



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

P. O. Box 1500
Yellowknife, NT X1A 2R3

COPY	
BOARD.	5
G.W.	1
E.A.	1
W. RES.	1
File Votre référence	1769

Your file

Votre référence

April 23, 2002

Our file Notre référence
License #N7L1-1769

Mr. Michael Fabijan
Kavik AXYS Inc.
P. O. Box 2320
Inuvik, NT X0E 0T0

Dear Mr. Fabijan:

Re: Quality Assurance and Quality Control (QA/QC) Plan
Japex Mallik Camp
Submitted: April 23, 2002

Thank-you for the submission of the Quality Assurance and Quality Control Plan you have prepared for Japex Canada Limited. Upon review, it has been found that the plan is complete. Approval of the plan is hereby granted.

Should you require further information, please do not hesitate to contact me at (867) 669-2781.

Sincerely,

Kathleen Puznicki
Analyst Under the
Northwest Territories Waters Act

cc: **NWT Water Board**
North Mackenzie District/Inuvik
Water Resources





KAVIK-AXYS Inc.

BOX 2320 INUVIK, NT, CANADA X0E 0T0 T: 867 777-4548 F: 867 777-4925 www.axys.net

Kathleen Puznicki
Analyst DIAND
P.O.Box 1500
4601 - 52 Avenue
Yellowknife, NT
Canada
X1A 2R3

RECEIVED

APR 23 2002

TAIGA ENV. LAB

23 April 2002

Dear Kathleen,

Please find attached the QA/QC plan for the JAPEX Canada Limited Northwest Territories Water licence N7L1-1769.

Sincerely

Michael Fabijan

RECEIVED

APR 23 2002

TAIGA ENV. LAB

QUALITY ASSURANCE AND QUALITY CONTROL PLAN

FOR SAMPLE COLLECTION

BY

JAPEX CANADA LIMITED

FOR

LICENCE NUMBER N7L1-1769

STATION NUMBER 1769-1

AND

STATION NUMBER 1769-2

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1.0 INTRODUCTION

The purpose of this document is to provide the Northwest Territories Water Board with a Quality assurance and quality control plan to meet licence requirements for waste water sampling by Japex Canada Limited at the Japex Mallik camp. This camp is in the Mackenzie Delta at latitude 69°27' 41" N, longitude 134°39' 30" W in the Northwest Territories. Water use by Japex Canada Limited is subject to the regulations restrictions and conditions contained in the Northwest Territories Waters Act and conditions made by the Northwest Territories Water Board in granting a class B licence numbered N7L1-1769 (Appendix A).

2.0 SAMPLE COLLECTION

2.1 Location

Samples will be collected at the Japex Mallik camp located in the Mackenzie Delta at latitude 69°27' 41" N, longitude 134°39' 30" W in the Northwest Territories. There are two sampling stations contained in this locations NWT Water Board licence numbered N7L1-1769. Station number 1769-1 contains treated effluent discharge prior to decanting the sewage sump. Station number 1769-2 contains drilling waste prior to it entering the drilling sump. Signs will be posted at each station identifying the licensee, Northwest Territories Water Board licence number, station number and the sampling location.

2.2 Sampling equipment

Sampling equipment will include the following: eye protection, rubber gloves, waterproof rubber boots, labelled sample containers, sample preservatives, custody forms, coolers, packing material and ice packs. The specific containers for each sample parameter are shown in table 1.

2.3 Sampling Methods

Samples will be collected at the inspector approved and labelled sites at each sampling station. Sample collection, preservation, transportation, and analysis will be conducted as described in the current "Standard Methods for the Examination of Water and Wastewater". Taiga Environmental Laboratory will provide instructions on the appropriate method of filling and rinsing sample containers specific to each analysis parameter (Table 1).

The project will use three different types of sampling containers. Taiga Environmental Laboratory will provide cleaned sample containers for all sampling cycles. Samples will be collected directly from the effluent and drilling mud containers. The types of containers and collection methods to be used for each analysis parameter are shown in table 1.

Table 1: Sampling parameters and materials. Particulars on effluent and drilling mud sampling, sampling containers, laboratory detection limits, and preservation times.

Sampling Parameter	Detection limits	Container		Preservative	Holding time	Instructions see notes
		Type	size			
Effluent						
PH	0.05 PH units	PETE plastic	500 or 750 ml	none	24 hours	1
Solids, Total suspended	3 mg/l	PETE plastic	500 or 750 ml	none	7 days	1
Ammonia as Nitrogen	0.005 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Biological Oxygen Demand	2 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Chlorine, residual	0.01 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Chlorine, total	0.01 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Phosphorus, total	.004 mg/l	PETE plastic	500 or 750 ml	none	28 days	1
Coliforms, Fecal	CFU/100ml	PETE plastic	300 ml	Sodium Thiosulfate	24 hours	2
Oil and Grease	0.2 mg/l	brown glass	1 L	4 ml 1:1 Sulfuric acid	28 days*	3
Drilling muds						
Chlorine, residual	0.01 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Chlorine, total	0.01 mg/l	PETE plastic	500 or 750 ml	none	24 hours	1
Calcium	0.05 mg/l	PETE plastic	500 or 750 ml	none	7 days	1
Chloride	0.2 mg/l	PETE plastic	500 or 750 ml	none	28 days	1
Potassium	0.03 mg/l	PETE plastic	500 or 750 ml	none	7 days	1
Sodium	0.02 mg/l	PETE plastic	500 or 750 ml	none	7 days	1
Sulphate	3 mg/l	PETE plastic	500 or 750 ml	none	28 days	1
Sulphide	0.05 mg/l	PETE plastic	500 or 750 ml	none	28 days*	1
<p>NOTES:</p> <ul style="list-style-type: none"> - All samples delivered to lab in less than 24 hours - * = holding time after lab preserves sample <p>Instructions:</p> <ol style="list-style-type: none"> 1: Rinse bottle 3 times with sample, fill to top leaving no air space/gap, then cap bottle. 2: Do not rinse bottle. Fill to top of label and cap bottle. 3: Do not rinse bottle. Fill to shoulder of bottle. Add contents of preservative vial. Cap bottle and mix. 						

Personnel carrying out the sampling will wear protective equipment including eye protection, rubber gloves, and waterproof rubber boots. Taiga Environmental Laboratory will provide appropriate sampling containers and preservatives for each sampling parameter. New containers will be used for each sampling. Duplicate samples will be taken at each wastewater sampling. Quality control blank samples will be collected once during the project. Container labels and custody forms will be filled out to provide the laboratory with the sampling location, date, and time. Custody forms, provided by Taiga Environmental Laboratory, will also identify sample analysis parameters. Samples will be stored and transported in a cooler. Ice packs will be used to maintain the cooler at a temperature of 4 degrees centigrade. Sample containers will be appropriately wrapped (bubble wrap) so as to protect them from damage during transport. Coolers will have labels indicating the consignor, the consignee, the requirement for refrigeration and that the contents are fragile. Samples will be transported by ice road from the Mallik camp to Inuvik and by air from Inuvik to Yellowknife where the Taiga Environmental Laboratory is located. The laboratory will receive all samples within 24 hours of sampling. Taiga Environmental laboratory will insure that time sensitive samples are processed in a fashion maintaining the integrity of the analysis.

3.0 SAMPLE HANDLING

3.1 Sample preservation

Taiga Environmental Laboratory will provide necessary sample preservatives and instruction on their use in the field.

3.2 Sample Identification

Sample identification will be carried out in two steps. Field containers will be labelled with the sampling location, date, and time. A chain of custody form (see above) will contain additional information as to the analysis required. Taiga Environmental Laboratory will assign a sample number for all samples taken from a particular station and date. These numbers will subsequently be used to identify the sample.

3.3 Transportation

Samples will be stored and transported in a cooler. Ice packs will be used to maintain the cooler at a temperature of 4 degrees centigrade. Sample containers will be appropriately wrapped (bubble wrap) so as to protect them from damage during transport. Coolers will have labels indicating the consignor, the consignee, the requirement for refrigeration and that the contents are fragile. Samples will be transported by ice road from the Mallik camp to Inuvik and by air from Inuvik to Yellowknife where the Taiga Environmental Laboratory is located. The laboratory will receive all samples within 24 hours of sampling

4.0 LABORATORY ANALYSIS

4.1 Laboratory Accreditation

Taiga Environmental laboratory will conduct sample analysis. Taiga is an accredited by the Canadian Association for Environmental Analytical Laboratories, for the parameters required for compliance with this licence(Appendix B).

4.2 Detection limits

The detection limits for each analysis parameter are shown in table 1, and will be provided when reports are submitted to the NWT Water Board.

4.3 Methodology

Sample analysis will be carried out according the methods described in “Standard Methods for the Examination of water and waste Water”.

4.4 Reporting Requirements

Sampling frequency and analysis results will be carried out as required in the NWT Water Board licence number NL71-1769. Duplicate samples will be taken and reported for each waste water sampling cycle (Appendix A).

Appendix A – Northwest Territories Water Board licence N7L1-1769

NORTHWEST TERRITORIES WATER BOARD

Pursuant to the *Northwest Territories Waters Act* and Regulations the Northwest Territories Water Board, hereinafter referred to as the Board, hereby grants to

JAPEX CANADA LIMITED

(Licensee)

#2100, 101 - 6th Avenue S.W.

of CALGARY, ALBERTA T2P 2P4

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the *Northwest Territories Waters Act* and Regulations made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence Number N7L1-1769

Licence Type "B"

Water Management Area NORTHWEST TERRITORIES 07

Location Mackenzie Delta
Latitude 69°27'41" N.
Longitude 134°39'30" W.
NORTHWEST TERRITORIES

Purpose TO USE WATER AND DISPOSE OF
WASTE FOR INDUSTRIAL
UNDERTAKINGS

Description HYDRATE RESEARCH

Quantity of Water Not to be Exceeded 100 CUBIC METRES DAILY

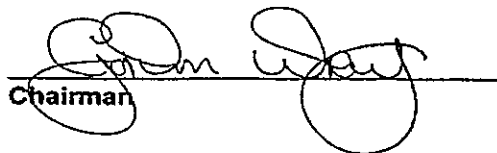
Effective Date of Licence OCTOBER 9, 2001

Expiry Date of Licence SEPTEMBER 30, 2002

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.

NORTHWEST TERRITORIES WATER BOARD


Witness


Chairman

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles Japex Canada Limited to use water and dispose of waste for industrial undertakings in the Mackenzie Delta for the Mallik 3L-38 Mackenzie Gas Hydrate Research and Development Project and camp located at Latitude 69°27'41" N. and Longitude 134°39'30" W., Northwest Territories;
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of waste of any type in any waters or in any place under any conditions where such waste or any other waste that results from the deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the *Northwest Territories Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of waste that may be so deposited or under which any such waste may be so deposited this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations; and
- c) Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: **N7L1-1769**

"Act" means the *Northwest Territories Waters Act*;

"Analyst" means an Analyst designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

"Artesian Aquifer" means a water-bearing rock stratum, which when encountered during drilling operations, produces a pressurized flow of groundwater that reaches an elevation above the water table or above the ground surface;

"Board" means the Northwest Territories Water Board established under Section 10 of the *Northwest Territories Waters Act*;

"Drilling Fluids" mean any liquid mixture of clay, water or chemical additives pumped downhole;

"Inspector" means an Inspector designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

"Licensee" means the holder of this Licence;

"Minister" means the Minister of Indian Affairs and Northern Development;

"Modification" means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

"Permeability" means the capacity to transmit water through a medium;

"Project Description" refers to the report titled "Mackenzie Delta Gas Hydrate Research and Development Project", dated March 2001, prepared by Japex Canada Limited;

"Regulations" mean Regulations proclaimed pursuant to Section 33 of the *Northwest Territories Waters Act*;

"Sewage" means all toilet waste and greywater;

"Sump" means an excavation with an impermeable layer for the purpose of catching or storing fluids.

"Waste" means waste as defined by Section 2 of the *Northwest Territories Waters Act*; and

"Waters" mean waters as defined by Section 2 of the *Northwest Territories Waters Act*.

PART B: GENERAL CONDITIONS

1. The Licensee shall file a Final Report with the Board not later than March 31st of the year following the calendar year reported which shall contain the following information:
 - a) the total quantity in cubic metres of fresh Water obtained from all sources;

- b) the total quantities in cubic metres of each and all Waste discharged;
 - c) details of work completed;
 - d) details on the restoration of any Sumps;
 - e) a list of spills and unauthorized discharges; and
 - f) results from monitoring programs.
2. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
 3. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
 4. Meters, devices or other such methods used for measuring the volumes of Water used and waste discharged shall be installed, operated and maintained by the Licensee to the satisfaction of an Inspector.
 5. Prior to the use of water for municipal undertakings or the disposal of waste and pursuant to Section 17(1) of the Act and Section 12 of the Regulations, the Licensee shall have posted and shall maintain a security deposit of One Hundred Thousand (\$100,000.00) Dollars in a form suitable to the Minister.
 6. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain Water from the unnamed channel of the Mackenzie River just east of the site as described in the Project Description or as otherwise approved by an Inspector.

2. The daily quantity of Water used for all purposes shall not exceed 100 cubic metres.
3. The water intake hose used on the water pumps shall be equipped with a screen with a mesh size sufficient to ensure no entrainment of fish.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall, to the satisfaction of an Inspector, contain all drilling Waste in a drilling Sump near the drill site, or at an alternate Sump location as approved by an Inspector.
2. The Licensee shall, to the satisfaction of an Inspector, contain all Sewage Waste in a Sewage Sump as described in the Project Description, or at an alternate Sump location as approved by an Inspector.
3. Sumps shall be constructed of materials that normally exhibit low Permeability and in a manner that prevents intrusion of runoff Water.
4. In the event the initial Sumps do not consist of low Permeability materials, the Licensee shall construct offsite Sumps to the satisfaction of an Inspector.
5. There shall be no disposal of Drilling Fluids from the Sumps into any Waters or onto any land surface where Drilling Fluids may enter any Waters.
6. The Licensee shall construct and maintain the Sumps to the satisfaction of an Inspector.
7. The Licensee shall ensure that Chloride concentrations at SNP Station 1769-2 do not exceed 100,000 mg/L.

8. The Licensee shall prior to abandonment of the Sumps, obtain a representative sample from the Sump using the information requirements outlined in the "Sampling and Analytical Requirements for Characterization of Sump Supernatant Fluids" (Appendix A). The results shall be submitted to the Inspector.
9. If during the drilling, an Artesian Aquifer is encountered producing Water flowing at the surface, the Licensee shall notify an Inspector immediately. A sample of not less than ten (10) litres shall be collected from the flowing source at the point of discharge from the well. Five (5) litres shall be made available to an Inspector for analysis, and the Licensee shall have the remaining five (5) litres analysed.
10. Any fluids generated to surface, including those produced from an Artesian Aquifer, shall be contained and shall not be disposed of without approval of an Inspector.
11. Waste discharges during decanting from the Sewage Disposal Facilities shall meet the following effluent quality standards at SNP Station 1769-1:

<u>Sample Parameter</u>	<u>Maximum Average Concentration</u>
BOD ₅	80.0 mg/L
Total Suspended Solids	100.0 mg/L
Faecal Coliforms	10E4 CFU/dL
Oil and Grease	5.0 mg/L

The Waste discharged shall have a pH between 6 and 9.

12. In the event where decanting Waste or Water from the Sump is required by an unanticipated event, the Licensee shall:
 - a) advise an Inspector;
 - b) obtain a representative sample from the Sump using the information requirements outlined in the "Sampling and Analytical Requirements for Characterization of Sump Supernatant Fluids" (Appendix A);

- c) submit the results of the sampling and analyses to an Inspector at least ten (10) days prior to the requested date of commencing decant, or in the case of an unanticipated event, as soon as possible; and
 - d) indicate in writing to an Inspector;
 - i) the method of decant;
 - ii) the direction of flow;
 - iii) the location of where the decanted effluent is expected to go; and
 - iv) any treatment that will be applied to the Sump.
13. The Licensee may commence decanting upon receipt of an Inspector's approval.
14. All analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater" or by such other methods as may be approved by an Analyst.
15. No oil-based Waste products are to be disposed of on-site. Oil-based additives and drill cuttings associated with these additives are to be disposed of at an approved offsite location to the satisfaction of an Inspector.
16. Any on-site treatment of oil-based Waste products must be done with the approval of an Inspector.
17. Lost circulation that may contaminate groundwater must be immediately reported to an Inspector.
18. The Licensee shall dispose of all solid Waste in a manner acceptable to an Inspector.

PART E: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out Modifications to the planned undertakings provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) the Licensee has notified an Inspector in writing of such proposed Modifications at least five (5) days prior to beginning the Modifications;
 - b) such Modifications do not place the Licensee in contravention of either this Licence or the Act;
 - c) an Inspector has not, during the five (5) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than five (5) days; and
 - d) an Inspector has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part E, Item 1 have not been met may be carried out only with written approval from an Inspector.
3. The Licensee shall provide to the Board as-built plans and drawings of the modifications referred to in this Licence within ninety (90) days of completion of the modifications.

PART F: CONDITIONS APPLYING TO STREAM AND WATER BODY CROSSINGS

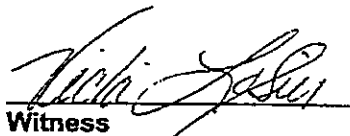
1. The Licensee shall ensure that only clean snow is used on all stream or Water body crossings and that no debris is left on the surface of the crossings.
2. Stream or Water body crossings shall be notched or removed before spring break-up to facilitate natural flow.

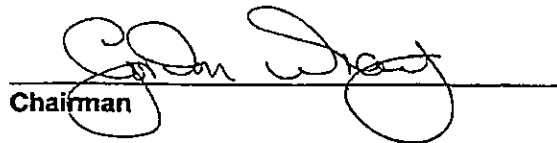
3. The removal of naturally occurring material from the bed or banks of any stream or Water body below the ordinary high Water mark is not permitted.

PART G: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall submit to the Board for approval within thirty (30) days of issuance of this Licence, an Emergency Response Plan in accordance with the Board's "Guidelines for Contingency Planning, January 1987", or subsequent edition.
2. The Licensee will maintain a copy of the Emergency Response Plan onsite in a readily available location, to the satisfaction of an Inspector.
3. The Licensee shall ensure that petroleum products, hazardous material and other Wastes associated with the project do not enter any Waters.
4. The Licensee shall ensure that all containment berms are constructed of an impermeable material, to the satisfaction of an Inspector.
5. If, during the period of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) report the incident immediately via the 24 Hour Spill Report Line (867) 920-8130; and
 - b) submit to an Inspector a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.

NORTHWEST TERRITORIES WATER BOARD


Witness


Chairman

**APPENDIX A - SAMPLING AND ANALYTICAL REQUIREMENTS
FOR CHARACTERIZATION OF SUMP SUPERNATANT FLUIDS**

In the event that decanting a sump is required, the Licensee shall sample the sump using the following method:

Divide the sump into a grid of six equal areas, take three samples in the vertical profile (surface, mid-depth, just above the mud/supernatant interface) at the centre of each area. Mix these eighteen samples together to form a single composite sample, from which as many sub-samples may be obtained as necessary for analysis. An additional sample must be taken from the surface of the sump.

The Licensee shall have the composite sample analyzed for the following parameters:

Total and Dissolved Metals - Copper
Cadmium
Iron
Nickel
Lead
Zinc
Chromium

Sulphate
Conductivity
pH
Total Suspended Solids
Chloride
Sodium
Potassium
Calcium
Magnesium
Oil and Grease
Toxicity (96 hour LC50 using rainbow trout)

The surface sample should be analyzed for oil and grease.

NORTHWEST TERRITORIES WATER BOARD

LICENSEE: JAPEX CANADA LIMITED

LICENCE NUMBER: N7L1-1769

EFFECTIVE DATE OF LICENCE: OCTOBER 9, 2001

EFFECTIVE DATE OF
SURVEILLANCE NETWORK PROGRAM: OCTOBER 9, 2001

SURVEILLANCE NETWORK PROGRAM

A. Location of Sampling Stations

<u>Station Number</u>	<u>Description</u>
1769-1	Treated Effluent Discharge Prior to Decanting the Sewage Sump
1769-2	Drilling Waste Prior to Entering the Drilling Sump

B. Sampling and Analysis Requirements

1. Water at Station Number 1769-1, shall be sampled every two weeks, and analyzed for the following parameters:

BOD ₅	Total Suspended Solids
Oil and Grease	Faecal Coliforms
Ammonia	

2. Waste Water at Station 1769-2, shall be sampled monthly, and analysed for the following parameter:

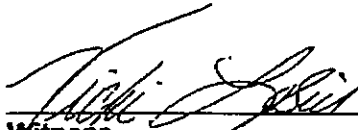
Total Sulphur	Total Calcium
Total Chloride	Total Sodium
Total Reactive Chlorine	

3. More frequent sample collection maybe required at the request of an Inspector.
4. All sampling, sample preservation, and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater", or by such other methods approved by an Analyst.
5. All analysis shall be performed in a laboratory approved by an Analyst.
6. The Licensee shall, by January 31, 2002, submit to an Analyst for approval a Quality Assurance/Quality Control Plan.
7. The plan referred to in Part B, Item 2 shall be implemented as approved by an Analyst.

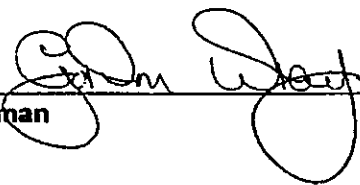
C. Reports

1. The Licensee shall, within thirty (30) days following the month being reported, submit to the Board all data and information required by the "Surveillance Network Program" including the results of the approved Quality Assurance Plan.

NORTHWEST TERRITORIES WATER BOARD



Witness



Chairman

Appendix B – Taiga Environmental Laboratory Accreditation information



Standards Council of Canada
Conseil canadien des normes

SEP 18 2001
TAIGA ENVIR. LAB

2002-04-15

SCC 1003-15/257
Accredited Laboratory No. 187
CAEAL Membership No. 2635

Ms. Kathleen Puznicki
Indian & Northern Affairs Canada
Taiga Environmental Laboratory
P.O. Box 1500
4601 - 52nd Avenue
Yellowknife, NWT
X1A 2R3

Dear Ms. Puznicki:

This will confirm formal approval by the Standards Council of Canada for the continued accreditation of the environmental testing capabilities of your laboratory, based on the results of a reassessment conducted on 17 September 2001 by the Canadian Association for Environmental Analytical Laboratories (CAEAL).

Enclosed is a copy of your revised Scope of Accreditation referencing the environmental capabilities certified by the CAEAL Board of Directors.

Please verify the information in your scope of accreditation, and confirm by signature on the last page of the scope listing that you are in agreement with the contents. Please return by fax only the signed page, to the attention of Mrs. F. Chabot, Administrative Officer, Laboratories, at fax number (613) 569-7808.

If you should require any future changes/additions/deletions to the environmental scope, please address your concerns directly to the Canadian Association for Environmental Analytical Laboratories (Inc.) at (613) 233-5300, or by fax at (613) 233-5501. Upon confirmation and approval from CAEAL, any requested changes will be implemented by SCC.

Please note that a new Certificate of Accreditation, which states that you have been found to comply with the requirements of ISO/IEC 17025, is being prepared and will be sent to you shortly.

Thank you for your continuing support of and participation in the Program for Accreditation of Laboratories - Canada.

Yours sincerely,

D.W. Wilson
Director, Conformity Assessment
c.v. Dr. Jim Somers, Senior Program Officer, SCC
Dr. Rick Wilson, Executive Director, CAEAL

Encl.

200-270, rue Albert St.
Ottawa, ON (Canada)
K1P 5N7
Tel.: +1 613 238 3222
Fax: +1 613 589 7808
E-mail/Courriel
info@ccc.ca
Internet:
http://www.scc.ca

Member of the
International
Organization for
Standardization (ISO)
Sponsor of the
Canadian National
Committee of the
International
Electrotechnical
Commission (IEC)
Membre de
l'Organisation
internationale de
normalisation (ISO)
Commanditaire du
Comité national de
Canada de la
Commission
électrotechnique
internationale (CEI)

Canada



Standards Council of Canada
Conseil canadien des normes

280-270, rue Albert St.
Ottawa, ON (Canada)
K1P 6N7

Canada

Tel.: +1 813 238 3722
Fax: +1 613 988 7808
E-mail/Corriel: info@taiga.ca
Internet: http://www.taiga.ca

SCOPE OF ACCREDITATION

Indian & Northern Affairs Canada
TAIGA ENVIRONMENTAL LABORATORY
P.O. Box 1508, 4601 - 52nd Avenue
Yellowknife, Northwest Territories X1A 2R3

Accredited Laboratory No. 187
(Complies with requirements of ISO/IEC 17025)

CONTACT: Ms. Kathleen Puznicki TEL.: (867) 669-2781
FAX.: (867) 669-2718
EMAIL: puznikik@inac.gc.ca

CLIENTS SERVED: All interested parties.

FIELD(S) OF TESTING: Biological, Chemical/Physical

PROGRAM SPECIALTY AREA: Environmental

ISSUED ON: 2002-04-15 VALID TO: 2006-03-06

ENVIRONMENTAL AND OCCUPATIONAL HEALTH AND SAFETY

Environmental:

Soil/Sediment

(Arsenic - Soil)

TEL032; based on APHA 3113B, EPA 200.8

AA GRAPHITE - DIGESTION
Arsenic

(Mercury - Soil)

TEL034 B; based on #2 JONASSON ET AL
(1973) GSC, #1 EPA 7471A

COLD VAPOUR AA - DIGESTION
Mercury

OFFICIAL/NON-RESTRICTED
Somers

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(Conductivity (25°C) - Water)

TEL002; APHA 2510-B

CONDUCTIVITY METER
Conductivity (25 °C)

(Dissolved Metals - Water)

TEL043; based on SM 3144

HYDRIDE AA
Dissolved Antimony
Dissolved Arsenic
Dissolved Selenium

(Dissolved Organic Carbon - Water)

TEL033; based on APHA 5310B

INFRARED
DOC

(Fluoride - Water)

TEL004; based on APHA 4500-F-C

SELECTIVE ION ELECTRODE
Fluoride

(Iron - Water)

TEL031; based on APHA 3111B

AA FLAME
Dissolved Iron

(Major Ions - Water)

TEL026/027/029/030; based on EPA 200.7/
APHA 3111B

AA FLAME
Dissolved Calcium
Dissolved Magnesium
Potassium
Sodium

(Metals - Water)

TEL035; based on US EPA 200.8

ICP/MS
Dissolved Aluminum
Dissolved Antimony
Dissolved Barium
Dissolved Beryllium
Dissolved Cadmium
Dissolved Chromium
Dissolved Cobalt

OFFICIAL/NON-RESTRICTED
Somers

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(Conductivity (25°C) - Water)

TEL002; APHA 2510-B

CONDUCTIVITY METER
Conductivity (25 °C)

(Dissolved Metals - Water)

TEL043; based on SM 3144

HYDRIDE AA
Dissolved Antimony
Dissolved Arsenic
Dissolved Selenium

(Dissolved Organic Carbon - Water)

TEL033; based on APHA 5310B

INFRARED
DOC

(Fluoride - Water)

TEL004; based on APHA 4500-P-C

SELECTIVE ION ELECTRODE
Fluoride

(Iron - Water)

TEL031; based on APHA 3111B

AA FLAME
Dissolved Iron

(Major Ions - Water)

TEL026/027/029/030; based on EPA 200.7/
APHA 3111B

AA FLAME
Dissolved Calcium
Dissolved Magnesium
Potassium
Sodium

(Metals - Water)

TEL035; based on US EPA 200.8

ICP/MS
Dissolved Aluminum
Dissolved Antimony
Dissolved Barium
Dissolved Beryllium
Dissolved Cadmium
Dissolved Chromium
Dissolved Cobalt

OFFICIAL/NON-RESTRICTED
Sensors

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Dissolved Copper
Dissolved Lead
Dissolved Lithium
Dissolved Manganese
Dissolved Molybdenum
Dissolved Nickel
Dissolved Selenium
Dissolved Silver
Dissolved Strontium
Dissolved Thallium
Dissolved Titanium
Dissolved Uranium
Dissolved Vanadium
Dissolved Zinc
Total Antimony
Total Selenium

(Nitrate plus Nitrite - Water)

TEL014; APHA 4500-NO3/F

AUTOCOLOR
Nitrate plus Nitrite

(PH - Water)

TEL001; APHA 4500-H, EPA 335.4 (1993)

pH METER
pH

(Phosphorus - Total - Water)

TEL015; based on US EPA 365.1

AUTO COLOR - DIGESTION
Total Phosphorus

(Silica - Reactive - Water)

TEL012; APHA 4500-SI/F

AUTOCOLOR
Reactive Silica

(Sulfate - Water)

TEL011; based on US EPA 375.2; 4500-SO42-F

AUTOCOLOR
Sulfate

(Total Metals - Water)

TEL043; based on SM 3114

HYDRIDE AA
Total Antimony

OFFICIAL/NON-RESTRICTED
Specimen

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Total Arsenic
Total Selenium

(Total Suspended Solids - Water)

TELO08; based on EPA 160.1/APHA 2540D

GRAVIMETRIC
Total Suspended Solids

(Turbidity - Water)

TELO06; based on APHA 2130-B

NEPHELOMETRY
Turbidity

Water (Microbiology)

(Coliforms - Water)

TELO17; based on APHA 9222B (TOTAL);
APHA 9222D (FECAL)

MEMBRANE FILTRATION
Fecal Coliforms
Total Coliforms

Water (Organic)

(BTEX - Water)

TELO37; based on EPA 502.2

GC - PURGE AND TRAP
Benzene
Ethylbenzene
m/p-xylene
o-xylene
Toluene

(Oil and Grease - Water)

TELO24; based on EPA 1664

GRAVIMETRIC
Oil and Grease - Water

(THM - Water)

TELO39; based on EPA 502.2

GC - PURGE AND TRAP
Bromodichloromethane
Bromoform
Chlorodibromomethane

OFFICIAL/NON-RESTRICTED
Samples

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Chloroform

Footnotes:

TEL #

Taiga Environmental Laboratory In-House
Test Methods

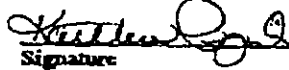


D.W. Wilson, Director, Conformity Assessment

Date: 2002-04-15

CABAL 2635, SCC 1003-15/257
Parent: CABAL

Contact: Ms. Kathleen Puznicki



Signature

Environmental Chemist

Title

April 19, 2002

Date