAC 2009), and the draft Adaptive Management (Monitoring Response) guidelines from the Wek'èezhii Land and Water Board (WLWB) (2010), as appropriate. Fortune intends to combine the AEMP with the Surveillance Network Program required by the NICO Project Water License and with the Metal Mining Effluent Regulations of program so that the AEMP uses all available monitoring data in the receiving environment.

Specific objectives of the AEMP include the following:

- provide information to test predicted impacts from the NICO Project DAR, and reduce uncertainty;
- incorporate local traditional and ecological knowledge, where applicable and available;
- propose action levels or adaptive management triggers that can be used as early warning signs for reviewing and implementing mitigation practices and policies;
- design studies and data collection protocols that are consistent with other programs in the region; and
- consider existing regional and collaborative programs, such as the NWT Cumulative Impact Monitoring Program or the propose Marian River watershed community monitoring program.

It is anticipated that the objectives of the AEMP will also include links to management responses, as follows:

- evaluate the short-term and long-term predicted effects of the NICO Project on the physical, chemical, and biological components of the aquatic ecosystem of the NICO Project area and downstream waterbodies;
- compare monitoring results to effect predictions;
- provide the necessary input for monitoring responses to potential unacceptable effects on the aquatic ecosystem; and
- evaluate the effectiveness of monitoring responses.

18.5.2.3 Vegetation Monitoring

Construction of the NICO Project will lead to the direct loss and alteration of vegetation and other natural features, which includes various types of forest cover, bedrock open conifer, shrubland, ponds, and wetlands. These changes will predominantly occur during construction. Following initial construction of the NICO Project and the NICO Project Access Road, expansion of the NICO Project footprint will be at a much slower rate and smaller spatial extent, primarily associated with the development of the Open Pit and the Co-Disposal Facility. The WEMP includes a survey to delineate the NICO Project footprint at the end of construction to compare the actual loss of vegetation communities (habitats) to that predicted in the DAR and in the land use permit application. Analysis of the loss and alteration of vegetation communities would be included in the Vegetation Monitoring Program.

It is anticipated that monitoring of re-vegetation techniques and success will be required during the NICO Project, but the objectives, measurement endpoints, and methods of re-vegetation will need to be determined with input from regulators and the communities. Analyzing and assessing the success of re-vegetation techniques would like be a component of the Vegetation Monitoring Program, and provide input into the

Reclamation and Closure Plan. Environmental monitoring would include surveys for weeds during construction and operation within the anticipated mine site and the implementation of a weed management program if required.

The NICO Project is anticipated to affect air quality through the release of combustion emissions and fugitive dust, which may influence vegetation. A monitoring program will be implemented to determine if changes in air and dust emission parameters from the NICO Project are within concentrations predicted from air dispersion modelling. Mitigation and changes to mine operation may be suggested to reduce emissions and fugitive dust. Environment Canada confirmed that detailed operational plans and a monitoring plan for air quality will be required when the NICO Project progresses to the permitting stage (D. Fox, Environment Canada, 2010, pers. comm.).

18.5.2.4 Wildlife Effects Monitoring Program

The conceptual WEMP outlines how Fortune proposes to remove or limit the direct and indirect effects to wildlife from the NICO Project (Appendix 18.II). The WEMP also outlines the effects that will be monitored. The WEMP is conceptual at this stage, and detailed study designs, methods, procedures, and data sheets will be developed during the NICO Project permitting phase.

The WEMP is intended to provide a blueprint for wildlife effects monitoring and mitigation at the NICO Project. As the NICO Project progresses into the permitting stage and the WEMP is further developed, specific work instructions will be provided to the environment staff. These work instructions will provide the necessary information to carry out most of the monitoring (such as the timing of the surveys, the number of staff required, locations, and data collection methods). For the communities, public, and regulatory authorities participating in the development of the WEMP, the final document should provide background, rationale, objectives, and information on data collection and analysis to determine if the WEMP will adequately monitor effects to wildlife from the NICO Project.

The overall goals of the WEMP are to:

- meet regulatory requirements and corporate commitments for monitoring;
- provide a process for regulators, communities, and other people interested in the NICO Project to participate in the development and review of wildlife effects mitigation and monitoring;
- provide a process to provide results of monitoring to communities, governments, and the public; and
- provide mine managers with clear reasons for making decisions regarding environmental management.

Documents reviewed to develop the WEMP included the following:

- The Snap Lake Wildlife Effects Monitoring Program (De Beers 2004);
- The Snap Lake Wildlife Management Plan (De Beers 2007);
- The Jericho Diamond Project Wildlife Mitigation and Monitoring Plan (Tahera 2005);
- The Diavik Diamond Mine Wildlife Monitoring Report (DDMI 2010);
- The Ekati Diamond Mine Wildlife Monitoring Report (BHP Billiton 2010);

- Report of the diamond mine monitoring workshop (Marshall 2009);
- Standardized protocols for the NWT Cumulative Impact Monitoring Program (IMG-Golder Corp. 2008); and
- Data Collection Protocols for the NWT Cumulative Impact Monitoring Program. Valued Components: Caribou Fish Habitat, Population & Harvest Water & Sediment Quality. (Kavik-AXYS Inc. 2008).

In practice, it is difficult to combine the monitoring required to assess the impacts of a mine with the regional monitoring programs such as those described by Cumulative Impact Monitoring Program (IMG-Golder Corp. 2008, and Kavik-AXYS Inc. 2008). Regional monitoring protocols are often designed with different objectives than project effects monitoring and may not be sensitive enough to detect project-related effects. Similarly, regional monitoring programs are typically not project-specific, and are less likely to provide relevant information for management decisions at a project site. However, Fortune is open to suggestions for contributions to regional monitoring, and has proposed to submit raptor monitoring data to the NWT Raptor Database (described in Kavik-AXYS Inc. 2008), and to the North American Peregrine Falcon Survey.

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FORTUNE MINERALS LIMITED NICO DEVELOPER'S ASSESSMENT REPORT

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