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File: S13L1-007

March 7th, 2014

Tony Morris
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Sahtu Land and Water Board
PO Box 1
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**Re: Aboriginal Affairs and Northern Development Canada Technical Intervention –
Imperial Oil Norman Wells Operations– Type A Water Licence Renewal**

Imperial Oil Resources Limited (IORL) has filed an application with the Sahtu Land and Water Board (the Board) to renew their existing Type A Water Licence for their Norman Wells Operations. The current licence is set to expire in August 2014 and the application requests a renewal for an additional 10-year term.

Please find attached the technical intervention of Aboriginal Affairs and Northern Development Canada (AANDC). AANDC's review is focussed specifically on water licence scope, definitions, environmental monitoring, closure and reclamation and Surveillance Network Program (SNP) sampling.

It is important to note that AANDC's responsibilities for land and water management in the NWT will be devolving to the Government of the Northwest Territories (GNWT) on April 1st, 2014, prior to the scheduled public hearing in Norman Wells. However, AANDC will be represented at the public hearing to speak to any items contained within this intervention. Additionally, the GNWT will use the information contained in this Technical Intervention, other Interventions and the water licence proceeding to support their role as primary land and water manager in the NWT post-devolution.

If you have any questions or require any additional information, feel free to contact Mr. Nathen Richea at 867-669-2657 or Nathen.Richea@aandc.gc.ca.

Sincerely,

Stephen Traynor
Special Advisor
Aboriginal Affairs and Northern Development Canada
Northwest Territories Regional Office

ABORIGINAL AFFAIRS AND NORTHERN DEVELOPMENT CANADA

INTERVENTION

FOR

IMPERIAL OIL RESOURCES LIMITED NORMAN WELLS OPERATIONS

WATER LICENCE RENEWAL APPLICATION

S13L1-007

Submitted to:

Sahtu Land and Water Board
PO Box 1
Fort Good Hope, NT X0E 0H0

March 7, 2014

LIST OF ACRONYMS

Aboriginal Affairs and Northern Development Canada	AANDC
Aquatic Effects Monitoring Program	AEMP
Central Processing Facility	CPF
Closure and Reclamation Plan	CRP
Government of the Northwest Territories	GNWT
Imperial Oil Resources Limited	IORL
Northwest Territories	NWT
Surveillance Network Program	SNP
Total Petroleum Hydrocarbons	TPH
Total Suspended Solids	TSS

SUMMARY OF RECOMMENDATIONS

AANDC recommends that the “Scope” as outlined in Part A: Scope and Definitions of the Water Licence is amended to include both operations (oil and gas production) and closure.

AANDC recommends that the “Definitions” as outlined in Part A: Scope and Definitions of the Water Licence be updated to include the following item:

- **Progressive Reclamation – closure activities that are undertaken before permanent closure. Progressive reclamation takes advantage of cost and operating efficiencies by using the resources available from an operation to reduce the overall reclamation costs incurred.**

AANDC recommends that an AEMP be developed using AANDC’s “Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories”. The AEMP should be submitted to the Board for review and approval 6 months following approval of the water licence renewal.

AANDC recommends that an AEMP Working Group be established to assist in the development of the AEMP for IORL’s Norman Wells Operation.

AANDC recommends that a Closure and Reclamation Plan for the Norman Wells Operations be developed based on the concepts referenced in the “Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories”. The guidelines will provide the Licensee with an understanding of information requirements, expectations and timelines associated with the development of a final Closure and Reclamation Plan.

AANDC recommends that a Closure and Reclamation Working Group be established to assist in the development of the CRP for IORL’s Norman Wells Operation.

AANDC recommends that Oil and Grease be replaced by TPH as an EQC in the water licence.

AANDC recommends that a TPH limit of 3.0 mg/L maximum average and 5.0 mg/L maximum grab be included as an EQC.

AANDC recommends that the Surveillance Network Program be updated to include the following details:

LOCATION	FREQUENCY	PARAMETERS	CRITERIA Max Average/Max Grab
Intake	Currently in SNP	Currently in SNP (Change Oil and Grease to TPH)	N/A
CPF Outlet	Weekly (remove Composite requirement) Quarterly	Phenols TPH Total Residual Chlorine Chloride TSS (2x per week) pH Conductivity Acute Lethality	0.07 mg/L / 0.14 mg/L 3.0 mg/L / 5.0 mg/L N/A 250 mg/L / 500 mg/L 15 mg/L / 25 mg/L Range 6.0-9.0 N/A LC(50) 100%
Battery 3 Impound Basin	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
Refinery Impound Basin	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
Refinery Water Flood Basin	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
LT11 Impound Basin	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
CPF Impound Area	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
Miscellaneous Impound Area	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
Biocell G/w Well #1-7	Monthly (if not frozen)	TPH Chlorides Metals Ions	N/A
Other groundwater wells	Monthly (if not frozen)	TPH Chlorides Metals Ions	N/A
Bunkers – mainland and on islands (own SNP)	During Freshet	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
Upstream of site for comparison of background (100 m upstream of facilities)	Weekly	Same as CPF, plus: Chlorides Metals Ions	N/A
Downstream of site at Edge of Assessment Boundary (100 m as per dilution study)	Weekly	Same as CPF, plus: Chlorides Metals Ions	N/A

AANDC recommends that the SLWB establish a process as part of the water licence to review and assess the existing securities against the liabilities for the Norman Wells Operation.

1.0 INTRODUCTION

The following concerns and issues have resulted from Aboriginal Affairs and Northern Development Canada's (AANDC) review of submissions as part of Imperial Oil Resources Limited's (IORL) water licence renewal application S13L1-007 for their Norman Wells Operations.

The proponent has requested a renewal of the existing licence with only a few proposed amendments to the water licence. AANDC concurs with the majority of these amendments and has added clarity to some water licence changes for certain licence components. Primarily, AANDC believes that an Aquatic Effects Monitoring Program (AEMP) should be developed to ensure impacts to the aquatic environment are monitored and mitigated and that a Closure and Reclamation Plan be developed. AANDC believes that both of these plans should be developed with the input of the various stakeholders.

In addition, the Surveillance Network Program (SNP) requires updating to adequately monitor all water discharge locations associated with IORL's Norman Wells Operation. This update includes, as requested by Imperial, an amendment to an Effluent Quality Criteria (EQC) from Oil and Grease to Total Petroleum Hydrocarbons or TPH.

It is important to identify to the Sahtu Land and Water Board that AANDC's responsibilities for land and water management in the NWT will be devolving to the Government of the Northwest Territories (GNWT) on April 1st, 2014, prior to the scheduled public hearing in Norman Wells. However, AANDC will be represented at the public hearing to speak to any items still within their mandate contained within this intervention. Additionally, the GNWT will use the information contained in this Technical Intervention to support their role as primary land and water manager in the NWT post-devolution.

2.0 SCOPE AND DEFINITIONS

2.1 SCOPE

As currently stated in water licence S03L1-001, the water licence scope is “to use water and dispose of waste for industrial undertakings in oil and gas production”. As outlined, the current water licence was designed to be an operational licence to be implemented during the production life of the oil field. As there is potential that Imperial will either be in a closure state, or preparing to enter a closure state, during the term of the renewed Water Licence, operations and closure should be reflected within the renewed scope.

AANDC recommends that the “Scope” as outlined in Part A: Scope and Definitions of the Water Licence is amended to include both operations (oil and gas production) and closure.

2.2 DEFINITIONS

Since the last water licence renewal in 2003, there have been several modifications to the operations at Norman Wells that were highlighted in the current renewal application submitted by Imperial, including the addition of waste management infrastructure.

AANDC notes that waste production, handling, storage and disposal facilities on site fall under the purview of the water licence and should be included within the water licence as appropriate. This includes any facilities that may be implemented in the future such as a landfarm.

As well, terminology has changed in the years since the last renewal. For activities related to closure, the term “Closure and Reclamation” has replaced “Abandonment and Restoration”. AANDC notes that a renewal process is the appropriate venue to update the water licence to adequately reflect the current status and regulatory requirements relating to activities undertaken at the operating site.

In IORL’s response to Information Request #3, a list of definitions were provided that have since been included in the draft Water Licence circulated by the Sahtu Land and Water Board (the Board). These definitions include: biocell; groundwater treatment facilities; landfarm; and reclamation. In addition to the definitions included in the draft Water Licence, AANDC makes the following recommendation.

AANDC recommends that the “Definitions” as outlined in Part A: Scope and Definitions of the Water Licence be updated to include the following item:

- **Progressive Reclamation – closure activities that are undertaken before permanent closure. Progressive reclamation takes advantage of cost and operating efficiencies by using the resources available from an operation to reduce the overall reclamation costs incurred. It enhances environmental protection and shortens the timeframe for achieving the closure objectives.**

3.0 AQUATIC EFFECTS MONITORING PROGRAM

Aquatic effects monitoring means watching closely for changes in the water environment. Both Traditional Knowledge-based and western science-based observations provide information on the quality of the water, the amount of water, and the health of the fish and insects (organisms) that live in the water. An Aquatic Effects Monitoring Program (AEMP) is a program undertaken by a developer to measure the effects, if any, of the development project (such as a mine, oil and gas facility, or hydro development), on the water environment. In the NWT, AEMPs have generally been a requirement of the water licences issued by the regulatory boards. AEMPs provide the ability to detect and provide an early warning of any negative effects of a development project on the water environment. These early warning signals are detected and aspects of the project are evaluated to assist in reducing potential effects to the water environment. In some instances, the AEMP is used to ensure that no negative project effects are occurring from the operation.

An AEMP was originally a requirement of water licence S99L1-003 and subsequently finalized during the term of water licence S03L1-001. Work was undertaken by IORL between 2002-2006 and included the following components:

- Stakeholder consultation
- Literature Review
- Fish population and health
- Water and sediment analysis
- Toxicity Testing
- Plume delineation
- SNP summary
- Natural seep quantification
- Interpretation and Reporting

The initial study design, which was approved in 2002, relied on an early guidance document published by DIAND in 1997. However, in 2009, AANDC developed a revised guideline for the development and implementation of AEMPs. While several key objectives remain the same, such as the necessity for stakeholder consultation to determine the focus of AEMPs, an extensive amount of work has been conducted in the area and the Department's guidance documents have been substantially revised. AANDC's *Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories (2009)* define an eight step process for designing and conducting monitoring of the water environment. This step-by-step process is also referred to as the AEMP framework. AANDC believes that these steps could assist IORL in the development of an AEMP for the Norman Wells Operation.

STEP 1: IDENTIFICATION OF ISSUES AND CONCERNS

The first step in the AEMP development process involves identifying issues and concerns regarding the water environment that Aboriginal governments/organizations and interested parties may have about a development project. By asking for input from all interested parties at this stage, a preliminary list of stressors that may be of concern is documented and the developer can make changes to the project description while considering the issues and concerns.

STEP 2: PROBLEM FORMULATION FOR AQUATIC EFFECTS MONITORING

During the second step, the final list of possible stressors is completed. Next, the ways a stressor can affect the water environment need to be determined (such as elevated levels of a chemical would cause a change to the quality of the water). The parts of the water environment that could be affected, such as fish, plants, birds, sediment, water quality, need to be recorded. These are called receptors. Diagrams are prepared that show how each stressor is linked to parts of the water environment that could be affected. These diagrams are called conceptual site models. These models are then used to identify the parts of the water environment that need to be protected and what will be measured to determine if the water environment is being adequately protected.

STEP 3: DEVELOPMENT OF DATA QUALITY OBJECTIVES AND CONCEPTUAL STUDY DESIGN

This step of the process identifies the important parts of an AEMP and helps determine what the monitoring program will look like. This step also determines what types of information and how much data are needed to evaluate the effects of the development project on the water environment.

STEP 4: DEVELOPMENT OF DETAILED AEMP DESIGN

This step provides guidance to help the developer decide what study design to choose, which reflects the list of potential stressors identified for the project. Choosing the most appropriate sampling locations and timing for sampling is critical.

STEP 5: DOCUMENTATION AND VERIFICATION OF THE SAMPLING DESIGN

Various plans will be prepared during this step to describe the procedures to be followed by the people conducting field sampling since it is important that the data is collected properly. There will be specific guidance for all field work (to collect high quality data and information), and a plan to make sure the people collecting samples or visiting the site take all safety precautions necessary. Changes to any of these plans by the developer should be reviewed by interested parties and approved by the regulatory boards.

STEP 6: IMPLEMENTATION OF THE AEMP

This step begins following the approval of the AEMP by the regulatory board. It involves the collection of environmental samples, Traditional Knowledge, and other information and the analysis of the results to produce data (for example, laboratory measurements for water quality data). The plans developed in Step 5 must be carefully followed for all types of data and information collection.

STEP 7: EVALUATION, COMPILATION, ANALYSIS, INTERPRETATION AND REPORTING OF AEMP RESULTS

Once data and information have been collected under the AEMP, it needs to be evaluated, compiled, analyzed, interpreted and reported by the developer. This data is compared to baseline or reference data to see if there are changes.

STEP 8: APPLICATION OF AEMP RESULTS WITHIN A MANAGEMENT RESPONSE FRAMEWORK

Management response, also commonly known as adaptive management, is a way to continually improve the management of the development project by learning from the information collected year after year by the AEMP. For example, the results of the AEMP could lead to a change in the amount or location of waste that is released from a development project, if the AEMP results show that a certain chemical being discharged had a negative effect on the water environment.

AANDC recommends that the preceding steps be utilized by IORL to develop an appropriate AEMP for their Norman Wells Operations. The AEMP should be designed collaboratively and be scientifically rigorous and defensible. It should be able to identify project effects and the extent of project effects. It should meet community and local expectations and coordinate with, and contribute to existing monitoring programs (e.g. community monitoring programs). AANDC is willing to work with the Board, IORL and other interested parties in the development of an appropriate AEMP for the Mackenzie River and surrounding area.

Additionally, as discussed at the January 2014 Technical Sessions, GNWT – Department of Environment and Natural Resources (ENR) has been conducting Community Water Monitoring Program Research at locations in the proximity of Norman Wells and Fort Good Hope to identify water-related concerns, prioritize these concerns and identify research questions. AANDC supports statements made by ENR regarding the release of this information to the Board and IORL to assist with the development of the AEMP for this development.

RECOMMENDATION

AANDC recommends that an AEMP be developed using AANDC’s “Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories”. The AEMP should be submitted to the Board for review and approval 6 months following approval of the water licence renewal.

AANDC recommends that an AEMP Working Group be established to assist in the development of the AEMP for IORL’s Norman Wells Operation.

4.0 CLOSURE AND RECLAMATION

IORL has been operating at their facilities in Norman Wells for several decades and it is AANDC’s understanding that operations are nearing the end of life. While the exact amount of resource remaining is uncertain, there is a potential for site closure during the term of this renewal.

As outlined in Section 16 of the Water Licence Renewal Application, as portions of the Norman Wells field are no longer required, such as the Refinery and Battery #3, IORL has incorporated progressive reclamation into their operations where possible. The application

outlines a number of areas that have undergone reclamation work, as well as an abundance of areas that are in various stages of assessment, reclamation and monitoring.

While AANDC realizes that reclamation work has occurred at the site over various time periods, the requirement for an overall Closure and Reclamation Plan is apparent. Recently, AANDC and the Mackenzie Valley Land and Water Board finalized the *Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories (MVLWB/AANDC, 2013)*. While these guidelines are specific to mining operations, various aspects of the guidelines can and should be applied to the Norman Wells Operation.

Section 1 of the guidelines outline an objectives based approach for closure planning. This section also highlights several closure and reclamation concepts and the establishment of various closure milestones. This includes the development of closure goals and objectives which assist in the selection and evaluation of specific closure options for the various site components. These closure options are then measured against standards that are further developed throughout closure planning which are known as closure criteria.

Furthermore, the guidelines proceed to outline expectations during which various milestones should be reached throughout the life of the operation. While the guidelines are tailored to a “cradle-to-grave” approach, an existing operation such as the Norman Wells Operation could still benefit from the guidance.

Additionally, Section 2 of the guidelines provides a template to assist in the Licensee in completing a suitable Closure and Reclamation Plan (CRP). Again, while specific to mining operations, a great deal of the information contained within this section is easily transferable to an oil and gas operation.

Finally, AANDC notes that on other larger scale developments the establishment of a working group comprised of regulators, interested parties and the Licensee has been beneficial in ensuring all groups are aware of any expectations, constraints, milestones, etc in the development a closure plan.

RECOMMENDATIONS

AANDC recommends that a Closure and Reclamation Plan for the Norman Wells Operations be developed based on the concepts referenced in the “Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories”. The guidelines will provide the Licensee with an understanding of information requirements, expectations and timelines associated with the development of a final Closure and Reclamation Plan.

AANDC recommends that a Closure and Reclamation Working Group be established to assist in the development of the CRP for IORL’s Norman Wells Operation.

5.0 EQC FOR TOTAL PETROLEUM HYDROCARBONS

The current water licence includes a requirement to monitor for a visual sheen of Oil and Grease at Category "A" Surface Water Run-Off Facilities. The Effluent Quality Criteria (EQC) for SNP Station S03L1-02 is 5.0 mg/L maximum average concentration and 10.0 mg/L maximum grab concentration. However, in the water licence renewal application, IORL proposed that the Oil and Grease parameter be replaced with Total Petroleum Hydrocarbons (TPH).

AANDC supports this request and agrees with IORL's assessment as outlined in Section 3 of the renewal application. IORL states "the parameter Oil and Grease does not distinguish between petroleum related oil and grease and the oil and grease associated with animal fats and other non-petroleum products". Further, "TPH has a lower detection limit than oil and grease, and will provide data that are more usual for detecting potential impacts." AANDC believes that TPH would be a better parameter to evaluate compliance at the Norman Wells Operation and notes that other areas have transitioned to TPH analysis for regulatory assessments (i.e. Petroleum Refinery Liquid Effluent Regulations).

Regarding an EQC for TPH, during the technical sessions held in January 2014 IORL and reviewers discussed the adequacy of a proposed EQC for TPH of 10.0 mg/L. An Information Request (IORL IR#1) was formulated by the Board that required IORL to review the petroleum hydrocarbon limit and determine if the proposed EQC was in fact adequate for the protection of aquatic life in the Mackenzie River. However, at the time it was noted that this information would not be ready prior to the Public Hearing.

Nonetheless, On February 3rd, 2014, IORL responded to the Information Request. Regarding to TPH and Oil & Grease, IORL stated that:

"IOR is in the process of reviewing both the TPH test method as well as those described in the regulation (Petroleum Refinery Liquid Effluent Regulations) to confirm which test would be the most appropriate one to meet this definition as well as being practical with regard to hold times, transportation, handling, lab capability, etc. IOR will provide this information for consideration during the draft review."

However, it is not clear from the information provided in the IR response whether IORL wished to proceed with determining the adequacy of 10.0 mg/L for TPH or if IORL has shifted its investigation to determining whether TPH or Oil & Grease is the most appropriate parameter to assess compliance at surface water run-off facilities.

Following the response to IRs, AANDC, IORL and the GNWT participated in a teleconference and information exchange on February 28, 2014. During this call, IORL indicated that if an EQC for TPH was set at 3.0 mg/L maximum average and 5.0 mg/L maximum grab concentrations it would not pose a regulatory compliance issue for the operation. IORL referenced the supporting information provided in the water licence application, specifically Section 13 and Section 14, which suggested that average Oil and Grease concentrations since 2004 ranged from 2.0 to 3.0 mg/L and peak concentrations for Oil and Grease ranged from 5.0 mg/L to 6.0 mg/L. Therefore, as described above IORL would most likely be in compliance with the proposed 3.0 and 5.0 mg/L EQC. AANDC notes that further confidence

is provided based on the conservative nature of the Oil and Grease measurement, being that this analysis detects both the natural oils (e.g. animal fats and other non-petroleum products) and hydrocarbons. AANDC notes that it is the latter that are most relevant to the Norman Wells Operation.

Based on the fact that IORL requested the change to TPH and that AANDC believes the test is better to detect the potential effect of the facility on the receiving environment, AANDC recommends that TPH replace Oil and Grease as an EQC for all surface water run-off facilities. AANDC notes that other operations in the NWT have an EQC for TPH and they have been regulated on it for a number of years. As described by IORL on the teleconference, logistical challenges exist for the analysis of SNP samples at their operation. However, AANDC believes that similar logistical challenges exist for both TPH and Oil and Grease. Also, AANDC is aware that IORL is currently contemplating two different TPH test methodologies. AANDC is not opposed to either of the TPH test methods under consideration.

RECOMMENDATIONS

AANDC recommends that Oil and Grease be replaced by TPH as an EQC in the water licence.

AANDC recommends that a TPH limit of 3.0 mg/L maximum average and 5.0 mg/L maximum grab be included as an EQC.

6.0 SURVEILLANCE NETWORK PROGRAM

Under the current water licence, the Surveillance Network Program (SNP) consists of two designated sampling stations: S03L1-001 which monitors intake water from the Mackenzie River and S03L1-002 which monitors the discharge return line from the Central Processing Facility (CPF). In addition, while no specific SNP stations are provided, there are currently sampling criteria outlined for surface water run-off facilities. These surface run-off facilities are currently differentiated dependant on whether contaminants are suspected or not.

Throughout the current renewal process, IORL has requested amendments to the water licence including clarity regarding surface water run-off facilities. While AANDC agrees that sampling is required at these locations, more formal SNP stations should be established for all areas from which water collects and surface discharge may occur.

It is AANDC's position that any surface water associated with the lease site would have the potential for contamination and therefore all surface water run-off facilities should be considered in the same fashion. It is AANDC's opinion that it is the SNP monitoring that detects whether contaminants existing or not and that should not be predetermined.

Further, any monitoring locations at the site, such as groundwater wells, should also be formally included in the SNP with designated station numbers. All SNP locations and designations should be included in Section A: Location of Surveillance Stations. For clarity, AANDC has proposed the following SNP recommendations in tabular format outlining suggested locations, frequency, parameters, and if applicable, discharge criteria.

AANDC recommends that the Surveillance Network Program be updated to include the following details:

LOCATION	FREQUENCY	PARAMETERS	CRITERIA Max Average/Max Grab
Intake	Currently in SNP	Currently in SNP (Change Oil and Grease to TPH)	N/A
CPF Outlet	Weekly (remove Composite requirement) Quarterly	Phenols TPH Total Residual Chlorine Chloride TSS (2x per week) pH Conductivity Acute Lethality	0.07 mg/L / 0.14 mg/L 3.0 mg/L / 5.0 mg/L N/A 250 mg/L / 500 mg/L 15 mg/L / 25 mg/L Range 6.0-9.0 N/A LC(50) 100%
Battery 3 Impound Basin	Prior to Discharge and weekly during discharge	Same as CPF, plus: Chlorides Metals Ions	Same as CPF if to be discharged
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Biocell G/w Well #1-7	Monthly (if not frozen)	TPH Chlorides Metals Ions	N/A
Other groundwater wells	Monthly (if not frozen)	TPH Chlorides Metals Ions	N/A
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Upstream of site for comparison of background (100 m upstream of facilities)	Weekly	Same as CPF, plus: Chlorides Metals Ions	N/A
Downstream of site at Edge of Assessment Boundary (100 m as per dilution study)	Weekly	Same as CPF, plus: Chlorides Metals Ions	N/A

7.0 SECURITIES

AANDC notes that it has been some time since all parties and the Board have assessed the existing security for the Norman Wells Operation. AANDC agrees with the Board that security for the Norman Wells Operation should be reviewed. AANDC is willing to work with all parties to review the existing security against the potential liability associated with the site.

Additional information is required to estimate the potential liability for the Norman Wells Operation. AANDC notes that given the existing time constraints for this renewal (water licence S03L1-001 is set to expire in August 2014), a process should be determined as part of this proceeding to assess existing security against the potential liability for the site facilities. This process would provide an opportunity for all parties to work together and gather the necessary information regarding: current development at this site, future developments, reclaimed components, components that are in the process of reclamation, and, components that have already been reclaimed and or decommissioned.

RECOMMENDATIONS

AANDC recommends that the SLWB establish a process as part of the water licence to review and assess the existing securities against the liabilities for the Norman Wells Operation.

8.0 REFERENCES

DIAND. 1997. Guidance for Northern Aquatic Effects Monitoring. Prepared for Water Resources Division, Department of Indian Affairs and Northern Development, Yellowknife, Northwest Territories, by GeoNorth Limited and North/South Consultants Inc., Yellowknife, Northwest Territories.

Indian and Northern Affairs Canada, 2009. Guidelines for Designing and Implementing Aquatic Effects Monitoring Programs for Development Projects in the Northwest Territories.

MVLWB/AANDC. 2013. Guidelines for the Closure and Reclamation of Advanced Mineral Exploration and Mine Sites in the Northwest Territories.