NEW DISCOVERY MINES LTD.
MON GOLD MINE
WASTE MANAGEMENT PLAN

Version 12
December 2020
New Discovery Mines Ltd.

Revisions:

Original Plan	October 2013	Revisions
1	December 2013	Insert revision section Entitle Insert Contents page Reformat entire plan
2	April 2014	Explicit statement of operation and waste segregation Statement on on-site storage of waste Statement on on-going removal of non-conforming waste for incinerator Statement that manufacturers manual for incinerator to be delivered to Inspector for approval Maximum incinerator load defined Stipulate how waste rock is stored and monitored Waste and ore handling and storage Drill cuttings handling Drill fluids handling Drill water discharges monitoring Monitor ground water seepage into underground
3	May 2015	Modify to incorporate milling operations
4	July 2015	Add Incineration details Add designs for secondary containment Add / modify plans to management of sewage Modify management of all waste including drill cuttings Add details regarding installation and operation of sumps Add location of storage of ammonium nitrate Add maps 1, 2, 3, and 4 Add additional details on the proposed disposal of mine water (include parameters to be tested) Add further details on the disposal of mill water Add further details on proposed management and disposal options or any ground water that may be encountered.
5	October 2015	Add Land Farm details.
6	August 2016	reviewed, no changes
7	September 2016	Register as Hazardous Waste Generator when required Activities will comply with Guidelines for the Management of Hazardous Waste in the NWT and Confirm the ultimate disposal of Hazardous Waste on Hazardous Waste Movement Documents Add details on landfarm design, construction and operation Add details on sewage and greywater treatment facility (bioreactor) Update details on separation of treated and untreated wood waste Section “Forms” reviewed and amended

		Section on Mine Water Disposal amended to track Water License details Section on Sumps and Management of Drilling Waters reviewed Section on Mill Waste reviewed. Separate plan being prepared Section on Mine Rock reviewed. Separate plan being prepared Add Section on Secondary Containment Location of ammonium nitrate storage added to Management Plan Map
9	October 2016	Updated to include reference to GNWT Inspectors as appropriate, and the reference to AANDC inspectors removed Bullets under the Wood Waste section outlining wood waste management updated to clearly identify which bullet represents untreated wood waste management activities, and which represents treated wood waste management activities. The information on page 12 regarding mine waste water discharge updated to reference the correct Water Licence conditions. Location for the storage of ammonium nitrate added to the map within the Waste Management Plan.
10	December 2018	Reference to pre-1980 refuse sites added. Confirm diamond drill site wastes are appropriately considered.
11	July 2020	Revise figure 3 Reconcile Mill Waste data
12	December 2020	Mill Waste data consolidated within WMP. Landfarm and bioreactor details enhanced. Supporting ore, waste, tailings geochemistry and ABA details included. Remove camp incinerator. All non-paper, untreated wood, and cardboard waste shipped to an approved recycling or disposal site. Addition of conformity table with reference to changes

Contents

Conformity Table for this Revision

All comments from reviewers have been received and are shown below with actions taken to accommodate them.

Request	Page	Responds to
GNWT ENR-EAM		
2	Details on the construction of the DST are provided in Dry Stack Storage Page 33 Details on the Landfarm under in a separate document Landfarm Management Plan	Oct 6: Board staff is confident that GNWT-ENR reviewed the documents submitted with the applications and have outstanding concerns with regard to the level of detail provided for the design, operation, and closure of the landfarm and dry stack tailings. Board staff agree that information for the construction and operation of these facilities provided in the applications is not sufficient to approve the work without more detailed information. Prior to the construction of any structures, the Draft Licence requires New Discovery to submit for approval a Structure Description and Construction Plan or a Design and Construction Plan. In addition, it requires New Discovery adhere to the Guideline for Design, Operation, Maintenance, and Closure of Petroleum Hydrocarbon-Contaminated Soil Treatment Facilities in the Northwest Territories for the design, construction, maintenance, and monitoring of the proposed landfarm. Details for the specific facility New Discovery plans to construct and operate should be submitted as a separate Hydrocarbon-Contaminated Soil Treatment Facility Plan meeting all requirements of the Guideline referenced above. This will include the need to identify clearly, the proposed reuse criteria for treated soils. Similar to the identification of appropriate soil criteria, New Discovery is required to identify quantifiable performance objectives for the Dry Stack Tailings. Clear criteria for the successful design and operation of these facilities is required for the life of the Project. Plans for the dry stack tailings facility must clearly identify regular inspection requirements and monitoring plans, including action plans in the event the facility is not operating as expected.

11	Design and construction of the DST is provided in "Dry Stack Storage" including frequency of sampling, current sampling of SNP 03 "Water Geochemistry" and that the proponent will comply with license requirements including EQC standards.	Oct 6: The Applicant did not fully respond to GNWT-ENR's recommendations. Much more information on the monitoring associated with the dry stack tailings will be required before construction and operation of the facility will be approved by the Board. Board staff note that the draft Licence requires New Discovery to develop and submit for Board approval a Tailings Management Plan. Schedule 4, condition 3 of the Draft Licence requires specific locations for sampling, proposed frequency of sampling, predicted performance values, and contingency plans be identified. Licence conditions include EQC that the Applicant have agreed to under MDMER. If any changes are requested, rationale will be required followed by an amendment process. In response to GNWT-ENR comments, Board staff have included the need to identify the collection and disposal methods of trench water into the schedule.
12	A separate Hydrocarbon-contaminated Soil Treatment Facility Plan is provided.	Oct 6: Board staff agree that information for the construction and operation of these facilities provided in the applications is not sufficient to approve the work without more detailed information. Prior to the construction of any structures, the Draft Licence requires New Discovery to submit for approval a Structure Description and Construction Plan or a Design and Construction Plan. In addition, it requires New Discovery adhere to the Guideline for Design, Operation, Maintenance, and Closure of Petroleum Hydrocarbon-Contaminated Soil Treatment Facilities in the Northwest Territories for the design, construction, maintenance, and monitoring of the proposed landfarm. Details for the specific facility New Discovery plans to construct and operate should be submitted as a separate Hydrocarbon-Contaminated Soil Treatment Facility Plan meeting all requirements of the Guideline referenced above. This will include the need to identify clearly, all the information needs identified by GNWT-ENR.

13	Details are provided in "Drill water sump" and "Sumps"	Recommendation 1) ENR recommends that the following information be provided as it relates to sumps, as per the Guidelines for Developing a Waste Management Plan (MVLWB, 2011): -Details of waste volume balance and sump sizing; -Details of the operations through construction, disposal, and closure; and -Details of sump monitoring and local environment, and an explanation of how environmental monitoring will be linked to any management response.
14	Spill Contingency Plan	**Oct 6:** Final Plans for the storage of diesel should be provided in a revised Waste Management Plan, once known.
16	Separate Plans will be submitted, however details are expanded here.	Oct 6: The Draft WL requires New Discovery to submit for Board approval a Waste Rock Management and Geochemical Characterization and Monitoring Plan prior to the commencement of any mining activities. Schedule 4, condition 1 identified the requirements of this Plan. Board staff believe these requirements address the GNWT-ENR recommendations. Recommendation 1)ENR recommends that New Discovery conduct additional geochemical sampling and analysis on waste rock, gravity tailings, and flotation tailings in order to better characterize the ARD/ML potential of these materials.
31 & 32	The are correct and accurate comments. See Waste Rock Characterization Plan. Note that we do not plan any excavations into the remote VMS mineralization, nor do we plan to deposit any of our gold concentrates into the receiving environment. This will be removed, refined into gold bars and sold.	Brodie Consulting Ltd. Separate document suggests more details on waste characterization, specifically rock. Points out gravity concentrate is AG, and VMS mineralization 1.5 km removed from the site is potentially AG.
MVLWB		

2	No action	Oct 6: These details are required for drafting Licence conditions. GNWT-ENR made comments on the EQC for the sewage effluent and the dry stack tailings. Board staff suggest that sewage effluent criteria remain as set in previous authorizations, in line with the Wastewater System Effluent Regulations, and that runoff from the dry stack tailings continue to meet MDMER requirements. These EQC have been added to the Draft Licence. What remains outstanding are appropriate EQC for waste rock and ore runoff, disposal of mine water. Board staff suggest that these could be included in the Licence and match the MDMER requirements being applied to the dry stack tailings.
11	See separate document, Groundwater and Water Management Plan	Oct 6: These clarifications will be required to be described in detail for public review and Board approval in the Water and Groundwater Quality Monitoring Program a minimum of 90 days prior to commencement of activities under these authorizations.
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14	Waste Rock Management and Geochemical Characterization and Monitoring is described under "ROCK, WASTE" and "ROCK, NOT WASTE"	Oct 6: The Applicants response seems to contradict findings of PAG reported in the Applications. Board staff seek discussion on the appropriate trigger for the development and submission of the Waste Rock Management and Geochemical Characterization and Monitoring Plan.
16	Groundwater and water Quality Monitoring Program and Tailings Management Plans are being developed as separate documents.	Oct 6: These clarifications will be required to be described in detail for public review and Board approval in the Water and Groundwater Quality Monitoring Program a minimum of 90 days prior to commencement of activities under these authorizations. More detailed information, once

		available will be expected in the Tailings Management Plan which will be required a minimum of 90 days prior to the commencement of milling activities for public review and Board approval.
17	Dry Stack Tailings details have been enhanced and can be found under "Dry Stack Storage", for Landfarm under separate document, for the Bioreactor under "Bioreactor" including sludge removal, and Waste Rock Pile under "ROCK, WASTE"	Oct 6: These requirements are explicitly identified in the Guidelines for Waste Management Planning and should be provided in a revised version of the Waste Management Plan for public review and Board approval.
18	See Landfarm Operations and Management Plan.	Oct 6: Information for the construction and operation of these facilities provided in the applications is not sufficient to approve the work without more detailed information. Prior to the construction of any structures, the Draft Licence requires New Discovery to submit for approval a Structure Description and Construction Plan or a Design and Construction Plan. In addition, it requires New Discovery adhere to the Guideline for Design, Operation, Maintenance, and Closure of Petroleum Hydrocarbon-Contaminated Soil Treatment Facilities in the Northwest Territories for the design, construction, maintenance, and monitoring of the proposed landfarm. Details for the specific facility New Discovery plans to construct and operate should be submitted as a separate Hydrocarbon-Contaminated Soil Treatment Facility Plan meeting all requirements of the Guideline referenced above. This will include the need to identify clearly, all the information needs identified by GNWT-ENR and Board staff.
Tlicho		
2	Removal of sludge is stipulated in "Bioreactor" and expected EQC is presented by reference to a similar Bioreactor in "Table 1" and "Table 2"	Oct 6: Board staff agree and are unsure of where more data may be provided at this time. Effluent Quality Criteria have been added to the draft Licence in accordance with the Wastewater System Effluent Regulations. More information on the management and treatment of sewage should be provided in a revised version of the Waste Management Plan for public review and Board approval.

Introduction

This Waste Management Plan relates to exploration activities in the Discovery Lake Area known as the Mon Gold Mine. A camp will be established near coordinates **NAD83 Zone 11 Easting 635,740 m Northing 6,977,330 m, or** Lat 62^{o} 54' 02.05" N, Long -114^{o} 19' 41.99" W. The locations of the project and camp are shown in the figures attached to the LUP Application.

Plan Applicability

This plan will serve all of the company's operations in and around the Mon Gold Property including winter road operations. The third revision of this plan adds milling operations including all reagent storage and use, product handling, and dry stack tailings disposal.

Environmental Policy

New Discovery Mines Ltd.'s Environmental Policy follows conditions and regulations of all permits and licenses and E3 Policies of the PDAC

PROTECT THE ENVIRONMENT

Objective: To conduct exploration activities in ways that create minimal disturbance to the environment and people.

Introduction

In most countries, environmental law, regulations and guidelines exist to provide direction for exploration activities. In the absence of these, explorers are advised to apply good practice as described in the e3 Plus Excellence in Environmental Stewardship Toolkit, and, in the case of more advanced exploration projects, the Performance Standards of the International Finance Corporation (2012). Policies and Management Processes In developing systems for the management of environmental and socio-environmental matters, explorers are encouraged to follow established guidelines and give consideration to the following:

a. Adopt and make public policies and procedures for the management of environmental and social issues;

b. Create a management and reporting structure that identifies objectives and allocates appropriate resources and responsibilities for the environmental and social aspects of exploration projects;

c. Apply relevant national regulations and inform themselves of international good practice guidelines for environmental management;

d. Establish procedures for the management of environmental issues that are relevant in the area of exploration. Explorers are encouraged to involve the local community in the identification and implementation of preferred environmental management options;

e. Advance understanding amongst employees, contractors, local stakeholders and affected communities of the potential impacts of exploration and mining on the environment and relevant procedures to prevent and mitigate adverse environmental impacts;

f. Take reasonable steps to ensure that contractors have the capacity to implement operational controls and comply with environmental policies and procedures; and

g. Where possible, support capacity building and education of local stakeholders and affected communities in environmental management using appropriately qualified, independent experts.

Impact Assessment and Management

New Discovery Mines Ltd, their employees and contractors should be aware of the potential impacts of their activities on the environment and apply appropriate management processes to minimize or mitigate any adverse impacts. In doing so, explorers should consider the need to:

a. Conduct an initial, and then periodic assessments of potential direct, indirect, and cumulative environmental and social impacts, risks and hazards of exploration activities on the environment and people;

b. Conduct and document baseline environmental and social studies to establish any pre-existing conditions against which changes can be monitored, and share the results of such studies with local communities;

c. Work with government and the local community to identify the potential to augment or complement existing land use and development strategies or plans;

d. Where possible, incorporate local or traditional knowledge and practice into baseline studies and the management of environmental issues, but also be respectful of the nature of such information and maintain confidentiality;

e. Have in place and periodically test procedures and equipment to respond to potential environmental incidents;

f. Create and implement procedures for managing chance finds of archaeological sites, artifacts or cultural items;

g. Use processes that reduce the consumption of energy and water and provide for the safe storage and disposal of hazardous materials and residual wastes; and

h. Carry out continuous remediation and reclamation of lands affected by exploration activities.

Vulnerable Environments and Biodiversity

New Discovery Mines Ltd respects and protects vulnerable environments and species, as well as areas of biodiversity, and:

a. Respect legally-designated protected areas and promote practices that support biodiversity assessment and management;

b. Engage with indigenous peoples and local communities to identify valued environmental sites, and any other locations of importance to local people so that the exploration project is respectful of these areas; and

c. Support the development and implementation of sound, inclusive and transparent approaches to land-use planning, biodiversity, conservation, and climate change, based on the best available data, including traditional knowledge.

Monitoring and Reporting

New Discovery Mines Ltd will implement processes of monitoring and reporting on environmental performance (see Principle 2) to inform management, government, local communities, shareholders, and other interested parties. New Discovery Mines Ltd will promptly report all environmental accidents or incidents to the local community and appropriate authorities and to actively share plans to manage the accident or incident. New Discovery Mines Ltd will consider the option to:

a. Where possible, create a community based process for the participation of local stakeholders and other affected and interested parties in the monitoring and verification of environmental management performance and, where applicable, support capacity building so that such activities are meaningful and effective; and

b. Prepare and publish regular reports on environmental performance that, wherever reasonably possible, are validated by local stakeholders and affected communities or other third party observers or auditors.

Purpose and Scope of the Waste Management Plan

The purpose and scope of New Discovery Mines Ltd.'s Waste Management Plan is to identify and manage waste resulting from exploration activities, including operation of a camp and any potential future use of an existing winter-spur route which may connect the camp seasonally to existing winter roads which passes near the Mon Gold Mine. The processing of ores from the property will introduce new waste products that will be accommodated in this plan.

The goal of the Waste Management Plan is to mitigate environmental effects of New Discovery Mines Ltd.'s exploration activities and locations on land, vegetation, water, air, wildlife and fish, which have both intrinsic value to the ecosystem and sociocultural and aesthetic values to a variety of land-users.

The objectives of this Waste Management Plan are to re-establish the Mon Gold Mine Camp and conduct drilling and other exploration allowed under permits in such a way as to reduce/reuse and recycle where possible, and to handle and dispose of waste so as to obviate or minimize impact to environment, offer local employment and use local services as best complements the exploration program, to operate in compliance with governing authorizations and legislation, and to strive for continuous improvement in environmental management, which is a core objective of all environmental programs.

Project Description

New Discovery Mines Ltd. wishes to operate under Land Use Permits and Water Licenses from the MVLWB. A range of exploration activities, including prospecting, surficial rock sampling, underground mining, milling, drilling and operation of a trailer camp are to be authorized under the permits under application. The MVLWB authorization also will allow for operation along an existing winter road right of way.

Processing of the ores recovered from the operations will:

- recycle the maximum amount of water possible,
- ship all concentrates off property to facilities approved for further processing
- produce non-acid generating solids waste products that meet or exceed all guidelines for tailings disposal,
- store these solids in a constrained and monitored environment.
- Discharge no liquids except as already permitted.

Proposed Location of Waste-Management Activities

Waste-management activities will occur within New Discovery Mines Ltd.'s Mon Gold Mine project, which are depicted in *Map 1* (Figure 1) below and on MapCInfrastructureA.pdf. Specific waste-management locations at the Mon Gold Mine and Camp environs will be: kitchen, dry, office and gen-shed, mine, shops, garbage bins and recycle bins;

a. Greywater and sewage into a bioreactor.
b. refuge drums for waste oils/fuels and solids;
c. in designated scrap-pile areas (sorted steel or lumber waste for recycling on site, or for out shipment and recycling or out shipment and proper disposal).
d. Rock piles denoted as waste or not waste.
e. Dry stack storage facility
f. Overburden management

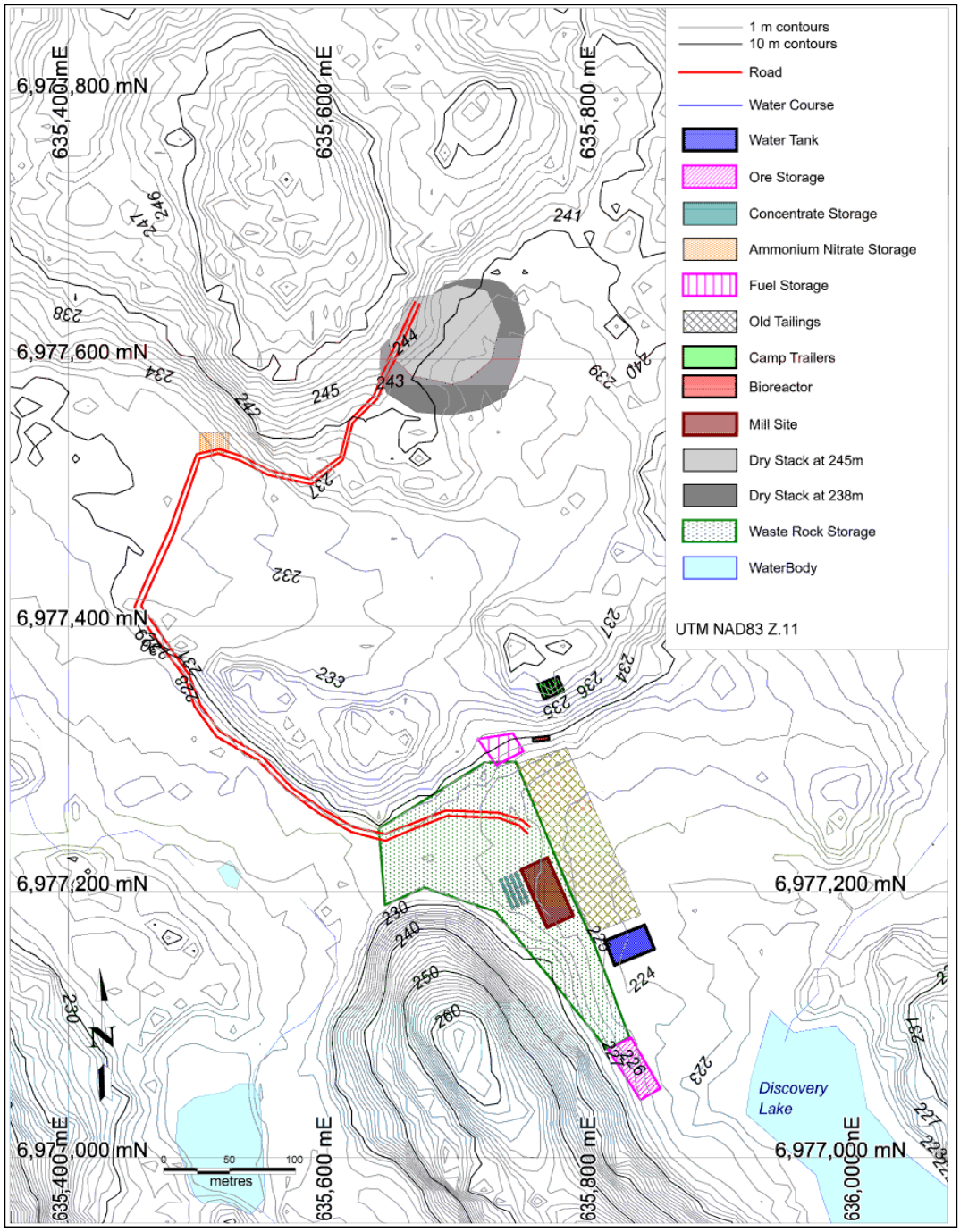


Figure 1 Map 1, Location of waste management sites.

Specific waste-management locations at drillsites will be as follows:

a. separate refuse drums for waste oil/fuels and waste solids (used absorbents and rags, used/drained oil filters); and
b. drill-cuttings sumps (where drillwater mixed with rock flour from drilling will be deposited).

In both the camp and at drill sites, secondary containment is used for drums and small equipment such as pumps and generators, and wherever fuel is transferred. All sumps are land-based and located the

requisite 100m from ordinary high-water mark (OHWM) of waterbodies, unless a Land Use Inspector has provided prior approval for a closer distance, on the basis of assessed low risk of flow into any adjacent waterbodies and implementation of control measures such as berms and oil-absorbent booms or other barrier devices.

Any overburden removed will be stored in proximity to where it was removed for use as cover upon execution of the Interim Closure and Recovery Plan.

The Spill Contingency Plan is an evolving document which is kept updated with current MSDS for all products which may be brought to a worksite.

Historical Land-Use and Waste Management

The Mon Gold Mine area has been explored by successions of exploration companies since the discovery of gold here in 1937. The Mon Gold Mine operated between 1988 and 1997, accessed by three portals and one shaft. A 100 tpd gravity mill and associated tailings containment site are evidence of the potential here. Pre-1980 activities have left minor refuse piles on the property which have been removed as time permitted. Over 40 bags of historic garbage have been collected and disposed of.

Site and Setting Characteristics

The Mon Gold Mine lies within the Slave Structural Province of the Northwest Territories (the Slave Province), which is an Archaean segment of the North American Craton that covers 213,000 km2 . It is composed of granites, gneisses and supracrustal rocks. The Slave Province is a classical setting for diamondiferous kimberlites, rare earth element, light element and base and precious metal deposits.

For most of the year, the area is covered with ice and snow. Summer typically begins in June, when melting commences; winter usually arrives in October. Temperatures range from highs of around 25 during the brief summer months, to winter lows of -45 which are often magnified by strong, constant winds. Daylight varies from nearly 24 hours in the summer to only a few hours per day during the winter.

Landforms, relief and drainage have been strongly influenced by the effects of several periods of glaciation which, along with a weak fluvial incision, has produced a generally low-lying, undulose or wave-like terrain. Hills of granitic rocks and eskers rise about 15m above datum. The percentage of outcrop averages from about 1%-15%, although locally there are small areas with much higher percentages of outcrop. Frost-heave and/or shattered subcrop also occurs. Flat to undulose muskeg, with or without scattered boulder fields, is separated by treed areas and low hills. In areas of no outcrop, till cover averages from a few centimetres to tens of metres. Glaciation has also produced scattered glaciofluvial landforms such as eskers, braided esker complexes and deltas, outwash plains, boulder fields and alluvial fans.

Approximately 20% of the property is covered by lakes. River systems are juvenile and not deeply incised, however the Yellowknife River occurs to the east of the property. Water levels vary greatly with the season; they are highest during spring runoff and almost dry at the end of summer. Typical muskeg/ northern boreal forest vegetation comprised of black spruce, tamarack, pine, birch, aspen willow, labrador tea, bearberry, lichen and moss is present.

Caribou, wolves, foxes, rabbit, moose, ptarmigan, wolverines, ground squirrels and black bears are native to the area. Most of the larger lakes contain fish and support bird life.

The terrain in the Discovery Lake area where the Mon Gold Mine Project and camp are located is rugged tundra with little topsoil, low-lying shrubs and a large percentage of exposed supracrustal rocks. The area contains hundreds of small, shallow, glacially-formed lakes. The Yellowknife River flows from the north, to the east of our project area and into Great Slave Lake.

Northern Pike and Lake Trout are the most common fish species found in proximal lakes. Other species included grayling and lake whitefish. Most lakes exhibited a well-defined littoral shelf, comprised of large boulder and/or cobble substrates; beyond this shelf, there is a dramatic drop into the pelagic zone.

Rock Geochemistry

Rock samples for environmental geochemistry have been collected sporadically over the past 31 years.

Sample	Date	Results
Ore	October 16, 1989	Lakefield Research Laboratory reports: Sample MLR-115 ore grades 12.5 gpt Au by assay with 99.5% recovery by gravity and cyanidation
Tailings	October 26, 1989	Lakefield Research Laboratory reports: Sample MLR-117 tailings grades 0.1 gpt Au, 0.023% Cu, <0.001% Pb, 0.014% Zn
Ore	December 5, 1989	Lakefield Research Laboratory reports: Sample MLR-120 ore recovery by flotation. Feed grades 9.48 gpt Au. Concentrate grades 47.7 gpt Au, 0.33% Cu, 6.01% Pb, 3.77% Zn, 0.36% As, <0.002% Sb, 0.00013% Hg
Waste	May 8, 1992	Chemex Environmental Services reports; 6 week humidity cell study "As is evident from the ABA data, the waste rock is basic and there is virtually no potential acidity as evidenced from the low sulphur content" pH ranged from 7.3 to 7.6 Sulphur 0.034%, NP 131 kg CaCO3/t Maximum values of As 0.05, Cd <0.01, Co 0.04, Cu 0.01, Fe <0.2, Mo 0.01, Ni 0.10, Pb 0.05, Zn <0.01 (all mg/L) in leachate
Tailings	September 5, 2012	Systematic sampling of the tailings containment facility determined it to hold 10,000 tonnes +/- at an average grade of 3.37 gpt Au. It is amenable to flotation concentration recovering 86.4% of the Au without pre-treatment. Average content is S 0.43%, Cu 0.11%, Zn 0.25% Fe 6.56%

Recent work by the proponent is included in the Appendixes and included:

Sample	Date	Results
Ore and Tailings	February 11, 2014	Inspectorate Exploration and Mining Services reports; Composite sample for assay, gravity, flotation, cyanidation, ABA and SWEP tests. Head grades 122.56 gpt Au, 24.6 gpt Ag, 1.40% S, Sb <5 ppm, As 81 ppm, Cd 5.7 ppm, Co 19 ppm, Cu 134 ppm, Pb 0.23%, Zn 0.13%. Flotation Tails Grades Au 1,26 ppm, Sb 6.0 ppm, As 13.0 ppm, Cd <0.5 ppm, Co 7.0 ppm, Cu 90.0 ppm, Pb 0.02%, Zn 0.01%

		Flotation Tails; 0.21% total S, 0.05% Sulphate S, pH 7.6, AP 5.0 kg CaCO3/t, NP 9.9 kg CaCO3/t, NP/AP 2.0. Waste rock; 0.13% total S, <0.01% Sulphate S, pH 9.6, AP 4.1 kg CaCO3/t, NP 11.0 kg CaCO3/t, NP/AP 2.7 SWEP and Modified SWEP tests on the flotation tails were generally all at or below detection limits for all deleterious elements.
Soils	August 21, 2015	Two mineral soil samples were collected at the DST site and shown to have elevated Cu 121.7 ppm, Zn 167 ppm, Co 17.7 ppm, Fe 3.36%, As 21.1 ppm, and Hg 0.03 ppm relative to tailings samples.

Water Geochemistry

Water samples for environmental geochemistry have been collected sporadically over the past 21 years, largely as part of previous SNP sites.

SNP	Date	Results
1598-2 Mine effluent	October 20, 2000	DIAND sample: pH 7.64 Ammonia 1.99 mg/L Tot As 7 ug/L Tot Cd 4.4 ug/L Tot Co 10 ug/L Tot Cu 18 ug/L Tot Fe 0.59 mg/L Tot Pb 69 ug/L Tot Zn 315 ug/L
1598-1 Mine effluent	October 20, 2000	DIAND sample: pH 7.46 Ammonia 0.011 mg/L Tot As <1 ug/L Tot Cd 0.7 ug/L Tot Co <1 ug/L Tot Cu <2 ug/L Tot Fe 0.63 mg/L Tot Pb <1 ug/L Tot Zn <10 ug/L
1598-3 Mine effluent	October 20, 2000	DIAND sample: pH 8.02 Ammonia 1.15 mg/L Tot As 19 ug/L Tot Cd 0.5 ug/L Tot Co 8 ug/L Tot Cu 16 ug/L Tot Fe 0.94 mg/L Tot Pb 5 ug/L Tot Zn 41 ug/L
1598-5	October 20, 2000	DIAND sample: pH 7.36

Mine effluent		Ammonia 0.009 mg/L Tot As 19 ug/L Tot Cd 0.5 ug/L Tot Co <1 ug/L Tot Cu 7 ug/L Tot Fe 0.32 mg/L Tot Pb <1 ug/L Tot Zn 34 ug/L
1598-7 Mine effluent	October 20, 2000	DIAND sample: pH 7.48 Ammonia 0.010 mg/L Tot As 8 ug/L Tot Cd 0.8 ug/L Tot Co <1 ug/L Tot Cu 5 ug/L Tot Fe 0.20 mg/L Tot Pb 2 ug/L Tot Zn 105 ug/L
2 (S. portal)	July 13, 2001	Ger-Mac Sample: pH 7.3 Ammonia 1.75 mg/L Tot As 0.04 mg/L Cu 0.05 mg/L Pb 0.50 mg/L Zn 0.51 mg/L
3 (C. portal)	July 13, 2001	Ger-Mac Sample: pH 7.0 Ammonia 0.80 mg/L Tot As 0.01 mg/L Cu 0.05 mg/L Pb 0.01 mg/L Zn 0.05 mg/L
5 Rock Pile	July 13, 2001	Ger-Mac Sample: pH 6.8 Ammonia 0.02 mg/L Tot As 0.04 mg/L Cu 0.02 mg/L Pb <0.01 mg/L Zn 0.05 mg/L
7 Mill	July 13, 2001	Ger-Mac Sample: pH 6.8 Ammonia 0.01 mg/L Tot As 0.01 mg/L Cu 0.01 mg/L Pb 0.01 mg/L Zn 0.07 mg/L
8 Tailings	July 13, 2001	Ger-Mac Sample: pH 6.6 Ammonia 0.01 mg/L Tot As 0.01 mg/L

		Cu 0.04 mg/L Pb 0.01 mg/L Zn 0.04 mg/L
8 Tailings	July 13, 2001	Ger-Mac Sample: pH 6.6 Ammonia 0.03 mg/L Tot As 0.01 mg/L Cu 0.04 mg/L Pb 0.01 mg/L Zn 0.03 mg/L
1598-1	September 26, 2003	DIAND sample: pH 7.52 Ammonia 0.024 mg/L Tot As <1 ug/L Tot Cd 0.1 ug/L Tot Co 0.2 ug/L Tot Cu 5.9 ug/L Tot Fe 0.134 mg/L Tot Pb 1.4 ug/L Tot Zn 12 ug/L
1598-5 waste water	September 26, 2003	DIAND sample: pH 7.65 Ammonia 0.005 mg/L Tot As 19 ug/L Tot Cd 0.3 ug/L Tot Co 1.1 ug/L Tot Cu 8.3 ug/L Tot Fe 0.145 mg/L Tot Pb 2.1 ug/L Tot Zn 68 ug/L
1598-8 waste water	September 26, 2003	DIAND sample: pH 6.71 Ammonia 0.005 mg/L Tot As 12 ug/L Tot Cd 0.3 ug/L Tot Co 4.5 ug/L Tot Cu 5.4 ug/L Tot Fe 1.139 mg/L Tot Pb 5.0 ug/L Tot Zn 43 ug/L
Tank Farm arm a	September 26, 2003	DIAND sample: Benzene <0.005 mg/kg Ethylbenzene <0.005 mg/kg Total Extractable Hydrocarbons 5512 mg/kg Total Purgeable Hydrocarbons 1.34 mg/kg m/p-xylene <0.005 mg/kg 0-xylene <0.005 mg/kg Toluene <0.005 mg/kg

Tank Farm arm b	September 26, 2003	DIAND sample: Benzene <0.005 mg/kg Ethylbenzene <0.005 mg/kg Total Extractable Hydrocarbons 694 mg/kg Total Purgeable Hydrocarbons 0.541 mg/kg m/p-xylene <0.005 mg/kg 0-xylene <0.005 mg/kg Toluene <0.005 mg/kg
Ball Mill	September 26, 2003	DIAND sample: Benzene <0.005 mg/kg Ethylbenzene <0.005 mg/kg Total Extractable Hydrocarbons 159 mg/kg Total Purgeable Hydrocarbons <0.005 mg/kg m/p-xylene <0.005 mg/kg 0-xylene <0.005 mg/kg Toluene <0.005 mg/kg
Ball Mill below	September 26, 2003	DIAND sample: Benzene <0.005 mg/kg Ethylbenzene <0.005 mg/kg Total Extractable Hydrocarbons 2796 mg/kg Total Purgeable Hydrocarbons 0.072 mg/kg m/p-xylene <0.005 mg/kg 0-xylene <0.005 mg/kg Toluene <0.005 mg/kg
Discovery Lake	June 6, 2005	DIAND sample: pH 7.45 Ammonia 0.006 mg/L Tot As 1.1 ug/L Tot Cd <0.1 ug/L Tot Co 0.1 ug/L Tot Cu 1.6 ug/L Tot Fe 0.231 mg/L Tot Pb 0.5 ug/L Tot Zn <10 ug/L
1598-5	June 6, 2005	DIAND sample: pH 6.62 Ammonia 0.010 mg/L Tot As 4.4 ug/L Tot Cd 0.1 ug/L Tot Co 1.8 ug/L Tot Cu 36.8 ug/L Tot Fe 0.423 mg/L Tot Pb 1.0 ug/L Tot Zn 42 ug/L
Mon Tank Farm	June 6, 2005	DIAND sample: Benzene <0.05 mg/kg Ethylbenzene 0.10 mg/kg Total Extractable Hydrocarbons 338 mg/kg Total Purgeable Hydrocarbons 16.1 mg/kg m/p-xylene <0.05 mg/kg

		0-xylene 0.38 mg/kg Toluene 0.14 mg/kg
1598-5 Waste water	July 4, 2008	DIAND sample: pH 6.69 Ammonia <0.005 mg/L Tot As 8.2 ug/L Tot Cd 0.4 ug/L Tot Co 3.9 ug/L Tot Cu 58.1 ug/L Tot Fe 0.623 mg/L Tot Pb 1.9 ug/L Tot Zn 35 ug/L
Discovery Lake	July 4, 2008	DIAND sample: pH 7.87 Ammonia 0.005 mg/L Tot As 1.1 ug/L Tot Cd 0.2 ug/L Tot Co <0.1 ug/L Tot Cu 1.2 ug/L Tot Fe 0.071 mg/L Tot Pb 0.3 ug/L Tot Zn <5 ug/L
1598-5	September 18, 2009	DIAND sample: pH 6.71 Ammonia 0.01 mg/L Tot As 12.8 ug/L Tot Cd 0.2 ug/L Tot Co 12.8 ug/L Tot Cu 27.4 ug/L Tot Fe 1.300 mg/L Tot Pb 2.6 ug/L Tot Zn 21 ug/L
SNP 03 near DST	April 2020	MV2015L2-0004 pH 5.93 Ammonia 0.072 mg/L Tot As 4.18 ug/L Tot Cd 0.362 ug/L Tot Co 0.26 ug/L Tot Cu 7.28 ug/L Tot Fe 0.603 mg/L Tot Pb 0.23 ug/L Tot Zn 5.5 ug/L
SNP 04 Discovery Lake	April 2020	MV2014L2-0002 pH 7.85 Ammonia 0.022 mg/L Tot As 1.04 ug/L Tot Cd <0.010 ug/L Tot Co <0.20 ug/L Tot Cu 0.79 ug/L Tot Fe 0.010 mg/L

		Tot Pb <0.20 ug/L Tot Zn <5.0 ug/L
SNP 02 1598-5	April 2020	MV2014L2-0002 pH 6.97 Ammonia 0.054 mg/L Tot As 11.1 ug/L Tot Cd 0.102 ug/L Tot Co 0.35 ug/L Tot Cu 33.2 ug/L Tot Fe 0.584 mg/L Tot Pb 0.85 ug/L Tot Zn 15.3 ug/L

Additional water samples will be collected at all of the SNP sites identified in MV2020L2-0002 in addition to any pooling observed in and around the operations. These will be analyzed for the same parameters as used for the waste rock drainages or as specified by licenses.

Conclusion from Existing Site Data

It should be noted in the above test work that gravity and flotation concentrates are valuable products removed from the property for recovery of precious metals. Gravity tails is an intermediate product that is further processed by flotation for final metals recovery. Only flotation tails are a waste product to be delivered with 15% entrained water to the DST.

There has been reference to an exploration target several km away that may be the subject of a drill program. This volcanogenic massive sulphide target is likely AG, however where found, it is capped by several meters of a carbonate unit (acid consuming). No work is currently planned on this target.

Acid generating capacity of rocks uses field and laboratory studies to assess the estimated sulfur content as well as the carbonate content. Low-sulfide rocks with a strong “fizz” test reaction are typically non-acid generating (“NAG”). High-sulfide rocks with no-fizz test are considered acid generating (“AG”) with those in between being considered potentially acid generating (“PAG”) or uncertain. Laboratory determination of the total and sulphate sulfur to estimate a rocks acid potential (“AP”) and the neutralizing potential of the rock (expressed as kg CaCO3/tonne) to estimate a rocks neutralizing potential (“NP”) assist in this classification.

A rock can be classified as AG, PAG, or NAG by estimating a rocks net neutralizing potential (NP-AP) or a ratio of NP/AP. Generally, a NP/AP of 3 or greater is associated with very low risk to generate acid whereas ratios of 1 or less are likely to generate acid. Ratios in between are less certain. There are several caveats as with all testing as sulphate sulfur may not contribute to acid generation, and alkaline minerals may contribute to neutralizing potential.

Under standard definitions, and looking at 1) testing to date, as well as 2) field testing of drainages it would seem that the waste rock (NNP 2.7 and 4.1) and flotation tails (NNP 2.0) would be characterized as NAG or PAG. However, given that the total sulfur is low to very low in the waste rocks these would not generate acid in any substantial amount. The flotation tails should be monitored closely. Recent SWEP tests and modified SWEP test show low to very low metals in the leachate. Further testing is recommended.

Based upon findings to date, collected during a period of more intensive activity in the 1980's and 1990's, it can be predicted that proposed advanced exploration activities at the Mon Gold Mine projects have low potential of adverse environmental effects attributable to camp and drill waste, particularly given the existing Spill Contingency Plan, and Closure and Reclamation Plan, and corporate commitment to staff and contractor training. Continuous reclamation of historic refuse piles improves the over all waste management of the site. There is a potential for some of the existing sites to be marginally acidic, specifically the historic tailings on site, and this should continue to be monitored. The current plan to produce a flotation concentrate and ship off-site for further processing will mitigate this.

The most acid waters are well north and upstream of any activities, within an area selected for the DST. This is likely due to the organic acids present in the swamp. This is discussed further under "Dry Stack Storage"

WASTE TYPES - CAMP

Waste types at the Mon Gold Mine camp and mine are described herein. All waste products must be handled and stored according to this Waste Management Plan. Deviations from this will not be acceptable unless approved in writing by a GNWT inspector or the MVLWB.

Camp statistics: Expected period of operation = Year round.

Maximum camp population = 12 persons
Footprint of camp compound = 50m wide x 100m long
Locations of waste generation:

i. *Toilets* (sewage); *kitchen/dry tent* (greywater, household garbage, recyclables such as cardboard, packing, tins and other containers);

ii. *generator shed:* (waste oil and fuel, waste solids [filters, absorbents, rags], auto or marine battery);

iii. *office* (household garbage, small batteries, recyclables such as paper, cardboard, cartridges and other office waste, *helipad* (waste oil and fuel, waste solids);

iv. *fuel storage berm,* 100m S of camp compound (waste would be generated here if fuel transfer were to occur here. Otherwise, separate area of berm would be assigned for any drummed fuel waste generated elsewhere but not stored in the camp compound);

v. Mine, rock waste, to be used or disposed in the areas marked on Map 1 (Figure 1)

vi. Mine, rock not waste, to be stored in the areas marked on Map 1 (Figure 1). This will be processed in the Mill shown on Map 1 (Figure 1).

vii. Mine water, to be stored in an underground sump to clarify and remove oils, and then discharged into a holding tank on surface for use in mill. This will be skimmed of visible oils using absorbent pads prior to final discharge into a low area >100 m from any stream when the mill is not operating. All discharge concentrations and physical parameters shall

be consistent with any specifications in the active Water Licenses (Specifically Part G, conditions 8, 9, 10, 11, MV2014L2-0002).

viii. Mill products will be flown out in the case of dore products, trucked out by winter road in the case of flotation concentrates, and stored as dry stack tailings as shown on Map 1 (Figure 1). Water recovered from the filtration system will be recycled and water entrained in the flotation and dry tailings will need to be made up

Water usage resulting in greywater volume < 3m3 per day maximum when camp is at full occupancy

Waste types at Mon Gold Mine Camp will be as follows:

GREYWATER

Greywater/wash water from kitchen, dry

- Exit kitchen pipe fitted with grease trap;
- Environmentally-benign wash products and cleaners to lessen impact of greywater to fill material on which camp is sited;
- Collection of greywater in three-stage bioreactor;
- Batch discharge of bioreactor from final tank to low area as marked on Map 1 (Figure 1);
- Monitoring of bioreactor on a daily basis by camp staff;
- Focus on conservation of water is made during orientation and as a periodic topic during weekly camp environmental/health/safety meetings;

Bioreactor

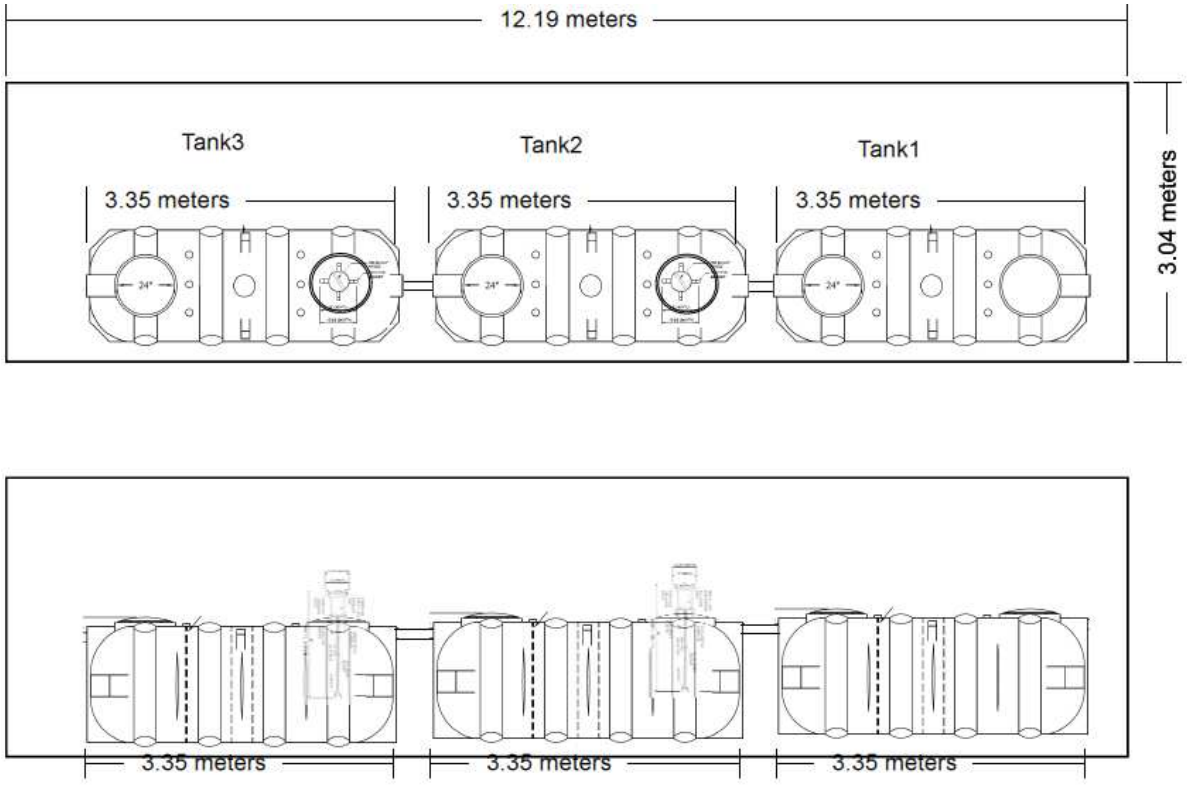
- Discharge distance from lakeshore: approx. 200m;
- Bioreactor pipes outfall to a natural depression area in the fill base on which the camp is sited; outfall is to a natural depression east of the bioreactor container;
- Greywater volume when camp at 12 persons < 3m3 per day maximum;

How bioreactor functions:

- Effluent (greywater and sewage) is comminuted in a 500 litre tank via a grinding pump transferring to the first tank;
- First tank holds and initiates biological digestion of organic material and decanting of inorganic material prior to discharge into second tank and then again into the third tank.
- All sludge is held in the first two tanks.
- Aeration of the third tank will promote aerobic bacteria and reduce anaerobic bacterial loads. If warranted, aeration of the second tank can be initiated.
- Total retention will average 7 to 10 days
- Effluent will be clear with TSS <120 mg/L at tank outlet.
- Effluent outfalls to a swamp depression and percolates through the boulder and cobble fill;
- Sump flow: Very gentle gradient, with flow in a east direction which follows the orientation of the fill base and camp (see *Map 1, Figure 1*);
- Natural permafrost is below the thick layer of fill on which camp is sited;
- Sludge removal will be contracted to a licensed operator, anticipated to be on an annual basis or less.

The potential environmental effects can be predicted to be minimal to non-detectible based on:

(a) distance from lakeshore;
(b) no direct impact with native soils or vegetation;
(c) excellent filtering nature of coarse fill base, which directs any flow not absorbed away from ground N of camp;
(d) use of environmentally-benign washing/cleaning products; and
(e) monitoring of bioreactor discharge;



Insulated and vented 40' secan with three Canwest RKS1000/2 two chamber septic tanks.
Tank 1 anerobic, tank 2 and 3 aerobic with Flagg-air 340HT aerators.

Figure 2. Configuration of Sewage and greywater bioreactor.

A three-tank containerized and insulated bioreactor will operate the initial tank as an anaerobic digester, retaining all solids for decomposition and settling. Tanks 2 and 3 will operate aerobically using two Flagg 340HT or equivalent aerators to reduce coliform bacteria and ammonium levels. Discharge will be into a dry vegetated area >200 m from any body of water.

The bioreactor will be monitored daily and examined monthly by a registered Professional Engineer. Sampling from a SNP site will be submitted for analysis to confirm its efficiency.

Effluent Quality Criteria

It is understood that the effluent for discharge will be elevated in BOD and coliform bacteria, and potentially natural food biodegradable grease and oils. These should be reduced within the bioreactor, but will be similar to all municipal discharge levels. The monitoring trench down grade from the discharge area will meet all-natural water criteria.

The NDM Bioreactor is a modified version of the bioreactor used by Tyhee at the Discovery Mines Site which met all requirements under that license. Specifically when measured after 100m of swamp, Tyhee's treatment was:

Table 1. Discharge EQC from Tyhee's Bioreactor 100 m away.

	SNP STATION 17-1 Round Lake near inflow from camp sewage disposal system drainage. **								
Parameters									
Sample Date	*Mar. 03*	*Apr. 21/26**	*May 17*	*June 14*	*July 14*	*Aug. 11*	*Sept. 15*	*Oct. 18*	*Nov. 24*
Physical Tests									
pH	7.9	7.9	7.7	7.9	7.7	7.3	7.5	7.8	7.6
Total Suspended Solids (mg/l)	<3	<3	6	<3	<3	<3	<3	<3	201
Total Dissolved Solids (mg/L)	1040	1070	330	400	390	420	390	460	481
Ammonia-Nitrogen	2.42	2.95	0.47	<0.05	<0.05	<0.05	0.09	0.25	0.19
Conductivity	1330	1320	369	541	509	552	567	602	679
Bacteriological Tests									
Coliform Bacteria – Fecal (Cfu/100ml)		<1	<1	<1	1	<1	<1	<1	<1
Organic Parameters									
BOD-5 (mg/l)	2	7/4*	3	3	2	<2	<2	<2	<2

Notes:

***** This station description has been changed as per the MVLWB letter dated July 13, 2005.***

Whereas the discharge from the bioreactor end-tank was:

Table 2. Discharge EQC from Tyhee's Bioreator

	SNP STATION 17-7 Effluent Discharge Point from Septic Tank							
Parameters								
Sample Date	*May*	*June*	*July 26*	*Aug.26*	*Sept.23*	*Oct. 28*	*Nov**	*Dec.02**
Physical Tests								
pH			7.7	7.6	7.2	7.6		7.0
Total Suspended Solids (mg/l)			147	106	120	106		122
Total Dissolved Solids (mg/L)			890	850	690	720		340
Ammonia –Nitrogen (mg/L)			115	84.5	63.4	64.7		32.1
Conductivity (uS/cm)			1310	1270	1150	1150		509
Bacteriological Tests								
Coliform Bacteria – Fecal (Cfu/100ml)			5700000	1500000	20000000	77000		>800
Organic Parameters								
BOD-5 (mg/l)			507	504	805	692		484

Note: * denotes sample was intended to be taken in November, but due to plane availability, December 2nd was the closest date. Also, the camp was on care and maintenance for most of December.

NDM's license sets standards that will require percolation through the swamp that forms an integral part of the treatment of the sewage as is standard for other treatment operations throughout the NWT.

Parameter	Maximum Average Concentration
$CBOD_5$	25 mg/L
TSS	25 mg/L
Un-ionized Ammonia	1.25 mg/L
Fecal Coliform	1000 CFU/100 mL
Oil and Grease	5.0 mg/L

Samples will be collected at the tank and in the swamp down stream of the discharge point for presentation to the inspector and board.

WASTE LIQUIDS AND SOLIDS

Class 9 waste *UN 3082* (hazardous substance – liquid) and *UN 3077* (hazardous substance – solid)

Liquids

Mainly comprised of waste oils/lubricants and waste fuels collected from camp (generator, pumps, incinerator, tent refuelling) and from generation points away from camp compound and transported to camp for temporary storage/preparation and labelling prior to out shipment (helicopter, drillsite, Twin Otter refuelling).

Solids
Mainly comprised of heavy waste greases, used absorbents, used oil filters and rags collected from camp (generator, pumps, incinerator, camp refuelling and fuel-berm maintenance) and from generation points away from camp compound and transported to camp for temporary storage/preparation and labelling prior to out shipment (helicopter, drillsite).

Volume per season: 2-3 205L sealed drums - waste liquid; 2 205L sealed drums - waste solids

Fate of final products: Disposal will be to a license shipper/ receiver in Yellowknife, accompanied by GNWT Waste Movement Document (form);

OTHER WASTE

Fuel Containers

Empty fuel drums (205L size) and propane cylinders (45kg size)

- Sent out on backhauls
- Returnables – drums may be returned for deposit, propane cylinders may be refilled at propane depot in Yellowknife, if the tank has not expired;

Metal Scrap

Minor amounts of wire and nails, to an approved recycler; major percentage from mining or drilling rather than camp operations

- Sent out on backhauls, as scrap accumulates; est. out shipment = 500kg per season;
- Returnables – drill steel sent back to drill contractor; disposables – other steel scrap accepted by approved recycler.

Batteries

Small (AA, AAA, C, D) = approx. 48 per year; two or three auto or marine lead-acid battery for generator in resistant sleeve or holder;
Disposables sent to designated area of Yellowknife landfill; occasional auto or marine battery will be disposed to and accepted by Yellowknife Landfill OR recycled.

Miscellaneous Chemicals

All products stored in their original containers, in secondary containment tubs or on lined storage shelves; camp staff trained in proper use, including wearing of PPE supplied for program

- Minor amounts of gas-line antifreeze for skidoos = small containers totaling approx. 5L;
- anticipated drillsite volume of containerized antifreeze approx. 10L per program;
- Minor amounts of cleaners, solvents = small containers totaling approx. 10L per program;
- Oils and fluids from other vehicles shall be recovered in the appropriate containers and shipped off site to an approved disposal facility.
- Disposed to hazardous substances – solid (UN 3077) drums or pails;
- Disposal of sealed waste solids drum by out shipment to approved shipper/receiver.
- Household-strength and non-regulated products disposed to Yellowknife Landfill designated area for household waste;

Wood Waste

UNTREATED WOOD WASTE

Trees, brush (untreated)

- All brush and trees cut or knocked down will be delimbed or cut so as to lie flat and will be piled and burned or used as needed

Construction scrap – lumber and timbers (untreated)

- Recyclable on site (stacked and stored) or unusable clean scrap wood out shipped to Yellowknife Landfill designated area; scrap may be burned;
- Recyclable on site (stacked and stored for future use on fill area), recyclable to another project or, if unusable, out shipped to an approved shipper/receiver for proper disposal or potential recycling;

Construction scrap – lumber and timbers (untreated)

- Recyclable on site (stacked and stored) or burned

TREATED WOOD WASTE

NO PRESSURE TREATED WOOD WILL BE PERMITTED ONTO THE PROPERTY

- All treated wood (varnished, painted, stained) that may be found on the property will be stored on site for transport to an approved waste disposal facility.

Kitchen and Dry Waste

Cooking and food waste (70% of total) + cardboard and packaging waste (10%) + containers (glass, plastic, tin or aluminum containers and aerosol cans (20%)

- Store in a secure location.
- cardboard and packing waste:
- non-burnable clean packaging, such as plastic and Styrofoam: Recyclables, sent out to a Yellowknife recycling depot;
- punctured aerosol cans: Collected in a bin in kitchen and dry and sent out to an approved disposal site;
- Recyclables sent to a Yellowknife recycling depot;
- non-recyclables sent to Yellowknife Landfill designated area for containers by type;

Office Waste

Cardboard and paper waste (80% of total) + cartridges (printer, plotter) (4.5%) + household garbage (15%)

- cardboard and paper waste: cardboard may be burned;
- excess cardboard sent out with recyclables; paper recycled, then incinerated when past its use;
- Returnable materials sent back to manufacturer;

Mill Waste

The purpose and scope of New Discovery Mines Ltd.'s Mill Waste Management Plan is to identify and manage waste resulting from the processing of ores from the property that will introduce waste products into the environment.

The goal of the Mill Waste Management Plan is to mitigate environmental effects of New Discovery Mines Ltd.'s milling activities and locations on land, vegetation, water, air, wildlife and fish, which have both intrinsic value to the ecosystem and sociocultural and aesthetic values to a variety of land-users.

The objectives of this Mill Waste Management Plan are to operate in such a way as to reduce/reuse and recycle where possible, and to handle and dispose of waste so as to obviate or minimize impact to environment, offer local employment and use local services as best complements the exploration program, to operate in compliance with governing authorizations and legislation, and to strive for continuous improvement in environmental management, which is a core objective of all environmental programs.

Mill Operations

New Discovery Mines Ltd. Will operate under MV2020C003 and MV2020L2-0002 from the MVLWB. A range of exploration activities, including prospecting, surficial rock sampling, underground bulk sampling, drilling and operation of seasonal tent camps are currently authorized. Additionally, processing of ores in an approved facility and the discharge of waste will occur as contemplated in in these licenses and permits as waste waters and waste solids. Dore gold (impure gold bars) and gold-bearing flotation concentrate will be produced.

Processing of the ores recovered from the permitted operations will:

- recycle the maximum amount of water possible,
- ship all concentrates off property to facilities approved for further processing
- produce non-acid generating solids waste products that meet or exceed all guidelines for tailings disposal,
- store these solids in a constrained and monitored environment.
- Discharge no liquids except as already permitted.

Proposed Location of Mill Waste-Management Activities

Mill Waste-management activities will occur within New Discovery Mines Ltd.'s Mon Gold Mine project, which are depicted in *Map 1* (Figure 1) and MapCInfrastructureA.pdf. Specific waste-management locations at the Mon Gold Mill will be as filtered flotation tailings solids. Approximately 10 to 15% of the mass of solids tails will be as entrained water.

Waste products;

a. Water tank.
b. Dry stack storage facility

Are stored at locations shown on the map in MapCInfrastructureA.pdf. as tailings in a Dry Stack and water in a water tank. All spills and accidental discharges will be directed to the water tank. This is designed to be used to hold water for milling operations and no discharge from this tank is planned or expected. No other discharges will occur.

Dry Stack Storage

The DST will be established as site on MapInfrastrucureA.pdf. The plan and siting will be as shown on plans EBA DST Option.pdf.

The DST facility will be in a natural basin 90,000 m^2 in size bound at elevation 240 m amsl with a base of 232 m amsl, open to the west. The basin is sited on Archean granitoid, volcanic and sedimentary rocks, overlain by minor sand and gravel, clays, peat, and northern vegetation. A portion of this basin will be prepared prior to construction by excavating the vegetation and topsoil which will be stored nearby. Approximately 1,500 m^3 of vegetation and topsoil will be removed and stored proximal to the site. This material will be used as general cover material on reclamation. All drainage is downslope to the west where two monitoring stations will be prepared, SNP 02 and SNP 03.

NDM agrees to comply with all regulations and license requirements including EQC standards therein.

The filtered flotation tailings with the composition as shown in Table 3 and Table 4 will be deposited on the prepares site composed of clays, sands and gravels composed primarily of Archean granitoid, metasedimentary and metavolcanic clasts. Five metre lifts of tailings will be emplaced with a maximum slope of 1:1.5 during emplacement and 1:2 during resting. With an ultimate footprint of 8,500 m^2 it will take 42,000 tonnes of tailings to cover this to 5 meters high.

Monitoring

Dry stack tailing storage will be monitored daily during operations. SNP 02 samples will be collected from water at the toe of the stack, and at a downhill drainage point to the west to be constructed as a trench to collect drainage from the basin holding the dry stack SNP 03 as located on MapCInfrastructureA.pdf. As these sites have not been established, specific sites will be posted once they are established in compliance with license requirements. Currently SNP #3 samples waters leaving the DST area. Waters drain into a long boggy area west of the mine site, draining into a small lake immediately west of Discovery Lake before draining into Discovery Lake at UTM NAD83 Z. 11 635,950 mE, 6,976,570 mN.

All SNP samples will be collected as required and after major storm events and will meet license requirements. Exceedances will require notification to the board and inspector and will require immediate remedial action. In such a situation, the contingency plan will be to;

1. All subsequent placements on the DST will be halted.
2. Parameters outside of the license requirements will be investigated and a plan to rectify this will be proposed to the board and inspector.
3. If acceptable, the plan will be immediately implemented.

An example of this contingency action might be low pH, and a proposed solution might be a) addition of lime, b) addition of organic material to the DST (reduce oxidation) or c) amendment to the mining plan.

It should be noted that baseline samples collected from SNP 03 in April 2020 prior to any activities has reported a pH 5.93. This suggests that maintaining a pH between 6 and 9.5 may be harmful to the natural environment. Samples should be collected in 2021 prior to the establishment of the DST facility to confirm this, and this is indeed the natural water chemistry from this area it is suggested that the EQC parameters be adjusted to reflect this.

Geotechnical studies will be conducted annually once the DST is constructed to confirm mechanical stability in addition to the chemical stability defined by the SNP sampling.

Additional background soils will be collected to establish natural soil chemistries. SNP sampling will be conducted monthly during operations and quarterly when no tailings are being produced or as required by permit and license.

The stack will be graded as needed to maintain a maximum 1 in 3 long term slopes and 1 in 2 short term slopes. At closure a layer of stabilizing NAG muck may be added as needed, to be capped with the local topsoil from storage.

Mill Flotation Tailings

Test work from material collected recently as well as nearly a quarter century of sampling of existing tailings on site are presented. Test work on flotation tails by Inspectorate Exploration and Mining Services (2014) has shown that the flotation tailings are shown below:

Table 3. ICP analysis of flotation tailings.

ICP-MS Analysis on Flotation Tails

Element		Unit	Assays Comp 1	Element		Unit	Assays Comp 1
Aluminum	Al	%	1.05	Manganese	Mn	ppm	197
Antimony	Sb	ppm	6.0	Molybdenum	Mo	ppm	7.0
Arsenic	As	ppm	13.0	Nickel	Ni	ppm	189.0
Barium	Ba	ppm	75.0	Phosphorus	P	ppm	68.0
Bismuth	Bi	ppm	<2	Potassium	K	%	0.30
Cadmium	Cd	ppm	<0.5	Scandium	Sc	ppm	3.0
Calcium	Ca	ppm	0.76	Sodium	Na	%	0.34
Chromium	Cr	ppm	357.0	Strontium	Sr	ppm	28.0
Cobalt	Co	ppm	7.0	Titanium	Ti	%	0.1
Copper	Cu	ppm	90.0	Thallium	Tl	ppm	<10
Iron	Fe	ppm	1.37	Tungsten	W	ppm	12.0
Lanthanum	La	ppm	<10	Vanadium	V	ppm	46.0
Lead	Pb	ppm	216	Zinc	Zn	ppm	98
Magnesium	Mg	%	0.70	Zirconium	Zr	ppm	7.0

Table 4. Whole rock analysis of flotation tailings.

Whole Rock Analysis on Flotation Tails

Compound	Unit	Assays Comp 1	Compound	Unit	Assays Comp 1
Al_2O_3	%	2.08	MnO	%	0.03
BaO	%	0.01	Na_2O	%	0.71
CaO	%	1.04	P_2O_5	%	0.01
Cr_2O_3	%	0.05	SiO_2	%	88.25
Fe_2O_3	%	2.05	TiO_2	%	0.15
K_2O	%	0.38	LOI	%	0.80
MgO	%	1.07	Total	%	96.56

In addition, SWEP and Modified SWEP tests on both gravity tailings (GC1 residue) as well as flotation tailings (F1 flotation tailings) are shown below:

Table 5. SWEP test flotation tailings leachate analysis.

SWEP Test Leachate Analysis

Items	Unit	Sample ID				Method
		SWEP-01 Leachate (GC 1 Residue)	SWEP-02 Leachate (F1 Flotation Tails)	Modified SWEP-01 Leachate (GC 1 Residue)	Modified SWEP-02 Leachate (F1 Flotation Tails)	
pH		5.11	5.16	8.04	8.24	Env
Dissolved						
Ag	mg/L	<0.00006	<0.00006	<0.00006	<0.00006	ICPMS
Al	mg/L	0.07	0.08	0.04	<0.04	ICPMS
As	mg/L	<0.05	<0.05	<0.05	<0.05	ICPMS
B	mg/L	<0.01	<0.01	<0.01	<0.01	ICPMS
Ba	mg/L	0.198	0.079	0.018	0.008	ICPMS
Be	mg/L	<0.005	<0.005	<0.005	<0.005	ICPMS
Bi	mg/L	<0.001	<0.001	<0.001	<0.001	ICPMS
Ca	mg/L	98.54	78.84	18.81	11.12	ICPMS
Cd	mg/L	0.00518	0.00457	<0.00009	<0.00009	ICPMS
Co	mg/L	0.020	0.006	<0.001	<0.001	ICPMS
Cr	mg/L	<0.01	<0.01	0.01	<0.01	ICPMS
Cu	mg/L	<0.01	0.75	<0.01	0.01	ICPMS
Fe	mg/L	0.54	0.91	<0.03	<0.03	ICPMS
Hg	mg/L	<0.0001	0.0003	0.0002	0.0001	ICPMS
K	mg/L	<2	2	<2	<2	ICPMS
Li	mg/L	<0.007	<0.007	<0.007	<0.007	ICPMS
Mg	mg/L	9.2	7.7	0.6	0.7	ICPMS
Mn	mg/L	1.562	1.428	0.049	0.016	ICPMS
Mo	mg/L	<0.02	<0.02	<0.02	<0.02	ICPMS
Na	mg/L	2	<2	2.00	<2	ICPMS
Ni	mg/L	0.05	0.05	<0.03	<0.03	ICPMS
Pb	mg/L	3.71	0.42	<0.07	<0.07	ICPMS
Sb	mg/L	0.0003	0.0013	0.0005	0.0004	ICPMS
Se	mg/L	<0.002	<0.002	0.020	0.005	ICPMS
Sc	mg/L	0.001	0.001	0.001	0.001	ICPMS
Si	mg/L	1.07	1.01	0.26	0.46	ICPMS
Sn	mg/L	<0.002	<0.002	<0.002	<0.002	ICPMS
Sr	mg/L	0.097	0.059	0.042	0.018	ICPMS
Ti	mg/L	<0.01	<0.01	<0.01	<0.01	ICPMS
Tl	mg/L	<0.0002	<0.0002	<0.0002	<0.0002	ICPMS
V	mg/L	0.019	0.019	<0.007	<0.007	ICPMS
Zn	mg/L	0.78	0.39	<0.02	<0.02	ICPMS

The GC1 tails are an intermediate product and is the feed to the flotation circuit. No GC1 product is disposed of. The very low concentration of metals in the F1 flotation tailings suggests an efficient flotation process. Their conclusions are:

The environmental tests suggest that the gravity-flotation process route will produce tailings that are unlikely to generate acid due to the removal of the majority of the sulphides, and produce lower levels of dissolved species in tails leachate.

Chemicals used in the milling process

With minor adjustments to the quantities used, the following reagents are planned to be used during the processing of the ores from the Mon A-Zone at the listed concentration.

Reagent	Concentration
Potassium amyl xanthate (PAX)	100 ppm
Aeropromotor 208	100 ppm
Methyl isobutyl carbinol (MIBC)	12 ppm

These reagents are specifically attracted to the flotation concentrate and will report to that product to be stored and shipped off-site for further processing. Their toxicity is outlined in the MSDS sheets. A summary of exposure to PAX for rats and rabbits shows LD50 at 1,000 ppm for ingestion by rats, and shows it is not listed as carcinogenic by ACGIH, IARC, OSHA or NTP. Aeroflot 238 shows LD50 in rats and rabbits at concentration of >5,000 and 2,000 ppm respectively. MIBC shows LD50 in rats and rabbits at concentrations of 26,000 ppm and 3,560 ppm respectively.

Conclusions

It is recommended that:

1. A P90 -150 mesh grind be used to balance gold recoveries while minimizing fines produced. This will aid in filtering, and produce a more stable (courser-grained) tailings product
2. Samples be collected regularly for SWEP and Modified SWEP tests to assure efficient removal of metals to the tailings.
3. Grade control during mining note sulphide content, to alert the mill to potentially anomalous or unusual feed.
4. All chemicals be stored in a safe, contained lock-up with spill protection and diluted to operations concentrations when removed from double containment.

Sampling of drainage downslope from the DST at the toe of the tailings, initially at 635,670 mE 6,977,560 mN conforms to SNP 2. A second sample site conforming to SNP 3 and farther downslope at more permanent trenches will be at 635,510 mE 6,977,340 mN. Currently, sample sites are planned based upon an engineering survey completed in 2017 and site visits since then.

WASTE TYPES – DRILLSITES

Waste types at a core-drill site will be the same from site to site.

DRILLWATER WITH CUTTINGS

Portion of water not recirculated (20%) and containing cuttings (unmodified ground rock)

- Pumped through a sludge line to a natural depression or outcrop area (natural land-based sump)
- Monitoring of drill logs and drill water by rig geologist;

Drill water sump

Sumps are to be located at least 100m from water bodies or at such other distance as may be

preapproved from time to time by a GNWT Land Inspector, but in all cases are sited and controlled such that any flow is directed away from water bodies;

- control measures may include snow/ice berms, earthen berms, manufactured barriers and silt fences to retain solids and allow passage of clean water;
- Sumps are monitored continually during drilling; winter sumps are re-checked in thawed summer conditions to ensure slow percolation through thawed active soil layer; documenting photos are taken at hole closure/end of sump use and at re-check;
- all cuttings report to a land-based sump;
- Water used and reporting to sump (1 core drill) = 6 m3 /day;
- Generally, a 200m NTW core hole (75.7 mm hole with 56 mm core) will produce up to 40 m^3 of which 2/3 can make it into the sumps for settling. Over 90% of the drillhole is penetrating waste rocks, which on the Mon are NAG rocks.
- Experience has demonstrated that even larger sumps can be successfully restored to their former condition and that vegetation can and does re-establish, and wildlife return to forage the re-established growth in a single season;

DRILLSITE MATERIALS

During and after drilling, considerable effort is expended on waste control

- Waste ranging from lathe, wood and metal scrap to empty containers and empty drums and cylinders is regularly removed during the operation and nothing left behind when the hole is closed (casing cut on land);
- Waste fuel and oil is deposited into sealable refuse drums at drillsite (UN 3082 waste);
- Waste solids (UN 3077 waste) such as empty containers, punctured aerosol cans, used absorbents, rags, oil filters) are deposited into sealable refuse drums at drillsite;
- Refuse drums are regularly returned to camp for out shipment and will be disposed to an approved shipper/receiver;
- Fuels will not be stored on lake ice;
- storage is on land in secondary containment;
- Site conditions are checked during and post-drilling;
- Hole drilled in winter are re-checked in summer to ensure snow has not inadvertently obliterated some items such as wood scrap;
- Household garbage: Items packed in for a drill shift are packed out at end of shift and incinerated with other household garbage, if burnable, such as food and packing waste;
- Waste solids (UN 3077 waste) such as empty containers, punctured aerosol cans, used absorbents, rags, oil filters) are deposited into sealable refuse drums at drillsite;

ROCK, WASTE

Rock excavated during the mining program will be stored at the site denoted for such use on Map 1 Figure 1).

- Samples of each geologically identifiable rock type as determined by a registered professional will be collected, consolidated, and field tested initially for classification as they are produced.
- Samples that are assessed as PAG or AG using standard field tests will be sent to a laboratory for ABA testing including SWEP and Modified SWEP testing.
- NAG rock will be used for construction purposes and AG and PAG rock will be stored until their classification is more certain.
- No AG rock has been identified at the site where work is currently planned.

All NAG and approved PAG rock will be used for road construction. As only 2,400 m^3 of waste rock is expected to be developed, and 1 km of new 3m wide haul trails are required, NDM will not have any waste rock piles developed in the foreseeable future.

Haul trails will consist of run of mine muck placed along prepared right of ways to support heavy equipment. Construction standards will use local brush as a geotextile mat as identified by Sudarsanan et al., 2015. This method has been used successfully in Northern Saskatchewan (R. Hiebert, Civil Projects Ltd., per.com.).

ROCK, NOT WASTE

Rock excavated during the mining program will be stored at the site denoted for such use on Map 1 (Figure 1). This has historically been called ore, however this term is prohibited by regulation unless profitable extraction can be proven.

- Samples will be collected, consolidated, and tested for various environmental and metallurgical parameters as they are produced.
- To be placed at approved locations only.
- Samples that are assessed as PAG or AG using standard field tests will be sent to a laboratory for ABA testing including SWEP and Modified SWEP testing.
- This application will look to process this material as described above.

GROUND WATER FLOWS

The mine is located within permafrost and permafrost was encountered during the initial mining between 1989 and 1997. Similar conditions are expected for the ongoing work. Permafrost has been found to preclude ground water flows.

All underground headings shall be monitored for ground water inflows. When noted, the event shall be reported to the supervisor who shall document the inflow as to quantity and quality, to be determined by sampling and analyzing according to standard SNP protocols.

Sumps

All sumps will comply with regulations and license requirements. All sumps will make use of natural depressions first, or will be excavated as needed. They will be a minimum of 3 m^3, and up to 40 m^3 in size. Standard pneumatic Wilden pumps with 2" discharge will be used in the mines, and in the mine surface sump. No other pumps will be used in the mine or mill sumps. Inputs will be sporadic and will not exceed 3m^3 per day.

All mine water will be first consolidated in underground sumps. These sumps will be constructed from blasted developments 3m wide and 9 to 12 m long and 2 to 3 m deep (3 m high). Mine water will be pumped into these sumps and visible oil will be collected using absorbent mats and the water will be reused underground. No discharge into the environment will occur from underground sumps. Sediments decanted from the mine water will remain and when they limit the sump capacity, the sump will be capped (filled) and a new sump will be constructed.

Any discharge of water from the mine sumps will be less than 3 m^3 per day and will be deposited from the underground sump to a surface sump (tank) for use in the mill. If the mill is not operating, then up

to 3 m^3 of water per day will be disposed of from the surface tank to the swampy area east of the mill as was done in 1989-1997. The water will have no visible oil sheen and will be tested for ammonia, pH, and trace elements as per approved SNP protocols. No discharge will occur unless the EQC meets SNP 08 standards.

Table 6. Summary of Waste Products Anticipated to be Produced

WASTE ITEM	TYPE	MANAGEMENT METHOD(S)	ENVIRONMENTAL EFFECTS
CAMP GREYWATER	Non-hazardous	Bioreactor	None expected
CAMP SEWAGE	Non-hazardous	Bioreactor	None expected
WASTE LIQUIDS, SOLIDS	Hazardous	Disposal Collected and shipped	None expected
EMPTY DRUMS, CYLINDERS	Potential hazardous	Returned to supplier	None expected
METAL SCRAP	Non-hazardous	Recycle	None expected
BATTERIES - SMALL	Potential hazardous	Recycle, dispose to registered site	None expected
BATTERIES – AUTO/MARINE	Potential hazardous	Recycle, dispose to registered site	None expected
MISCELLANEOUS CHEMICALS	Potential hazardous	Disposal Collected and shipped	None expected
WOOD WASTE – UNTREATED	Non-hazardous	Recycle / burn / bury	None expected, minor smoke
WOOD WASTE – TREATED	Hazardous	Not permitted to be allowed on site	None expected
HOUSEHOLD WASTE – CAMP AND DRILLSITE	Non-hazardous	Incinerate / recycle	None expected, minor smoke
ASH FROM INCINERATION	Potential hazardous	Disposal Collected and shipped	None expected
OFFICE WASTE	Non-hazardous	Incinerate / recycle	None expected, minor smoke
DRILLWATER WITH CUTTINGS	Non-hazardous	Disposal to sump	None expected
ROCK, WASTE	Non-hazardous	Disposal in designated area	None expected
ROCK, NOT WASTE	Non-hazardous	Disposal in designated area and/or process	None expected
MILL SOLIDS (TAILINGS)	Non-hazardous	Disposal in designated area and/or process	None expected
MINE WATER	Non-hazardous	Disposal in designated area and/or process	None expected
CONTAMINATED SOILS, SNOW/WATER	Potential hazardous	Collect and Landfarm	No long term, short term treatment period

Sumps will be developed wherever SNP requirements require this.

SNP	Description	Rationale
SNP-02	Monitoring trench, immediately downstream of the Dry Stack Tailings Facility	To monitor the quality of Seepage and surface Water downstream of the Dry Stack Tailings Facility
SNP-03a	Monitoring trench, down slope of Dry Stack Tailings Facility – First Narrows	To monitor the quality of Seepage and surface Water downstream of the Dry Stack Tailings Facility

SNP-03b	Monitoring trench, down slope of Dry Stack Tailings Facility – Culvert	To monitor the quality of Seepage and surface Water downstream of the Dry Stack Tailings Facility
SNP-04	Seepage from the Dry Stack Tailings Facility	To monitor the quality and quantity of Seepage from the Dry Stack Tailings Facility
SNP-07	Underground Minewater Sump(s)	To monitor the quantity and quality of groundwater and mine Water collected in the underground sump prior to discharge to the surface
SNP-08	Minewater holding tank or pond	To monitor the quantity and quality of mine Water prior to discharge to the Receiving Environment
SNP-09	Seepage from Waste rock pile(s)	To monitor the quality and quantity of Seepage from the Waste rock pile(s)
SNP-10	Seepage from ore stockpile(s)	To monitor the quality and quantity of Seepage from the ore stockpile(s)

Each sump will be dug as required and in the case of SNP 08 will be lined with plastic sheets to minimize seepage and facilitate reuse.

SPILL CONTINGENCY PLAN

A separate Spill Contingency Plan details spill-response measures for a wide range of hazardous and non-hazardous waste types, as well as contact information for New Discovery Mine Ltd. officials, contractors and government personnel, including the Spill Line phone number, spill report form and instructions, and reportable-quantities table.

Waste Handling

Contaminated soils which may be collected as a result of inadvertent fuel or oil spills at camp, mine, or at a drill site are collected in sealable pails or drums, labelled and shipped with GNWT Waste Movement Document forms. As per the proponent's separate Closure and Reclamation Plan, soil areas may be sampled according to Canadian Council of Ministers of the Environment (CCME) criteria, if necessary;

- Contents treatable via deposit to special treatment area at an approved land farm on the property, at Yellowknife Landfill OR disposed to approved shipper/receiver, for treatment or out shipment to a final treatment source.
- Contaminated snow which may be collected as a result of inadvertent fuel or oil spills at camp or at a drill site are collected in sealable pails or drums, labelled and out shipped with GNWT Waste Movement or land farmed on site.