

DRAFT

**PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT
INUVIK (MIKE ZUBKO) AIRPORT
INUVIK, NORTHWEST TERRITORIES**



Prepared for:

TRANSPORT CANADA
Environmental Affairs, Prairie and Northern Region
#1100, 9700 Jasper Avenue
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Prepared by:

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Franz Project No. 1256-0601
January 2007



January 30, 2007

Project No. 1256-0601

Mr. Darryl Pederson
Superintendent, Contaminated Sites Management Program
Transport Canada
Technical and Environmental Services
1100-9700 Jasper Avenue
Edmonton, Alberta
Canada
T5J 4E6

**RE: COST ESTIMATE FOR FUTURE WORK
INUVIK (MIKE ZUBKO) AIRPORT, INUVIK, NWT**

Dear Mr. Pederson:

Franz Environmental Inc. (FRANZ) was retained by Public Works and Government Services Canada (PWGSC) on behalf of Transport Canada to conduct an Environmental Site Assessment of various areas of environmental concern at Inuvik (Mike Zubko) Airport, in Inuvik, NWT. The Statement of Work for this ESA was presented in PWGSC Request for Proposal (RFP) / Solicitation E0213-06N003/A and was awarded under contract number E0213-06N003/001/PWZ. Modifications to the work plan were developed with the approval of Mr. Darryl Pederson, Transport Canada's project manager, based on information obtained during the site reconnaissance and field observations as the work progressed.

This letter presents a Class 2 cost estimate to conduct the investigation and remediation work as recommended in our report entitled *Phase II and III Environmental Site Assessment, Inuvik (Mike Zubko) Airport, Inuvik, Northwest Territories*, January 2007. A description of the proposed work plan, schedule, and assumptions is presented below.

Overall Program

FRANZ has prepared this cost estimate under the assumption that excavation of the contaminated soil along with ex situ remediation in biocells at the existing LTU at Inuvik Airport is the most cost effective approach to achieve remediation in the shortest timeframe. This remedial program is based in FRANZ's experience with similar contamination types and scales in northern settings; however, a full evaluation of remedial options has not been undertaken.

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The proposed program consists of five tasks, as presented in detail on the attached cost estimate, Table 1. The field work phases are as follows:

- Further investigation of selected issues at four APECs
- Excavation of contaminated soil and transport to LTU for placement in a biocell
- Turning and sampling of soil in biocell

Cost estimates for laboratory analytical fees for each field phase are presented as Tables 2 to 4. A conceptual schedule for the program described herein is presented in Figure 1.

During construction of the biocell, petroleum hydrocarbon contamination types (F1-F2 versus F3-F4) would be segregated to allow for separate handling and application of appropriate amendments as required. Where there is co-contamination with metals, disposal at a suitably licensed landfill may be required. Options for disposal of this material have not been explored and the cost presented for disposal herein should be considered tentative.

Assumptions

This cost estimate is based on the following assumptions:

- Further investigation at APEC 1 is required at AST along south side of the former maintenance garage and at surficial staining areas outside northwest corner of former maintenance garage.
- Removal of surface debris at APEC 8 to be completed by others / responsible party prior to commencement of further investigation.
- Existing monitoring wells to be sampled at all APECs. Assumes that no exceedances requiring further investigation are identified.
- Soil volumes are the maximums noted in the Phase II and III ESA report.
- Field work to begin in mid-June with further investigation and proceed to biocell sampling in mid-September.
- Minimal groundwater or precipitation accumulates in the excavations and no water pumping, treatment, or disposal is required.
- The existing LTU to be used for treatment of the contaminated soil. LTU is empty and in acceptable condition for use with all components (e.g. berms, sump, liner, tarp, sandbags, etc.). Also assumes no lease fee.
- Biocell soil is placed in LTU and turned daily under supervision of consultant.
- 50% lab premiums to obtain results in a timely fashion for program schedule during investigation and excavation phases. Regular turn-around-times without fee premium during biocell turning phase.
- The geotechnical assessment of the landfills at APECs 9 and 10 (including slope stability, physical hazards, long-term planning, etc.) will be performed by a qualified geotechnical engineer.
- Imported backfill to be placed and compacted at APECs 1 and 8 to replace soil removed.
- Remediated soil would be used as backfill in APEC 2 at a later date, if desired (placement cost not included herein).

Closure

If you have any questions or comments regarding this proposed program, cost estimate, or the Phase II and III ESA report, please do not hesitate to contact the undersigned at (604) 632-9941.

Yours truly,
Franz Environmental Inc.

Michael E. Muttersbach, P.Geo.
Senior Environmental Geoscientist
Project Manager

Thomas J. Franz, M.Sc., P.Geo.
Senior Hydrogeologist and Reviewer

att: Tables: Cost Estimate
 Figure: Conceptual Schedule

Table 1: Cost Estimate for Further Investigation and Remediation

Description	Expertise	Qty	Unit	\$/hr	Subtotal	Task Total
TASK 1: PROJECT INITIATION AND MOBILISATION						
Project Management and	Project Manager	20	hr	\$110	\$2,200	
Project Setup	Environmental Scientist	12	hr	\$75	\$900	
				Subtotal	\$3,100	
Preparation of Field Gear,	Environmental Engineer	12	hr	\$75	\$900	
Lab Coordination	Environmental Scientist	12	hr	\$65	\$780	
				Subtotal	\$1,680	
Travel/Subsistence (return trip)	Environmental Engineer	16	hr	\$75	\$1,200	
	Environmental Scientist	16	hr	\$65	\$1,040	
	Airfare (2 persons)	2	trips	\$1,600	\$3,200	
	Hotel (2 persons)	8	days	\$175	\$1,400	
	Meals (2 persons)	4	days	\$75	\$300	
	Parking, taxi, misc.	1	i.s.	\$200	\$200	
				Subtotal	\$7,340	
				TASK TOTAL		\$12,120

Table 1: Cost Estimate for Further Investigation and Remediation

Description	Expertise	Qty	Unit	\$/hr	Subtotal	Task Total
TASK 2: GROUNDWATER MONITORING AND TEST PIT PROGRAM / DELINEATION						
Project Planning, Work Plans	Senior Env. Scientist	16	hr	\$110	\$1,760	
	Environmental Engineer	16	hr	\$75	\$1,200	
	CAD / GIS Specialist	16	hr	\$75	\$1,200	
Test Pit Program (4 AECs)	Environmental Engineer	48	hr	\$75	\$3,600	
Locates, Field Sampling, Mob,	Environmental Scientist	48	hr	\$65	\$3,120	
Sample Logging, and Submission				Subtotal	\$10,880	
Subcontractors	Excavator	40	hr	\$250	\$10,000	
	Utility Locator	1	I.s.	\$5,500	\$5,500	
	Analytical Laboratory - groundwater	1	see details	\$2,531	\$2,531	
	Analytical Laboratory - soil	1	see details	\$13,419	\$13,419	
	Courier - containers / samples	1	I.s.	\$500	\$500	
	Geotechnical assessment - APEC 9	1	I.s.	\$2,500	\$2,500	
	Geotechnical assessment - APEC 10	1	I.s.	\$5,000	\$5,000	
	Geotechnical assessment - mob, per dier	1	I.s.	\$2,500	\$2,500	
				Subtotal	\$41,950	
Travel/Subsistence	Hotel (2 persons)	8	pers-days	\$175	\$1,400	
	Rental Car	4	days	\$150	\$600	
	Meals (2 persons)	8	pers-days	\$75	\$600	
	Equipment Rentals	1	I.s.	\$500	\$500	
				Subtotal	\$3,100	
					TASK TOTAL	\$55,930

Table 1: Cost Estimate for Further Investigation and Remediation

Description	Expertise	Qty	Unit	\$/hr	Subtotal	Task Total
TASK 3: REMEDIAL EXCAVATION / FILLING BIOCELL						
Development of Tender Specs	Senior Env. Scientist / Engineer	20	hr	\$110	\$2,200	
	Environmental Engineer	20	hr	\$75	\$1,500	
	CAD	20	hr	\$75	\$1,500	
Remedial Excavation (3 AECs),	Environmental Engineer	240	hr	\$75	\$18,000	
Filling Biocell, Field Sampling, Mob,	Environmental Scientist	240	hr	\$65	\$15,600	
Sample Logging, and Sub., Backfill				Subtotal	\$38,800	
Subcontractors	Excavator	160	hr	\$250	\$40,000	
	Dump Trucks (2)	320	hr	\$150	\$48,000	
	Dozer	160	hr	\$175	\$28,000	
	Analytical Laboratory - soil	1	see details	\$23,229	\$23,229	
	Backfill & compaction	2000	m3	\$30	\$60,000	
	Courier - containers / samples	1	l.s.	\$2,000	\$2,000	
	disposal of metals contaminated soil	1	l.s.	\$20,000	\$20,000	
				Subtotal	\$221,229	
Travel/Subsistence	Hotel (2 persons)	50	pers-days	\$175	\$8,750	
	Rental Car	25	days	\$150	\$3,750	
	Meals (2 persons)	50	pers-days	\$75	\$3,750	
	Equipment Rentals	1	l.s.	\$2,000	\$2,000	
				Subtotal	\$18,250	
					TASK TOTAL	\$278,279

Table 1: Cost Estimate for Further Investigation and Remediation

Description	Expertise	Qty	Unit	\$/hr	Subtotal	Task Total
TASK 4: BIOCELL TURNING AND SAMPLING						
Develop Sampling Plan	Project Manager	16	hr	\$110	\$1,760	
Contractor Liaison	Environmental Engineer	12	hr	\$75	\$900	
Field Sampling, Sample Logging, and Submission	Environmental Scientist	270	hr	\$65	\$17,550	
				Subtotal	\$20,210	
Subcontractors	Excavator	240	hr	\$200	\$48,000	
	Fertiliser (1 kg / t soil)	8000	kg	\$1	\$8,000	
	Enzyme ammendment	1	l.s.	\$5,000	\$5,000	
	Shipping	1	l.s.	\$8,000	\$8,000	
	Analytical Laboratory - soil	2	see details	\$18,630	\$37,260	
	Courier - containers / samples	2	l.s.	\$1,000	\$2,000	
				Subtotal	\$108,260	
Travel/Subsistence	Airfare (person)	1	trips	\$1,600	\$1,600	
	Hotel (1 person)	30	pers-days	\$175	\$5,250	
	Rental Car	30	days	\$150	\$4,500	
	Meals (1 person)	30	pers-days	\$75	\$2,250	
	Equipment Rentals	1	l.s.	\$1,000	\$1,000	
				Subtotal	\$14,600	
				TASK TOTAL		\$143,070

Table 1: Cost Estimate for Further Investigation and Remediation

Description	Expertise	Qty	Unit	\$/hr	Subtotal	Task Total
TASK 5: REPORT PREPARATION						
Prepare text, figures, tables	Project Manager	120	hr	\$110	\$13,200	
	Senior Reviewer	24	hr	\$140	\$3,360	
	Environmental Engineer	160	hr	\$75	\$12,000	
Data Mgmt.	Environmental Scientist	160	hr	\$65	\$10,400	
CAD / GIS	CAD / GIS Specialist	60	hr	\$75	\$4,500	
Office Expenses	Report Copies, Courier	1	l.s.	\$500	\$500	
Subtotal					\$43,960	
TASK TOTAL						\$43,960
PROJECT SUB-TOTAL						\$533,359
20% CONTINGENCY						\$106,672
PROJECT TOTAL						\$640,031

ASSUMPTIONS USED TO DEVELOP THIS COST ESTIMATE INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

Further investigation at APEC 1 is required at AST along south side of the former maintenance garage and at surficial staining areas outside northwest corner of former maintenance garage.

Removal of surface debris at APEC 8 to be completed by others / responsible party prior to commencement of further investigation.

Existing monitoring wells to be sampled at all APECs. Assumes that no exceedances requiring further investigation are identified.

Soil volumes are the maximums noted in the Phase II and III ESA report.

Field work to begin in mid-June with further investigation and proceed to biocell sampling in mid-September.

Minimal groundwater or precipitation accumulates in the excavations and no water pumping, treatment, or disposal is required.

The existing LTU to be used for treatment of the contaminated soil. LTU is empty and in acceptable condition for use with all components (e.g. berms, sump, liner, tarp, sandbags, etc.). Also assumes no lease fee.

Biocell soil in placed in LTU and turned daily under supervision of consultant.

50% lab premiums to obtain results in a timely fashion for program schedule during investigation and excavation phases. Regular turn-around-times without fee premium during biocell turning phase.

The geotechnical assessment of the landfills at APECs 9 and 10 (including slope stability, physical hazards, long-term planning, etc.) will be performed by a qualified geotechnical engineer.

Imported backfill to be placed and compacted at APECs 1 and 8 to replace soil removed.

Remediated soil would be used as backfill in APEC 2 at a later date, if desired (placement cost not included herein).

**Table 2: Cost Estimate for Laboratory Analyses -
Groundwater Monitoring and Soil Delineation**

Description	Expertise	Names	Qty	Unit	\$/hr	Subtotal	
TASK 2: GROUNDWATER MONITORING AND TEST PIT PROGRAM / DELINEATION							
Analytical Fees - Groundwater	F1-F4		6	each	\$120	\$720	
	BTEX (incl. above)		6	each		\$0	
	PAHs		6	each	\$95	\$570	
	VOCs		1	each	\$90	\$90	
	Dissolved metals		1	each	\$45	\$45	
	QA/QC			10%		\$143	
	Disposal		20	each	\$6	\$120	
					Subtotal	\$1,688	
\$1,688							
Analytical Fees - Soil	F1-F4		16	each	\$120	\$1,920	
	BTEX (incl. above)		16	each		\$0	
	PAHs		4	each	\$95	\$380	
	QA/QC			10%		\$230	
	Disposal		36	each	\$6	\$216	
						Subtotal	\$2,746
APEC 2 - FFTA	F1-F4		24	each	\$120	\$2,880	
	BTEX (incl. above)		24	each		\$0	
	PAHs		0	each	\$95	\$0	
	QA/QC			10%		\$288	
	Disposal		48	each	\$6	\$288	
					Subtotal	\$3,456	
APEC 8 - Shell Lk	F1-F4		8	each	\$120	\$960	
	BTEX (incl. above)		8	each		\$0	
	PAHs		8	each	\$95	\$760	
	QA/QC			10%		\$172	
	Disposal		24	each	\$6	\$144	
					Subtotal	\$2,036	
APEC 10 - LTU LF	Metals		8	each	\$75	\$600	
	QA/QC			10%		\$60	
	Disposal		8	each	\$6	\$48	
					Subtotal	\$708	
						\$8,946	
TOTAL						\$10,634	

Table 3: Cost Estimate for
Confirmatory Soil Sampling - Delisting 7600m³ of soil

Description	Expertise	Names	Qty	Unit	\$/hr	Subtotal
TASK 3: REMEDIAL EXCAVATION / FILLING BIOCELL						
Analytical Fees - Soil						
APEC 1 - Mtc Gar	F1-F4		49	each	\$120	\$5,880
	BTEX (incl. above)			each		\$0
	PAHs			each	\$95	\$0
	QA/QC			10%		\$588
	Disposal		49	each	\$6	\$294
					Subtotal	\$6,762
APEC 2 - FFTA	F1-F4		42	each	\$120	\$5,040
	BTEX (incl. above)		42	each		\$0
	PAHs			each	\$95	\$0
	QA/QC			10%		\$504
	Disposal		84	each	\$6	\$504
					Subtotal	\$6,048
APEC 8 - Shell Lk	F1-F4		19	each	\$120	\$2,280
	BTEX (incl. above)		9	each		\$0
	PAHs			each	\$95	\$0
	QA/QC			10%		\$228
	Disposal		28	each	\$6	\$168
					Subtotal	\$2,676
APEC 10 - LTU LF	Metals			each	\$75	\$0
	QA/QC			10%		\$0
	Disposal		0	each	\$6	\$0
					Subtotal	\$0
						\$15,486
TOTAL						\$15,486

Table 4: Cost Estimate for
Confirmatory Soil Sampling - Delisting 7600m³ of soil

Description	Expertise	Names	Qty	Unit	\$/hr	Subtotal
TASK 3: REMEDIAL EXCAVATION / FILLING BIOCELL						
Analytical Fees - Soil						
Biocell	F1-F4		135	each	\$120	\$16,200
	BTEX (incl. above)			each		\$0
	PAHs			each	\$95	\$0
	QA/QC			10%		\$1,620
	Disposal		135	each	\$6	\$810
Subtotal						\$18,630
						\$18,630
TOTAL						\$18,630

**Figure 1: Conceptual Schedule -
Further Investigation and Remediation**

Calendar Month:	June		July				August				September				October	
Project Week:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TASK 1: PROJECT INITIATION AND MOBILISATION																
TASK 2: GROUNDWATER MONITORING AND TEST PIT PROGRAM / DELINEATION																
TASK 3: REMEDIAL EXCAVATION / FILLING BIOCELL																
TASK 4: BIOCELL TURNING AND SAMPLING																
TASK 5: REPORT PREPARATION																



January 4, 2007

Project No. 1256-0601

Mr. Darryl Pederson
Superintendent, Contaminated Sites Management Program

Transport Canada
Technical and Environmental Services
1100-9700 Jasper Avenue
Edmonton, Alberta
Canada
T5J 4E6

**RE: RESULTS OF WATER SAMPLING AT LTU
INUVIK (MIKE ZUBKO) AIRPORT, INUVIK, NWT**

Dear Mr. Pederson:

Franz Environmental Inc. (FRANZ) was retained by Public Works and Government Services Canada (PWGSC) on behalf of Transport Canada to conduct an Environmental Site Assessment of various areas of environmental concern at Inuvik (Mike Zubko) Airport, in Inuvik, NWT. The Statement of Work for this ESA was presented in PWGSC Request for Proposal (RFP) / Solicitation E0213-06N003/A and was awarded under contract number E0213-06N003/001/PWZ. Modifications to the work plan were developed with the approval of Mr. Darryl Pederson, Transport Canada's project manager, based on information obtained during the site reconnaissance and field observations as the work progressed.

This letter presents the result of water sampling at the land treatment unit (LTU) located immediately south of the former firefighter training area west-southwest of the runway. This task was not included in the original Statement of Work and was added during the site reconnaissance in September 2006 at the request of Mr. Darryl Pederson. Specifically, a sample of the standing water that had accumulated from natural precipitation in the empty, disused LTU was collected and submitted for analysis for:

- a suite of total metals;
- CCME petroleum hydrocarbon fractions F1 through F4;
- polycyclic aromatic hydrocarbons (PAHs); and
- volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX).

Standing water was collected directly from the LTU into laboratory-supplied bottles and stored in coolers with ice until delivered to the analytical laboratory, Maxxam Analytics, Inc. of Edmonton, AB.

The laboratory analytical results for the water sample are tabulated in Tables 1 through 4 for ease of review and a copy of Maxxam's Certificate of Analysis is attached.

Concentrations of petroleum hydrocarbons and VOCs, including BTEX, were less than the laboratory's method detection limits. Numerous metals were detected in the water sample and likely reflect the presence of suspended soil particles from the residual soil in the LTU or dustfall from vehicle traffic on the adjacent gravel access road.

FRANZ understands that it is the intention of Transport Canada to discharge the standing water directly to the groundwater surface during decommissioning of the LTU. There are no directly applicable NWT or federal guidelines or standards for comparison with the water analytical results. The analytical results are presented in the attached tables along with the CCME Water Quality Guidelines (CEQG) for the Protection of Freshwater Aquatic Life to identify any parameters that preclude discharge of the standing water directly to a surface water body.

FRANZ notes that the concentration of total cadmium (0.4 µg/L) exceeds the calculated CEQG (0.19 µg/L) and that the concentration of total selenium (2 µg/L) exceeds the CEQG (1 µg/L). The CEQGs are intended for comparison of surface water concentrations against the CEQG guidelines. FRANZ therefore suggests that the standing water should not be discharged directly into a freshwater aquatic environment. However, in provincial and territorial jurisdictions (e.g. Ontario, B.C., Yukon) where numerical guidelines or standards are available for the evaluation of groundwater, the numerical values have been established by multiplying the surface water numerical values by a factor of 10 in order to account for attenuation and dilution occurring within the groundwater system itself and at the discharge point of groundwater to a surface water body. The observed standing water concentrations are less than 10 times the CEQGs for all parameters, and therefore, FRANZ considers it appropriate to release the standing water to the ground, provided that the water infiltrates completely (i.e. no overland runoff). Runoff would be avoided by releasing the water into a shallow trench or infiltration bed. For added protection and to allow attenuation of the water concentrations, the infiltration location should be at a distance of 100 m from any open surface water body.

If you have any further questions or comments on this proposed program, please do not hesitate to contact the undersigned at (604) 632-9941.

Yours truly,

Franz Environmental Inc.



Michael E. Muttersbach, P.Geo.
Senior Environmental Geoscientist
Project Manager



Thomas J. Franz, M.Sc., P.Geo.
Senior Hydrogeologist and Reviewer

Table 1
Analytical Results for BTEX/VP, CWS F1 in Water
Inuvik Mike Zubko Airport
(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters		CCME Water Standards	WATER-LTU
			A645218
			23-Sep-06
			Franz
Lab ID #:			
Sample Date:			
Prepared by:			
Volatiles			
Benzene	370 ⁵	<0.4	
Toluene	2 ⁵	<0.4	
Ethylbenzene	90	<0.4	
m & p-Xylene	NS	<0.8	
o-Xylene	NS	<0.4	
Styrene	72 ⁵	<0.5	
Xylenes (Total)	<=300 ⁴	<0.8	
F1 (C06-C10)	NS	<100	
Volatiles			
F1 (C06-C10) - BTXE	NS	-	

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable
CCME CEQG

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

Table 2
Analytical Results for PAH, CWS F2-F4 in Water
Inuvik Mike Zubko Airport
(all units mg/L (CWS F2-F4) and µg/L (PAH) unless otherwise stated)

Parameters		CCME Water Standards	WATER-LTU
			A645218
			23-Sep-06
			Franz
Lab ID #:			
Sample Date:			
Prepared by:			
Extractable Petroleum Hydrocarbans (mg/L)			
CWS F2 (C10-C16)	NS	<0.1	
CWS F3 (C16-C34)	NS	<0.1	
CWS F4 (C34-C50)	NS	<0.1	
Reached Baseline at C50		Yes	
Polycyclic Aromatics Hydrocarbons (µg/L)			
Naphthalene	1.1 ⁵	<1	
Quinoline	3.4 ⁵	<0.1	
Acenaphthylene	NS	<0.1	
Acenaphthene	5.8 ⁵	<0.1	
Fluorene	3 ⁵	<0.1	
Phenanthrene	0.4 ⁵	<0.3	
Anthracene	0.012 ⁵	<0.01	
Acridine	4.4 ⁵	<0.1	
Fluoranthene	0.04 ⁵	<0.04	
Pyrene	0.025 ⁵	<0.02	
Benzo(a)anthracene	0.018 ⁵	<0.01	
Chrysene	NS	<0.1	
Benzo(b&j)fluoranthene	NS	<0.1	
Benzo(k)fluoranthene	NS	<0.1	
Benzo(a)pyrene	0.015 ⁵	<0.01	
Indeno(1,2,3-cd)pyrene	NS	<0.1	
Dibenz(a,h)anthracene	NS	<0.1	
Benzo(g,h,i)perylene	NS	<0.1	

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME CEQG

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

Table 3
Analytical Results for Metals in Water
Inuvik Mike Zubko Airport
(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters	Lab ID #: Sample Date: Prepared by:	CCME Water Standards	WATER-LTU
			A645218
			23-Sep-06
			Franz
Metals			Total
Aluminum (Al)	5 @ pH<6.5 ⁵		<40
	100 @ pH>=6.5		
Antimony (Sb)	NS		0.3
Arsenic (As)	5 ⁵		4
Barium (Ba)	NS		50
Beryllium (Be)	NS		<1
Boron (B)	NS		60
Cadmium (Cd)	0.19 ⁵		0.4
Calcium (Ca)	NS		220000
Chromium (Cr)	1 ⁵		<10
Cobalt (Co)	NS		0.3
Copper (Cu)	3 @ H: 120 -180 ⁵		<0.2
	4 @H>180 ⁵		
Iron (Fe)	300 ⁵		<60
Lead (Pb)	4 @ H: 120 <180 ⁵		<0.2
	7 @ H: >180 ⁵		
Lithium (Li)	NS		<20
Magnesium (Mg)	NS		50200
Manganese (Mn)	NS		<4
Molybdenum (Mo)	73 ⁵		0.6
Nickel (Ni)	110 @ H: 120 -180 ⁵		7.5
	150 @H>180 ⁵		
Phosphorus (P)	NS		<100
Potassium (K)	NS		2700
Selenium (Se)	1 ⁵		2
Silicon (Si)	NS		<100
Silver (Ag)	0.1 ⁵		<0.1
Sodium (Na)	<=200000 ⁴		21500
Strontium (Sr)	NS		700
Sulphur (S)	NS		231000
Thallium (Tl)	0.8 ⁵		<0.2
Tin (Sn)	NS		<1
Titanium (Ti)	NS		10
Uranium (U)	NS		1.0
Vanadium (V)	NS		<1
Zinc (Zn)	30 ⁵		<3

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable CCME
CEQG

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

4,5 etc. Refer to endnotes

Table 4
Analytical Results for VOC in Water
Inuvik Mike Zubko Airport
(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters	Lab ID # Sample Date Prepared by:	CCME Water Standards	WATER-LTU
			A645218
			23-Sep-06
			Franz
Chlorobenzenes			
1,2-dichlorobenzene		0.7 ⁵	<0.5
1,3-dichlorobenzene		150 ⁵	<0.5
1,4-dichlorobenzene		26 ⁵	<0.5
Chlorobenzene		NS	<0.5
Volatiles			
1,1,1,2-tetrachloroethane		NS	<2
1,1,1-trichloroethane		NS	<0.5
1,1,2,2-tetrachloroethane		NS	<2
1,1,2-trichloroethane		NS	<0.5
1,1-dichloroethane		NS	<0.5
1,1-dichloroethene		NS	<0.5
1,2-dichloroethane		5 ⁴	<0.5
1,2-dichloropropane		NS	<0.5
Bromodichloromethane		NS	<0.5
Bromoform		NS	<0.5
Bromomethane		NS	<2
Carbon tetrachloride		5 ⁴	<0.5
Chlorodibromomethane		NS	<1
Chloroethane		NS	<1
Chloroform		1.8 ⁵	<0.5
Chloromethane		NS	<2
cis-1,2-dichloroethene		NS	<0.5
1,3-dichloropropene		NS	<0.5
Dibromoethane		NS	<0.5
Dichloromethane		50 ⁴	<2
Tetrachloroethene		30 ⁴	<0.5
Total Trihalomethanes			<0.5
trans-1,2-dichloroethene		NS	<0.5
trans-1,3-dichloropropene		NS	<0.5
Trichloroethene		21 ⁵	<0.5
Trichlorofluoromethane		NS	<0.5
Vinyl chloride		2 ⁴	<0.5

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable
CCME CEQG

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

General and CCME Endnotes for Water

General Endnotes:

All values are reported as µg/g unless otherwise indicated.

10 = Value is greater than the applicable BC CSR Standard

3 = Value is greater than the applicable CCME or CWS Guideline

NS = No Standard

- = Not Analyzed

NA = Not Applicable

NR = Not Recorded

NSA = Sample was submitted to laboratory but not scheduled for any analyses

IP = Some data for the sample is either still in progress at the lab or not yet received by Franz

RPD = Relative percent difference is calculated as the difference over the average of the two values and is only calculated when both concentrations are greater than 5 times the method detection limit.

Laboratory Notes

Refer to Laboratory reports for sample specific notes

< = less than method detection limit (mdl)

General CCME Notes

(A) *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, Canadian Environmental Quality Guidelines and Summary of Guidelines for Canadian Drinking Water Quality (04/04)

(4) ***Guidelines for the Protection of Community Water Supplies***
Summary of Guidelines for Canadian Drinking Water Quality (04/04)
Federal - Provincial - Territorial Committee on Drinking Water

(5) ***Guidelines for the Protection of Aquatic Life (Freshwater)***
Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Environmental Quality Guidelines
CCME, 1999, updated 2001, updated 2002, updated 2003.

CCME values are for surface water, and can be applied to groundwater by assuming a 1:10 dilution from groundwater to surface water, and therefore a 10-fold increase in standard value will apply to groundwater samples if in exceedance of the surface water value.



Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115790

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA --- ---

Report Date: 2007/01/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A645218

Received: 2006/09/26, 11:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
CCME Hydrocarbons (F1; HSGC/MS)	1	2006/09/28	2006/09/29		
CCME Hydrocarbons (F2-F4 in water)	1	2006/09/29	2006/09/30		
Elements by ICP - Total	1	N/A	2006/09/28	CAL SOP# 0068	ICP
Elements by ICPMS - Total	1	N/A	2006/09/28	CAL SOP# 0068	ICP-MS
PAH in Water by GC/MS (Extended)	1	2006/10/02	2006/10/03		
VOCs in Water by P&T GC/MS (Std List)	1	N/A	2006/09/28		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key  Jeremy Wakaruk
03 Jan 2007 08:49:34 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Total cover pages: 1

Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187

Page 1 of 13

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C93143		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	WATER-LTU	RDL	QC Batch

Extractable Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	mg/L	<0.1	0.1	1290014
F3 (C16-C34 Hydrocarbons)	mg/L	<0.1	0.1	1290014
F4 (C34-C50 Hydrocarbons)	mg/L	<0.1	0.1	1290014
Reached Baseline at C50	mg/L	Yes	1	1290014
Hydrocarbons				
F1 (C06-C10)	ug/L	<100	100	1287646
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	112		1290014
4-BROMOFLUOROBENZENE (sur.)	%	97		1287646
RDL = Reportable Detection Limit				

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		C93143		
Sampling Date		2006/09/23		
COC Number		115790		
		Units	WATER-LTU	RDL QC Batch

Polycyclic Aromatics				
Naphthalene	ug/L	<1	1	1291387
Quinoline	ug/L	<0.1	0.1	1291387
2-Methylnaphthalene	ug/L	0.0083	N/A	1291387
Acenaphthylene	ug/L	<0.1	0.1	1291387
Acenaphthene	ug/L	<0.1	0.1	1291387
Fluorene	ug/L	<0.1	0.1	1291387
Phenanthrene	ug/L	<0.3	0.3	1291387
Anthracene	ug/L	<0.01	0.01	1291387
Acridine	ug/L	<0.1	0.1	1291387
Fluoranthene	ug/L	<0.04	0.04	1291387
Pyrene	ug/L	<0.02	0.02	1291387
Benzo(c)phenanthrene	ug/L	0	N/A	1291387
Benzo(a)anthracene	ug/L	<0.01	0.01	1291387
Chrysene	ug/L	<0.1	0.1	1291387
Benzo(b&j)fluoranthene	ug/L	<0.1	0.1	1291387
7,12-Dimethylbenz(a)anthracene	ug/L	0	N/A	1291387
Benzo(k)fluoranthene	ug/L	<0.1	0.1	1291387
Benzo(a)pyrene	ug/L	<0.01	0.01	1291387
Indeno(1,2,3-cd)pyrene	ug/L	<0.1	0.1	1291387
Dibenz(a,h)anthracene	ug/L	<0.1	0.1	1291387
Benzo(g,h,i)perylene	ug/L	<0.1	0.1	1291387
Dibenzo(a,h)pyrene	ug/L	0	N/A	1291387
Dibenzo(a,i)pyrene	ug/L	0	N/A	1291387
Dibenzo(a,l)pyrene	ug/L	0	N/A	1291387
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	82		1291387
D12-BENZO(A)PYRENE (sur.)	%	63		1291387
D8-ACENAPHTHYLENE (sur.)	%	69		1291387
TERPHENYL-D14 (sur.)	%	61		1291387

RDL = Reportable Detection Limit

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		C93143		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	WATER-LTU	RDL	QC Batch

Elements				
Total Aluminum (Al)	mg/L	<0.04	0.04	1287687
Total Antimony (Sb)	mg/L	0.0003	0.0002	1287692
Total Arsenic (As)	mg/L	0.004	0.001	1287692
Total Barium (Ba)	mg/L	0.05	0.01	1287687
Total Beryllium (Be)	mg/L	<0.001	0.001	1287692
Total Boron (B)	mg/L	0.06	0.02	1287687
Total Cadmium (Cd)	mg/L	0.0004	0.0002	1287692
Total Calcium (Ca)	mg/L	220	0.3	1287687
Total Chromium (Cr)	mg/L	<0.01	0.01	1287687
Total Cobalt (Co)	mg/L	0.0003	0.0003	1287692
Total Copper (Cu)	mg/L	<0.0002	0.0002	1287692
Total Iron (Fe)	mg/L	<0.06	0.06	1287687
Total Lead (Pb)	mg/L	<0.0002	0.0002	1287692
Total Lithium (Li)	mg/L	<0.02	0.02	1287687
Total Magnesium (Mg)	mg/L	50.2	0.2	1287687
Total Manganese (Mn)	mg/L	<0.004	0.004	1287687
Total Molybdenum (Mo)	mg/L	0.0006	0.0002	1287692
Total Nickel (Ni)	mg/L	0.0075	0.0005	1287692
Total Phosphorus (P)	mg/L	<0.1	0.1	1287687
Total Potassium (K)	mg/L	2.7	0.3	1287687
Total Selenium (Se)	mg/L	0.002	0.001	1287692
Total Silicon (Si)	mg/L	<0.1	0.1	1287687
Total Silver (Ag)	mg/L	<0.0001	0.0001	1287692
Total Sodium (Na)	mg/L	21.5	0.5	1287687
Total Strontium (Sr)	mg/L	0.70	0.02	1287687
Total Sulphur (S)	mg/L	231	0.2	1287687
Total Thallium (Tl)	mg/L	<0.0002	0.0002	1287692
Total Tin (Sn)	mg/L	<0.001	0.001	1287692
Total Titanium (Ti)	mg/L	0.010	0.001	1287692
Total Uranium (U)	mg/L	0.0010	0.0001	1287692
Total Vanadium (V)	mg/L	<0.001	0.001	1287692
Total Zinc (Zn)	mg/L	<0.003	0.003	1287692

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		C93143		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	WATER-LTU	RDL	QC Batch

Volatiles				
Benzene	ug/L	<0.4	0.4	1287630
Bromodichloromethane	ug/L	<0.5	0.5	1287630
Bromoform	ug/L	<0.5	0.5	1287630
Bromomethane	ug/L	<2	2	1287630
Carbon tetrachloride	ug/L	<0.5	0.5	1287630
Chlorobenzene	ug/L	<0.5	0.5	1287630
Chlorodibromomethane	ug/L	<1	1	1287630
Chloroethane	ug/L	<1	1	1287630
Chloroform	ug/L	<0.5	0.5	1287630
Chloromethane	ug/L	<2	2	1287630
1,2-dibromoethane	ug/L	<0.5	0.5	1287630
1,2-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,3-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,4-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,1-dichloroethane	ug/L	<0.5	0.5	1287630
1,2-dichloroethane	ug/L	<0.5	0.5	1287630
1,1-dichloroethene	ug/L	<0.5	0.5	1287630
cis-1,2-dichloroethene	ug/L	<0.5	0.5	1287630
trans-1,2-dichloroethene	ug/L	<0.5	0.5	1287630
Dichloromethane	ug/L	<2	2	1287630
1,2-dichloropropane	ug/L	<0.5	0.5	1287630
cis-1,3-dichloropropene	ug/L	<0.5	0.5	1287630
trans-1,3-dichloropropene	ug/L	<0.5	0.5	1287630
Ethylbenzene	ug/L	<0.4	0.4	1287630
Styrene	ug/L	<0.5	0.5	1287630
1,1,1,2-tetrachloroethane	ug/L	<2	2	1287630
1,1,2,2-tetrachloroethane	ug/L	<2	2	1287630
Tetrachloroethene	ug/L	<0.5	0.5	1287630
Toluene	ug/L	<0.4	0.4	1287630
1,1,1-trichloroethane	ug/L	<0.5	0.5	1287630
1,1,2-trichloroethane	ug/L	<0.5	0.5	1287630
Trichloroethene	ug/L	<0.5	0.5	1287630
Trichlorofluoromethane	ug/L	<0.5	0.5	1287630

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		C93143		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	WATER-LTU	RDL	QC Batch
Vinyl chloride	ug/L	<0.5	0.5	1287630
Xylenes (Total)	ug/L	<0.8	0.8	1287630
m & p-Xylene	ug/L	<0.8	0.8	1287630
o-Xylene	ug/L	<0.4	0.4	1287630
Total Trihalomethanes	ug/L	<0.5	0.5	1287630
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	100		1287630
D4-1,2-DICHLOROETHANE (sur.)	%	122		1287630
D8-TOLUENE (sur.)	%	104		1287630
RDL = Reportable Detection Limit				



Maxxam Job #: A645218

Report Date: 2007/01/03

FRANZ ENVIRONMENTAL INC.

Client Project #: 1256-0601

Site Reference: INUVIK

Sampler Initials: AL

General Comments

Results relate only to the items tested.

Quality Assurance Report
 Maxxam Job Number: EA645218

QA/QC Batch			Date Analyzed				
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287630 LM4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/28		97	%	70 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28		120	%	70 - 130
		D8-TOLUENE (sur.)	2006/09/28		101	%	70 - 130
		Benzene	2006/09/28		86	%	70 - 130
		Bromodichloromethane	2006/09/28		100	%	70 - 130
		Bromoform	2006/09/28		106	%	70 - 130
		Bromomethane	2006/09/28		83	%	70 - 130
		Carbon tetrachloride	2006/09/28		112	%	70 - 130
		Chlorobenzene	2006/09/28		93	%	70 - 130
		Chlorodibromomethane	2006/09/28		113	%	70 - 130
		Chloroethane	2006/09/28		84	%	70 - 130
		Chloroform	2006/09/28		91	%	70 - 130
		Chloromethane	2006/09/28		74	%	70 - 130
		1,2-dibromoethane	2006/09/28		100	%	70 - 130
		1,2-dichlorobenzene	2006/09/28		94	%	70 - 130
		1,3-dichlorobenzene	2006/09/28		91	%	70 - 130
		1,4-dichlorobenzene	2006/09/28		91	%	70 - 130
		1,1-dichloroethane	2006/09/28		89	%	70 - 130
		1,2-dichloroethane	2006/09/28		111	%	70 - 130
		1,1-dichloroethene	2006/09/28		84	%	70 - 130
		cis-1,2-dichloroethene	2006/09/28		86	%	70 - 130
		trans-1,2-dichloroethene	2006/09/28		85	%	70 - 130
		Dichloromethane	2006/09/28		76	%	70 - 130
		1,2-dichloropropane	2006/09/28		92	%	70 - 130
		cis-1,3-dichloropropene	2006/09/28		91	%	70 - 130
		trans-1,3-dichloropropene	2006/09/28		100	%	70 - 130
		Ethylbenzene	2006/09/28		91	%	70 - 130
		Styrene	2006/09/28		92	%	70 - 130
		1,1,1,2-tetrachloroethane	2006/09/28		107	%	70 - 130
		1,1,2,2-tetrachloroethane	2006/09/28		103	%	70 - 130
		Tetrachloroethene	2006/09/28		98	%	70 - 130
		Toluene	2006/09/28		90	%	70 - 130
		1,1,1-trichloroethane	2006/09/28		112	%	70 - 130
		1,1,2-trichloroethane	2006/09/28		97	%	70 - 130
		Trichloroethene	2006/09/28		94	%	70 - 130
		Trichlorofluoromethane	2006/09/28		99	%	70 - 130
		Vinyl chloride	2006/09/28		95	%	70 - 130
		m & p-Xylene	2006/09/28		93	%	70 - 130
		o-Xylene	2006/09/28		93	%	70 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/28		99	%	70 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28		111	%	70 - 130
		D8-TOLUENE (sur.)	2006/09/28		106	%	70 - 130
		Benzene	2006/09/28		82	%	70 - 130
		Bromodichloromethane	2006/09/28		94	%	70 - 130
		Bromoform	2006/09/28		103	%	70 - 130
		Bromomethane	2006/09/28		81	%	70 - 130
		Carbon tetrachloride	2006/09/28		109	%	70 - 130
		Chlorobenzene	2006/09/28		92	%	70 - 130
		Chlorodibromomethane	2006/09/28		111	%	70 - 130
		Chloroethane	2006/09/28		84	%	70 - 130
		Chloroform	2006/09/28		89	%	70 - 130
		Chloromethane	2006/09/28		82	%	70 - 130
		1,2-dibromoethane	2006/09/28		95	%	70 - 130
		1,2-dichlorobenzene	2006/09/28		90	%	70 - 130
		1,3-dichlorobenzene	2006/09/28		91	%	70 - 130

FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287630 LM4	SPIKE	1,4-dichlorobenzene	2006/09/28		88	%	70 - 130
		1,1-dichloroethane	2006/09/28		89	%	70 - 130
		1,2-dichloroethane	2006/09/28		100	%	70 - 130
		1,1-dichloroethene	2006/09/28		84	%	70 - 130
		cis-1,2-dichloroethene	2006/09/28		89	%	70 - 130
		trans-1,2-dichloroethene	2006/09/28		85	%	70 - 130
		Dichloromethane	2006/09/28		78	%	70 - 130
		1,2-dichloropropane	2006/09/28		88	%	70 - 130
		cis-1,3-dichloropropene	2006/09/28		91	%	70 - 130
		trans-1,3-dichloropropene	2006/09/28		101	%	70 - 130
		Ethylbenzene	2006/09/28		92	%	70 - 130
		Styrene	2006/09/28		93	%	70 - 130
		1,1,1,2-tetrachloroethane	2006/09/28		107	%	70 - 130
		1,1,2,2-tetrachloroethane	2006/09/28		93	%	70 - 130
		Tetrachloroethene	2006/09/28		97	%	70 - 130
		Toluene	2006/09/28		90	%	70 - 130
		1,1,1-trichloroethane	2006/09/28		99	%	70 - 130
		1,1,2-trichloroethane	2006/09/28		94	%	70 - 130
		Trichloroethene	2006/09/28		88	%	70 - 130
		Trichlorofluoromethane	2006/09/28		94	%	70 - 130
		Vinyl chloride	2006/09/28		97	%	70 - 130
		m & p-Xylene	2006/09/28		93	%	70 - 130
		o-Xylene	2006/09/28		94	%	70 - 130
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/28		104	%	70 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28		112	%	70 - 130
		D8-TOLUENE (sur.)	2006/09/28		104	%	70 - 130
		Benzene	2006/09/28	<0.4		ug/L	
		Bromodichloromethane	2006/09/28	<0.5		ug/L	
		Bromoform	2006/09/28	<0.5		ug/L	
		Bromomethane	2006/09/28	<2		ug/L	
		Carbon tetrachloride	2006/09/28	<0.5		ug/L	
		Chlorobenzene	2006/09/28	<0.5		ug/L	
		Chlorodibromomethane	2006/09/28	<1		ug/L	
		Chloroethane	2006/09/28	<1		ug/L	
		Chloroform	2006/09/28	<0.5		ug/L	
		Chloromethane	2006/09/28	<2		ug/L	
		1,2-dibromoethane	2006/09/28	<0.5		ug/L	
		1,2-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,3-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,4-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,1-dichloroethane	2006/09/28	<0.5		ug/L	
		1,2-dichloroethane	2006/09/28	<0.5		ug/L	
		1,1-dichloroethene	2006/09/28	<0.5		ug/L	
		cis-1,2-dichloroethene	2006/09/28	<0.5		ug/L	
		trans-1,2-dichloroethene	2006/09/28	<0.5		ug/L	
		Dichloromethane	2006/09/28	<2		ug/L	
		1,2-dichloropropane	2006/09/28	<0.5		ug/L	
		cis-1,3-dichloropropene	2006/09/28	<0.5		ug/L	
		trans-1,3-dichloropropene	2006/09/28	<0.5		ug/L	
		Ethylbenzene	2006/09/28	<0.4		ug/L	
		Styrene	2006/09/28	<0.5		ug/L	
		1,1,1,2-tetrachloroethane	2006/09/28	<2		ug/L	
		1,1,2,2-tetrachloroethane	2006/09/28	<2		ug/L	
		Tetrachloroethene	2006/09/28	<0.5		ug/L	
		Toluene	2006/09/28	<0.4		ug/L	

Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187



FRANZ ENVIRONMENTAL INC.
 Attention: JOHANNE PARADIS
 Client Project #: 1256-0601
 P.O. #:
 Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch			Date Analyzed					
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1287630 LM4	BLANK	1,1,1-trichloroethane	2006/09/28	<0.5		ug/L		
		1,1,2-trichloroethane	2006/09/28	<0.5		ug/L		
		Trichloroethene	2006/09/28	<0.5		ug/L		
		Trichlorofluoromethane	2006/09/28	<0.5		ug/L		
		Vinyl chloride	2006/09/28	<0.5		ug/L		
		Xylenes (Total)	2006/09/28	<0.8		ug/L		
		m & p-Xylene	2006/09/28	<0.8		ug/L		
		o-Xylene	2006/09/28	<0.4		ug/L		
	RPD	Vinyl chloride	2006/09/28	NC		%		40
1287646 MA	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/29		87	%		70 - 130
		F1 (C06-C10)	2006/09/29		80	%		70 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/29		106	%		70 - 130
		F1 (C06-C10)	2006/09/29		96	%		80 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/29		109	%		70 - 130
		F1 (C06-C10)	2006/09/29	<100		ug/L		
	RPD	F1 (C06-C10)	2006/09/29	NC		%		40
1287687 MC3	Calibration Check	Total Aluminum (Al)	2006/09/28		104	%		80 - 120
		Total Barium (Ba)	2006/09/28		100	%		80 - 120
		Total Boron (B)	2006/09/28		100	%		80 - 120
		Total Calcium (Ca)	2006/09/28		93	%		80 - 120
		Total Chromium (Cr)	2006/09/28		98	%		80 - 120
		Total Iron (Fe)	2006/09/28		97	%		80 - 120
		Total Lithium (Li)	2006/09/28		105	%		80 - 120
		Total Magnesium (Mg)	2006/09/28		100	%		80 - 120
		Total Manganese (Mn)	2006/09/28		100	%		80 - 120
		Total Phosphorus (P)	2006/09/28		100	%		80 - 120
		Total Potassium (K)	2006/09/28		106	%		80 - 120
		Total Silicon (Si)	2006/09/28		105	%		N/A
		Total Sodium (Na)	2006/09/28		100	%		80 - 120
		Total Strontium (Sr)	2006/09/28		99	%		80 - 120
	MATRIX SPIKE [C93143-02]	Total Barium (Ba)	2006/09/28		98	%		80 - 120
		Total Boron (B)	2006/09/28		105	%		80 - 120
		Total Chromium (Cr)	2006/09/28		93	%		80 - 120
		Total Lithium (Li)	2006/09/28		106	%		80 - 120
		Total Manganese (Mn)	2006/09/28		95	%		80 - 120
		Total Silicon (Si)	2006/09/28		112	%		N/A
		Total Strontium (Sr)	2006/09/28		92	%		80 - 120
	BLANK	Total Aluminum (Al)	2006/09/28	<0.04		mg/L		
		Total Barium (Ba)	2006/09/28	<0.01		mg/L		
		Total Boron (B)	2006/09/28	<0.02		mg/L		
		Total Calcium (Ca)	2006/09/28	<0.3		mg/L		
		Total Chromium (Cr)	2006/09/28	<0.01		mg/L		
		Total Iron (Fe)	2006/09/28	<0.06		mg/L		
		Total Lithium (Li)	2006/09/28	<0.02		mg/L		
		Total Magnesium (Mg)	2006/09/28	<0.2		mg/L		
		Total Manganese (Mn)	2006/09/28	<0.004		mg/L		
		Total Phosphorus (P)	2006/09/28	<0.1		mg/L		
		Total Potassium (K)	2006/09/28	<0.3		mg/L		
		Total Silicon (Si)	2006/09/28	<0.1		mg/L		
		Total Sodium (Na)	2006/09/28	<0.5		mg/L		
		Total Strontium (Sr)	2006/09/28	<0.02		mg/L		
		Total Sulphur (S)	2006/09/28	<0.2		mg/L		
	RPD [C93143-02]	Total Aluminum (Al)	2006/09/28	NC		%		20
		Total Barium (Ba)	2006/09/28	NC		%		20

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QA/QC Batch			Date Analyzed					
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1287687 MC3	RPD [C93143-02]	Total Boron (B)	2006/09/28	NC		%	20	
		Total Calcium (Ca)	2006/09/28	0.4		%	20	
		Total Chromium (Cr)	2006/09/28	NC		%	20	
		Total Iron (Fe)	2006/09/28	NC		%	20	
		Total Lithium (Li)	2006/09/28	NC		%	20	
		Total Magnesium (Mg)	2006/09/28	0.6		%	20	
		Total Manganese (Mn)	2006/09/28	NC		%	20	
		Total Phosphorus (P)	2006/09/28	NC		%	20	
		Total Potassium (K)	2006/09/28	0.6		%	20	
		Total Silicon (Si)	2006/09/28	NC		%	20	
		Total Sodium (Na)	2006/09/28	1.6		%	20	
		Total Strontium (Sr)	2006/09/28	0.4		%	20	
		Total Sulphur (S)	2006/09/28	1		%	20	
1287692 MS2	Calibration Check	Total Antimony (Sb)	2006/09/28		99	%	85 - 115	
		Total Arsenic (As)	2006/09/28		101	%	85 - 115	
		Total Beryllium (Be)	2006/09/28		103	%	85 - 115	
		Total Cadmium (Cd)	2006/09/28		102	%	85 - 115	
		Total Cobalt (Co)	2006/09/28		101	%	85 - 115	
		Total Copper (Cu)	2006/09/28		101	%	85 - 115	
		Total Lead (Pb)	2006/09/28		103	%	85 - 115	
		Total Molybdenum (Mo)	2006/09/28		100	%	85 - 115	
		Total Nickel (Ni)	2006/09/28		100	%	85 - 115	
		Total Selenium (Se)	2006/09/28		102	%	85 - 115	
		Total Silver (Ag)	2006/09/28		109	%	85 - 115	
		Total Thallium (Tl)	2006/09/28		104	%	85 - 115	
		Total Tin (Sn)	2006/09/28		102	%	85 - 115	
		Total Uranium (U)	2006/09/28		102	%	85 - 115	
		Total Vanadium (V)	2006/09/28		102	%	85 - 115	
	MATRIX SPIKE	Total Zinc (Zn)	2006/09/28		99	%	85 - 115	
		Total Arsenic (As)	2006/09/28		100	%	80 - 120	
		Total Cadmium (Cd)	2006/09/28		94	%	80 - 120	
		Total Lead (Pb)	2006/09/28		95	%	80 - 120	
	BLANK	Total Selenium (Se)	2006/09/28		103	%	80 - 120	
		Total Thallium (Tl)	2006/09/28		100	%	80 - 120	
		Total Antimony (Sb)	2006/09/28	<0.0002		mg/L		
		Total Arsenic (As)	2006/09/28	<0.001		mg/L		
		Total Beryllium (Be)	2006/09/28	<0.001		mg/L		
		Total Cadmium (Cd)	2006/09/28	<0.0002		mg/L		
		Total Cobalt (Co)	2006/09/28	<0.0003		mg/L		
		Total Copper (Cu)	2006/09/28	<0.0002		mg/L		
		Total Lead (Pb)	2006/09/28	<0.0002		mg/L		
		Total Molybdenum (Mo)	2006/09/28	<0.0002		mg/L		
		Total Nickel (Ni)	2006/09/28	<0.0005		mg/L		
		Total Selenium (Se)	2006/09/28	<0.001		mg/L		
		Total Silver (Ag)	2006/09/28	<0.0001		mg/L		
		Total Thallium (Tl)	2006/09/28	<0.0002		mg/L		
		Total Tin (Sn)	2006/09/28	<0.001		mg/L		
		Total Titanium (Ti)	2006/09/28	<0.001		mg/L		
	RPD	Total Uranium (U)	2006/09/28	<0.0001		mg/L		
		Total Vanadium (V)	2006/09/28	<0.001		mg/L		
		Total Zinc (Zn)	2006/09/28	<0.003		mg/L		
		Total Antimony (Sb)	2006/09/28	NC		%	20	
		Total Arsenic (As)	2006/09/28	NC		%	20	
		Total Beryllium (Be)	2006/09/28	NC		%	20	
		Total Cadmium (Cd)	2006/09/28	NC		%	20	

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287692 MS2	RPD	Total Cobalt (Co)	2006/09/28	NC		%	20
		Total Copper (Cu)	2006/09/28	13.6		%	20
		Total Lead (Pb)	2006/09/28	NC		%	20
		Total Molybdenum (Mo)	2006/09/28	17.6		%	20
		Total Nickel (Ni)	2006/09/28	6.2		%	20
		Total Selenium (Se)	2006/09/28	NC		%	20
		Total Silver (Ag)	2006/09/28	NC		%	20
		Total Thallium (Tl)	2006/09/28	NC		%	20
		Total Tin (Sn)	2006/09/28	NC		%	20
		Total Titanium (Ti)	2006/09/28	NC		%	20
		Total Uranium (U)	2006/09/28	15.8		%	20
		Total Vanadium (V)	2006/09/28	NC		%	20
		Total Zinc (Zn)	2006/09/28	NC		%	20
1290014 JM5	MATRIX SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/30		111	%	70 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/30		98	%	70 - 130
		F4 (C34-C50 Hydrocarbons)	2006/09/30		133	%	70 - 130
		O-TERPHENYL (sur.)	2006/09/30		97	%	70 - 130
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/30		93	%	85 - 115
		F3 (C16-C34 Hydrocarbons)	2006/09/30		80	%	85 - 115
		F4 (C34-C50 Hydrocarbons)	2006/09/30		80	%	85 - 115
		O-TERPHENYL (sur.)	2006/09/30		105	%	70 - 130
	BLANK	F2 (C10-C16 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		F3 (C16-C34 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		F4 (C34-C50 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		O-TERPHENYL (sur.)	2006/09/30		105	%	70 - 130
		Reached Baseline at C50	2006/09/30	YES, RDL=1		mg/L	
	RPD	F2 (C10-C16 Hydrocarbons)	2006/09/30	NC		%	40
		F3 (C16-C34 Hydrocarbons)	2006/09/30	NC		%	40
		F4 (C34-C50 Hydrocarbons)	2006/09/30	NC		%	40
		Reached Baseline at C50	2006/09/30	NC		%	40
1291387 AK3	SPIKE	D10-ANTHRACENE (sur.)	2006/10/03		77	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/03		70	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/03		61	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/03		78	%	30 - 130
		Naphthalene	2006/10/03		59	%	30 - 130
		Quinoline	2006/10/03		62	%	30 - 130
		Acenaphthylene	2006/10/03		61	%	30 - 130
		Acenaphthene	2006/10/03		58	%	30 - 130
		Fluorene	2006/10/03		59	%	30 - 130
		Phenanthrene	2006/10/03		63	%	30 - 130
		Anthracene	2006/10/03		63	%	30 - 130
		Acridine	2006/10/03		62	%	30 - 130
		Fluoranthene	2006/10/03		62	%	30 - 130
		Pyrene	2006/10/03		61	%	30 - 130
		Benzo(a)anthracene	2006/10/03		63	%	30 - 130
		Chrysene	2006/10/03		64	%	30 - 130
		Benzo(b&j)fluoranthene	2006/10/03		64	%	30 - 130
		Benzo(k)fluoranthene	2006/10/03		69	%	30 - 130
		Benzo(a)pyrene	2006/10/03		69	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/03		71	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/03		106	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/03		68	%	30 - 130
	BLANK	D10-ANTHRACENE (sur.)	2006/10/03		69	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/03		77	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/03		68	%	30 - 130

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FRANZ ENVIRONMENTAL INC.
 Attention: JOHANNE PARADIS
 Client Project #: 1256-0601
 P.O. #:
 Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch			Date Analyzed					
Num Init	QC Type	Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1291387 AK3	BLANK	TERPHENYL-D14 (sur.)	2006/10/03		70	%	30 - 130	
		Naphthalene	2006/10/03	<1		ug/L		
		Quinoline	2006/10/03	<0.1		ug/L		
		2-Methylnaphthalene	2006/10/03	0.0077		ug/L		
		Acenaphthylene	2006/10/03	<0.1		ug/L		
		Acenaphthene	2006/10/03	<0.1		ug/L		
		Fluorene	2006/10/03	<0.1		ug/L		
		Phenanthrene	2006/10/03	<0.3		ug/L		
		Anthracene	2006/10/03	<0.01		ug/L		
		Acridine	2006/10/03	<0.1		ug/L		
		Fluoranthene	2006/10/03	<0.04		ug/L		
		Pyrene	2006/10/03	<0.02		ug/L		
		Benzo(c)phenanthrene	2006/10/03	0		ug/L		
		Benzo(a)anthracene	2006/10/03	<0.01		ug/L		
		Chrysene	2006/10/03	<0.1		ug/L		
		Benzo(b&j)fluoranthene	2006/10/03	<0.1		ug/L		
		7,12-Dimethylbenz(a)anthracene	2006/10/03	0		ug/L		
		Benzo(k)fluoranthene	2006/10/03	<0.1		ug/L		
		Benzo(a)pyrene	2006/10/03	<0.01		ug/L		
		Indeno(1,2,3-cd)pyrene	2006/10/03	<0.1		ug/L		
		Dibenz(a,h)anthracene	2006/10/03	<0.1		ug/L		
		Benzo(g,h,i)perylene	2006/10/03	<0.1		ug/L		
		Dibenzo(a,h)pyrene	2006/10/03	0		ug/L		
		Dibenzo(a,i)pyrene	2006/10/03	0		ug/L		
		Dibenzo(a,l)pyrene	2006/10/03	0		ug/L		

N/A = Not Applicable

NC = Non-calculable

RPD = Relative Percent Difference

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DRAFT

**PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT,
INUVIK (MIKE ZUBKO) AIRPORT
INUVIK, NORTHWEST TERRITORIES**

Prepared for:

**Transport Canada
Environmental Affairs, Prairie and Northern Region**

**#1100, 9700 Jasper Avenue
Edmonton, Alberta
T5J 4E6**

Prepared by:

**Franz Environmental Inc.
#308 – 1080 Mainland Street
Vancouver, BC
V6B 2T4**

Executive Summary

Franz Environmental Inc. (FRANZ) was retained by Public Works and Government Services Canada (PWGSC) on behalf of Transport Canada (TC) to conduct a Phase II and III Environmental Site Assessment (ESA) at the Inuvik (Mike Zubko) Airport (Inuvik Airport), Inuvik, Northwest Territories.

The Inuvik airport was originally constructed in 1956-1958 using the method of crushed rock fill placed on top of permafrost. Since 1959 the apron has been expanded and taxiways and roads have been built to the aviation development area. Numerous Areas of Potential Environmental Concern (APECs) have been identified to date at Inuvik Airport. The extent of soil and groundwater impacts at APECs listed in the Request for Proposal (RFP) for this project has not been assessed and were to be the subject of the present investigation. Modifications to the work plan were developed with the approval of TC, based on information obtained during the site reconnaissance and field observations as the work progressed.

The investigation was conducted in September 2006 and involved the excavation of 64 test pits and the drilling of four boreholes completed as monitoring wells at five APECs, including two APECs added to the work plan based on field observations. Soil contamination was encountered in a number of areas at four of the APECs. Limited groundwater was encountered at all APECs investigated and consequently, no groundwater samples could be collected from the newly installed or pre-existing monitoring wells. Water samples were collected from one test pit and one vertical culvert encountered on site. No contaminated groundwater was identified.

The findings and recommendations have been summarized in the following table.

SUMMARY OF CONCLUSIONS RECOMMENDATIONS

APEC No.	Name	Area of Environmental Concern (AEC) Yes/No	Contaminants of Concern (COCs) in Soil	Estimated Volume of Contaminated Soil (m ³)	Contaminants of Concern (COCs) in Groundwater	NCS Score and Recommendations for Further Work
1	Former Maintenance Garage	Yes	F2, F3, F4	1050 to 1900	None identified (no groundwater)	• Further test pitting to delineate contamination in some areas and determine accurate soil volumes for remedial option evaluation. • Sampling of groundwater, if any present, in monitoring well.
2	Former Fire Fighting Training Area (FFTA)	Yes	Toluene, xylenes, F1, F2, F3, F4	1730 to 3920	None identified (no groundwater)	• FCSAP NCS Score: 60.3 – Class 2 – Action Likely Required • Further test pitting to delineate extents of contamination and determine accurate volumes for remedial option evaluation. • Sampling of groundwater, if any present, in monitoring wells.
3	Former Construction Camp Site	No	None identified (no sampling conducted)	0	None identified (no sampling conducted)	• No further work recommended.
4	Cleared Area, West Edge of Main Quarry	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.
5	Distance Measuring Equipment (DME) Building	No	Reported contamination could not be identified at either DME Building	0	APEC location could not be identified	• No further work recommended.
6	Main Quarry Landfill	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.
7	Main Quarry Asphalt Plant Site	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.

APEC No.	Name	Area of Environmental Concern (AEC) Yes/No	Contaminants of Concern (COCs) in Soil	Estimated Volume of Contaminated Soil (m ³)	Contaminants of Concern (COCs) in Groundwater	NCS Score and Recommendations for Further Work
8	Shell Lake, Lots 11-11 and 11-12	Yes	F1, F2, F3, F4, arsenic, lead, zinc	260	None identified; however hydrocarbon sheen observed.	• FCSAP NCS Score: 83.8 – Class 1 – Action Required • Further test pitting to delineate extents of contamination and determine accurate volumes for remedial option evaluation. • Removal of surface debris to allow further investigation for surficial staining. • Removal of the debris, including remains of burned house, to prevent the material from entering the Lake. • Sampling of groundwater, if any present in monitoring well.
9	Landfill Northwest of Main Quarry	No	None identified	0 (landfill volume: 500)	None identified; however hydrocarbon sheen observed and cadmium data is inconclusive.	• FCSAP NCS Score: 83.8 – Class 1 – Action Required • Further test pitting to delineate extents of contamination and determine accurate volumes for remedial option evaluation. • Removal of surface debris to allow further investigation for surficial staining. • Removal of the debris, including remains of burned house, to prevent the material from entering the Lake. • Sampling of groundwater, if any present in monitoring well. • Obtain groundwater sample from southeast corner of concrete pad to determine cadmium concentration.

APEC No.	Name	Area of Environmental Concern (AEC) Yes/No	Contaminants of Concern (COCs) in Soil	Estimated Volume of Contaminated Soil (m ³)	Contaminants of Concern (COCs) in Groundwater	NCS Score and Recommendations for Further Work
10	Landfill South of Land Treatment Units (LTUs)	Yes	Arsenic, lead, zinc	Not determined (landfill volume: 500 to 1000)	None identified (no groundwater)	• FCSAP NCS Score: 53.2 – Class 2 – Action Likely Required • Further investigation to assess metals contamination in native soils at foot of landfill • Geotechnical investigation to assess possible tension cracks and determine stability of landfill face. • An engineering review covering physical hazards, fencing, signage, capping, long-term monitoring, or risk assessment should be considered.

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1.0 INTRODUCTION

Franz Environmental Inc. (FRANZ) was retained by Public Works and Government Services Canada (PWGSC) on behalf of Transport Canada (TC) to conduct a Phase II and III Environmental Site Assessment (ESA) at the Inuvik (Mike Zubko) Airport (Inuvik Airport), Inuvik, Northwest Territories. Under a 1995 Airport Transfer Agreement between Transport Canada (TC) and the Government of Northwest Territories (GNWT), TC is required to correct environmental regulatory deficiencies at the subject property. The Statement of Work for this ESA was presented in Public Works and Government Services Canada (PWGSC) Request for Proposal (RFP) / Solicitation E0213-06N003/A and this project was awarded to FRANZ under contract number E0213-06N003/001/PWZ. Modifications to the work plan were developed with the approval of Mr. Darryl Pederson, Transport Canada's project manager, based on information obtained during the site reconnaissance and field observations as the work progressed.

1.1 Background

The Inuvik Airport was originally constructed in 1956-1958 using the method of crushed rock fill placed on top of permafrost. Since 1959, the apron has been expanded and taxiways and roads have been built to the aviation development area. In the 1990s, the airport was transferred to GNWT and TC has been investigating and remediating Areas of Potential Environmental Concern (APECs) identified at the airport as part of the transfer process. Numerous APECs have been previously identified at Inuvik Airport and investigation and/or remediation has been completed at the majority of the APECs. The extent of soil and groundwater impacts at eight (8) APECs identified in the RFP had not been assessed and were the examined in the present phase of work.

1.2 Site Description

Inuvik is the largest community north of the Arctic Circle and is located 201 km north of the Arctic Circle, 97 km from the Beaufort Sea. Inuvik Airport serves as a regional hubbing point for delivery of services to smaller northwestern communities such as Tuktoyaktuk, Aklavik, Paulatuk, Fort McPherson, Arctic Red River, and Sachs Harbour. The location of Inuvik and the local setting of Inuvik Airport are shown in Figure 1-1. The airport terminal is located approximately 9 km southeast of Inuvik along the south side of the Dempster Highway. The airport includes an east-west oriented runway approximately 1950 m in length, with the aviation development area and airport facilities primarily located along the north side of the runway. The floatplane base is located on the north shore of Shell Lake (also known as Long Lake), approximately 4 km southeast of Inuvik and 5 km west of the airport terminal. Dolomite Lake (also known as Airport Lake) forms part of the southern boundary of the airport property and is located approximately 1000 m south of the terminal.

1.3 Objectives

The objectives of the investigation in this study, as identified in the RFP, are:

- Reduce uncertainty and indicate current potential liabilities;
- Complete assessments on all listed APECs for the site airport;
- With the information available determine the source, nature and extent (vertical and horizontal) of contamination or contamination plumes where further physical on site investigative work is required;
- Provide an estimate on the nature and extent of contaminants affecting the soil and groundwater at the site; and
- Provide a CCME site score for each APEC, where possible (except maintenance garage).

1.4 Previous Environmental Investigations

A series of environmental investigations have been completed at the site. In chronological order, they are:

- *Inuvik Airport Environmental Baseline Study – 1994*, M.M.Dillon Limited Consulting Engineers, Planners and Environmental Scientists, 94-2185, Volume I and II, February 1995;
- *Remedial Action Plan Follow-up, Inuvik Airport, Northwest Territories*, Public Works and Government Services Canada, March 1999; and,
- *Environmental Site Investigation, Inuvik Airport Maintenance Garage, Inuvik Airport, Inuvik, Northwest Territories*, Environmental Management Technologies (EMT), File No: E1001-007-04, January 2005.

1.5 Areas of Potential Environmental Concern

The RFP identified eight (8) known APECs at Inuvik Airport that required further investigation, as follows:

- Former maintenance garage location
- Former firefighting training area (FFTA)
- Former construction camp site
- Cleared area at west edge of main quarry
- Distance measuring equipment building (DME)
- Main quarry landfill
- Main quarry asphalt plant
- Shell Lake

Only two sites had any significant background information available: the FFTA and the former maintenance garage. None of the other sites had been investigated or studied in detail in the past.

The FFTA had identified contamination at the southeast corner, downgradient, of the mock-up location. Contamination exceeded both the Government of the Northwest Territories (GNWT) Site Remediation Guidelines (1998) and the Canadian Council of Ministers of the Environment (CCME) Canada Wide Standards (CWS) Soil Quality Guidelines (1997). The soil active layer at the FFTA was estimated to be between 2.4 to 3.7 metres. Continuous permafrost was encountered below this depth. Groundwater sampling had not been possible on the last two sampling attempts due to restricted flow.

For the old maintenance garage location, permafrost depth was thought to occur at approximately 2 metres. The footprint of the building was approximately 32 m x 24 m. A crawlspace existed between the slab floor and ground level. Sampling conducted in 2005 was to 0.3 metres depth in the crawlspace and around the AST sites. Exceedances were identified in the F2 to F4 fractions of the Canada Wide Standards (CWS).

Two additional APECs were identified by FRANZ during site reconnaissance/site walkthrough conducted in September 2006 in advance of the Phase II and III ESA with Mr. Darryl Pederson, Transport Canada's project manager. Two landfill areas were identified; one is located west of the main quarry and the second is located south of the Land Treatment Units (LTUs) and former FFTA.

A detailed list of the APECs assessed during this project, the potential contaminants of concern (PCOCs), and the associated analytical parameters are presented in Table A. Figure 1-2 presents the location of each APEC on the airport property. The APEC numbers were assigned by FRANZ for ease of reference.

TABLE A: Summary of APECs Investigated

APEC No.	Areas of Potential Environmental Concern	Potential Contaminants of Concern	Regulated Parameters
1	Former Maintenance Garage Location	Hydrocarbons, solvents, and waste oil. F2 to F4 contamination in soil has been previously identified.	F1-F4, BTEX, PAHs, VOC, metals
2	Former Fire Fighting Training Area (FFTA)	Hydrocarbons, F2 to F4 range contamination in soil has been previously identified.	F1-F4, BTEX, lead, PAHs, metals

APEC No.	Areas of Potential Environmental Concern	Potential Contaminants of Concern	Regulated Parameters
3	Former Construction Camp Site	Hydrocarbons from fuel historically used at site; other activities.	F1-F4, BTEX, PAHs, metals, PCBs
4	Cleared Area, West Edge of Main Quarry	Possible presence of buried prime oil drums; other buried wastes.	F1-F4, BTEX, PAHs, metals, PCBs
5	Distance Measuring Equipment (DME) Building	Surface soil staining (former emergency generator).	F1-F4, BTEX, lead, PAHs, metals
6	Main Quarry Landfill	Landfill operation 1962-1967. Possible presence of asbestos and other hazardous building materials.	F1-F4, BTEX, PAHs, VOCs, PCBs, total metals, leachable metals
7	Main Quarry Asphalt Plant Site	Former asphalt plant operations and related contaminants.	F1-F4, BTEX, lead, PAHs, metals
8	Shell Lake, Lots 11-11 and 11-12	Surficial debris is present. Hydrocarbons from fuel and vehicle maintenance.	F1-F4, BTEX, PAHs, metals, PCBs
9	Landfill Northwest of Main Quarry	Partially buried debris and vehicle observed at surface.	F1-F4, BTEX, PAHs, VOCs, PCBs, total metals, leachable metals
10	Landfill South of Land Treatment Unit (LTU)	Partially buried drums observed at surface	F1-F4, BTEX, PAHs, VOCs, PCBs, total metals, leachable metals

2.0 REGULATORY CONTEXT

Contaminated site remediation in the NWT is regulated by the GNWT's Environmental Guideline for Contaminated Site Remediation (EGCSR). The GNWT has adopted the CCME CWS for gross petroleum hydrocarbons in soil as remediation criteria (Appendix 3 of EGCSR). These criteria apply to a variety of generalised land uses, and vary with the depth of the soil being investigated and the grain size of that soil, as well as specific environmental and human receptors and pathways.

The GNWT has also adopted the CCME Canadian Environmental Quality Guidelines (CEQGs) for soil and these remediation criteria are included as Appendix 5 of the EGCSR. These soil criteria are for specific petroleum hydrocarbon compounds and a variety of other parameters have been established for broad land use categories.

Land use at airports is not specifically designated in the EGCSR; however, airports are generally considered as commercial land use as they are neither manufacturing or storage facilities (industrial land use) nor dwellings or institutions (residential land use). Some areas of the airport property may be used for industrial purposes; however, the commercial and industrial land use criteria in the EGCSR are identical in most cases, with the commercial land use criteria being more stringent when they differ. Consequently, the standards and guidelines for commercial land use, as discussed above, will be used herein for numerical comparison to the laboratory analytical results.

The EGCSR does not include groundwater or surface water criteria. However, CCME CEQGs are available for drinking water, surface water, and sediments and may be applied as assessment and remediation criteria. There are no CCME CEQGs specifically for groundwater discharging to aquatic environments and therefore, a ten times dilution factor on discharge of groundwater to surface water will be applied in comparing groundwater analytical data to the surface water CEQGs. This approach is in general agreement with that taken by British Columbia, Yukon, and Ontario, where numerical values (standards) for groundwater are directly available and have been established by multiplying the surface water numerical values by a factor of 10 in order to account for attenuation and dilution occurring within the groundwater system itself, and at the discharge point of groundwater to a surface water body.

The GNWT remediation criteria and CCME CEQGs are presented for comparison alongside the laboratory analytical results in Tables 1 through 6 (soil) and Tables 7 through 9 (groundwater) following the text.

3.0 FIELD METHODOLOGY

The Environmental Site Assessment was carried out at the Inuvik Airport in September of 2006. The field program consisted of site reconnaissance followed by excavating test-pits, advancing boreholes, and installing groundwater monitoring wells in boreholes. FRANZ personnel were responsible for the collection of soil and groundwater samples, water level measurements, monitoring wells installation and taking field observations. A photographic log of site features at each APEC and field program activities are presented as Appendix A. The field investigation procedures are described in the following sub-sections.

3.1 Utility Clearances

After the information review and prior to commencing the excavation, drilling, and well installation work, FRANZ personnel conducted a field reconnaissance visit. The purpose of this visit was to identify the location of underground and overhead utilities, obtain a first-hand impression of the physical site conditions and site access, confirm potential areas for site instrumentation (e.g. test pits, boreholes and monitoring wells), inspect for any signs of contamination (e.g. staining, stressed vegetation, etc.), and identify drainage patterns, etc.

Particular attention was placed on the location of buried services and piping. Buried services can act as preferential pathways for contaminant transport, especially in areas where the water table intercepts the utility and fill materials within the utility alignment. The fill materials are more permeable than surrounding native soils. Test pits and boreholes must also be placed to avoid damaging these underground services. Utility locates were performed using maps provided by GNWT personnel, knowledge of Inuvik airport personnel and contractors, surface observations, and geophysical sensing conducted by Western Leakage Services Ltd. of Coquitlam, BC.

3.2 Health and Safety Plan

Before commencing site activities, a site-specific health and safety plan (HASP) was developed by FRANZ. The HASP identified and provided mitigative action for potential physical and chemical hazards associated with the work. The HASP also listed emergency contact numbers and provided protocols to follow in the event of an emergency.

Daily health and safety tailgate meetings were conducted to educate on-site personnel on the apparent risks and appropriate mitigative actions as well as address any health and safety concerns of on-site staff. The site-specific health and safety plan has been retained on file at FRANZ.

3.3 Test-Pitting Program

The test-pitting program was carried out on September 14 to 22, 2006 using a rubber-tire backhoe provided by Northwind Industries Ltd. of Inuvik, Northwest Territories. The test pitting was conducted to investigate the shallow subsurface soil at APECs 1, 2, 8, 9 and 10. A total of 64 test pits were excavated. Soil stratigraphy was observed and classified prior to collecting representative soil samples. Buried anthropogenic materials were inspected and described. Locations of the test pits are shown on the individual site plans for the various APECs. Soil and subsurface descriptions were compiled in test pits logs and are presented in Appendix B.

3.4 Drilling and Monitoring Well Installation

The drilling at the various APECs at the airport was carried out on September 21 and 22, 2006 by Northwind Industries Ltd. using a solid-stem auger mounted on a loader. The boreholes were drilled to a maximum depth of 3.2 m below grade. Monitoring wells were installed by FRANZ staff in all four of the boreholes drilled.

The monitoring wells were constructed using 55 mm (ID) Schedule 40, flush-threaded PVC pipe and screen with threaded and/or friction fit bottom caps. Well screens are constructed of either a 1.52 or 1.37 m length of 0.020 inch slotted PVC pipe. The screened portion was set in a clean sand pack to approximately 0.3 m above the screened portion. A 0.15 m thick bentonite seal comprised of granular bentonite chips was placed above the sand pack, and the remainder of the annular space was filled to ground surface with clean native material or cuttings. No external water was introduced into the ground while completing the monitoring wells. The monitoring wells were completed with flush-grade, locking, steel water-tight protectors that were cemented at surface.

The sand pack utilized for monitoring well construction was locally available and consisted of imported, uniform coarse sand that is being used by the airport for winter runway operations. A sample of this sand was analysed for total and leachable metals prior to use in the monitoring well installations and found to be acceptable. Concentrations of metals in the sand were less than the CEQG and leachable metals were not detectable or present at concentrations slightly above the laboratory method detection limits.

Locations of the boreholes and monitoring wells are shown on the individual site plans for the various APECs. Soil information and monitoring well completion details are compiled on borehole logs presented in Appendix B.

3.5 Soil Sampling

Soil samples were collected from each test pit directly from the sidewalls of the excavation for shallow samples (less than 1.0 m deep) and directly from the backhoe bucket for deeper samples. Representative soil samples were collected from each soil horizon identified in a test

pit and placed into 120 mL laboratory-supplied glass jars. Water samples were collected in laboratory-supplied bottles. The soil sample jars were immediately placed in a cooler with ice and were delivered to Maxxam Analytics Inc. (Maxxam), the project laboratory, in Edmonton, AB. Each sample was labelled according to its location as follows: APEC#-TP06-TP#-Sample#. For example, the second sample taken from test pit 5 at APEC 1 in 2006 would be labelled 01-TP06-05-02.

Field screening of all collected soil samples was conducted by measuring soil vapour levels in the headspace of bagged soil samples, collected as duplicates of the jarred soil samples. Field screening was conducted using a consistent procedure as follows: a standard volume of soil was placed in ziploc® polyethylene bags; the bagged samples were allowed to equilibrate to ambient air temperatures for a consistent period of time. Some cold days, the bagged samples were warm up in the car for a time to equilibrate. After equilibration, a combustible gas indicator (CGI) probe was inserted into the ziploc® bags and the maximum concentrations of combustible vapours were recorded.

Field screening was also conducted by visual and olfactory observations. Soil odour, appearance, and colour were used to screen impacted soil from non-impacted soil. In some cases, soil that exhibited a strong petroleum hydrocarbon odour was also markedly discoloured or stained.

3.6 Groundwater Sampling

Prior to groundwater sampling, a round of groundwater level monitoring in new and old wells was conducted using a Solinst oil-water interface probe. Water levels, bottom of well, and presence or absence of liquid petroleum hydrocarbon (LPH) were measured with reference to the top of the well casing. A total of seven wells in APECs 1, 2, 8, and at the LTU were monitored. In all cases, the wells were found to be dry or contained less than 15 cm of water, precluding any groundwater sampling efforts.

During the site reconnaissance, a vertical culvert was found between two buildings at the west side of APEC 1 next to an aboveground storage tank (AST) that appeared to contain heating oil. The culvert was approximately 1 m in diameter and contained standing water at approximately 2 m depth. As the purpose of the culvert and nature of the standing water was unknown, and due to the proximity of the heating oil AST, a sample of the water was collected for analysis. No purging or developing of the culvert was conducted prior to collecting a sample of the standing water. Water sampling was conducted using a peristaltic pump and dedicated 6 mm interior diameter (ID) HDPE tubing. Water samples were collected in laboratory-supplied bottles and were stored in coolers with ice until delivered to Maxxam.

3.7 Surveying

Following the completion of the field investigation, Sub-Arctic Surveys Ltd. of Yellowknife, NWT surveyed the monitoring wells for horizontal positions and top of casing and grade elevations, and the test pits for horizontal position and grade elevation. The survey results have been incorporated into the logs, figures, and tables provided in this report. All monitoring well and test pit locations were surveyed using the NAD 83 datum.

3.8 Laboratory Analytical Program

Soil samples were selected for analysis based on visual and olfactory indications of impacts, stratigraphic and geological observations, and to provide information about vertical and areal distribution of PCOCs. Groundwater/water and selected representative soil samples were sent to the project laboratory for chemical analysis for various target compounds previously identified. A copy of the chain-of-custody form used for the sample submission is provided with the laboratory's certificates of analysis in Appendix C. Analysis for the following chemical parameters were performed on various samples.

Soil:

- A suite of metals (total and leachable);
- Benzene, toluene, ethylbenzene, and xylenes (BTEX);
- Petroleum Hydrocarbon (PHC) fractions: F1 (C6-C10), F2 (C10-16), F3 (C16-34) and F4 (C34-50);
- A suite of volatile organic compounds (VOCs);
- A suite of polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated biphenyls (PCBs);

Water

- A suite of dissolved metals;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX);
- F1 (C6-C10), F2 (C10-16), F3 (C16-34) and F4 (C34-50);
- A suite of volatile organic compounds (VOCs); and,
- A suite of polycyclic aromatic hydrocarbons (PAHs).

Two water samples were collected during this investigation and required non-standard sampling procedures. A groundwater sample collected from seepage water that accumulated in a test pit was collected directly into sampling bottles from pooled water within the test pit. Normal development and purging procedures could not be applied in this situation. A water sample was collected from a large-diameter vertical culvert using a bailer. The standing water within the culvert was sampled without any prior development or bailing as it was not clear if the water represented groundwater or if any recharge could be expected. Volatile compounds may be lost in standing water or test pit seepage water; however, semi and non-volatile parameters

would be unaffected. Water samples were not filtered, with the exception of samples for dissolved metals analysis.

The laboratory analytical program was based on the historical information provided, the requirements of the GNWT EGCSR and CCME Guidelines, as well as our professional experience.

All samples were shipped to Maxxam Analytics Inc. (Maxxam) in Edmonton, AB, and analysed in Maxxam's laboratories.

The laboratory analytical results for all soil and groundwater samples collected by FRANZ in 2006 at Inuvik Airport as part of this investigation are presented in Tables 1 through 6 (soil) and Tables 7 through 9 (groundwater) following the text.

3.9 Quality Assurance and Quality Control

FRANZ has a Quality Assurance/Quality Control (QA/QC) protocol, including appropriate techniques for soil sampling, groundwater sampling, sample storage, shipping and handling as well as collection of duplicates, field blanks and equipment blanks.

To minimize possible cross-contamination, disposable nitrile rubber gloves, replaced after each sample, were worn while collecting samples. The soil and groundwater samples were collected into the appropriate labelled glass jars or plastic bottles, which were supplied by the laboratory. The samples were placed into laboratory-supplied insulated coolers and kept cool with ice during transport to Maxxam.

Maxxam is a Canadian Association for Environmental Analytical Laboratories (CAEAL) certified laboratory with an internal QA/QC protocol. The laboratory QA/QC documentation is provided with the analytical report and it was reviewed by FRANZ as part of the QA/QC protocol.

Duplicate samples were also collected and analyzed to identify sample variability as well as to monitor sampling and laboratory analytical precision and accuracy. Analytical precision is evaluated by performing duplicate analyses on a single sample, whereby, the sampling precision is evaluated by collecting and analyzing field duplicate samples. Precision is evaluated by calculating the relative percent difference (RPD) for a sample and duplicate pair according to the following equation:

$$RPD = \frac{(X_1 - X_2)}{[(X_1 + X_2)/2]} * 100$$

where: X_1 = concentration for sample 1 of duplicate pair, and

X_2 = concentration for sample 2 of duplicate pair.

RPD values were calculated for duplicate analyses are presented with the analytical data in the tables following the text. RPDs are not calculated where one or both of the duplicate results are less than five times the laboratory's method detection limit (MDL) as results at these low concentrations are generally quite variable.

3.9.1 Results of QA/QC Samples

Selected soil samples were collected in duplicate and submitted for blind duplicate analysis for PHC F1-F4, BTEX, PAHs, and total metals. RPD values for the petroleum hydrocarbon parameters were quite variable, ranging from 0% to 184% while values less than 30% for groundwater and 50% for soils are generally considered indicative of acceptable reproducibility. The elevated RPD values may be due to the nature of the matrix (crushed rock), and variations in hydrocarbon distribution within the soils. In all cases, the concentrations of each parameter in both samples were either above or below the applicable guideline.

The higher RPD values are generally associated with lower concentrations of the parameters while higher concentrations, on the order of the applicable guidelines, generally yielded lower RPD values, with the notable exception of toluene and ethylbenzene. In sample 02-TP06-07-02 and its duplicate 02-TP06-DUP7, the RPDs for toluene and ethylbenzene were greater than 100% and the values differed by approximately one order of magnitude. The benzene values also differed by a similar amount, but as one of the concentrations was less than the laboratory MDL, an RPD could not be calculated for benzene. Xylene concentrations illustrated excellent reproducibility between these samples, as did the PHC fractions. It is unclear why the reproducibility for this sample was so poor. Irrespective of the reproducibility, this sample exceeded the applicable CCME standards for several petroleum hydrocarbon parameters and the conclusions based thereon remain valid.

3.10 National Classification System and CCME Site Score

FRANZ completed the Federal Contaminated Sites Action Plan (FCSAP) version of the National Classification System (NCS) worksheet for selected APECs at the Inuvik airport. This FCSAP NCS worksheet was adapted by Health Canada from the Canadian Council of Ministers of the Environment (CCME) original NCS. The September 2005 electronic version of the FCSAP NCS worksheet was used. The detailed FCSAP NCS worksheet was completed for each APEC where exceedances of remediation guidelines were identified, except for APEC 1, former maintenance garage, as specified in the RFP. A FCSAP NCS worksheet was also completed for those APECs where landfills are located, regardless of whether exceedances were identified. The evaluation form provides the detailed rationale for each score for all categories. FRANZ understands that this is the first calculated FCSAP NCS or NCS score derived for these APECs. A copy of all FCSAP NCS worksheets completed as part of the current program is included in Appendix D.

4.0 GEOLOGICAL AND HYDROGEOLOGICAL CONTEXT

Inuvik is located in the Arctic Continental Shelf geological province consisting of sedimentary rocks dating from the lower Cretaceous Period. A dome of older sedimentary rocks of Proterozoic age, part of the Cordilleran Orogen geological province, rises through the lower Cretaceous rocks in the vicinity of the Inuvik Airport. The boundary between these two rock types is reported to be located on the airport property between the floatplane base (lower Cretaceous sediments) and airport terminal (Proterozoic sediments). Bedrock geology was not examined in detail during the fieldwork; however, outcrops were noted near all APECs (except APEC 1 and APEC 8) and generally appeared to consist of brown to grey, fine-grained calcareous or argillaceous sediments.

Surficial soils consist of glacial till lying directly on the bedrock surface. In the vicinity of the airport terminal, the deposits are described as a thin and discontinuous till veneer that includes extensive areas of bedrock outcrop. Immediately north, including the area of the float plane base, the till thickens and forms a continuous blanket. A peaty topsoil layer has developed on the till surface and permafrost is present several metres below the surface. To the east of Inuvik is the Mackenzie River delta where deposits consist of a thick accumulation of stratified silts.

Surface drainage in the airport area is directed towards Dolomite Lake (Airport Lake), located south of the terminal, and Shell Lake (Long Lake) located further west at the float plane base. Both of these lakes drain via short streams westward to the Mackenzie River, which flows north approximately 100 km to the Beaufort Sea (Arctic Ocean).

4.1 General Soil Stratigraphy

The observed stratigraphy consisted of fill material composed of crushed rock (shale or other fine-grained argillaceous or calcareous rock) of variable size and up to 3.4 m in thickness. In some test pits in landfill areas, debris/waste such as wood, drums and lids, rusted metal, and tires was observed in large quantities. Under the fill material, a peat layer up to a maximum of 0.3 m in thickness was present in most test pits. Below the peat layer, native soil was encountered and consisted of fine sand, clayey to sandy silt, or either silty clay.

Grey to purple, fractured shale bedrock was encountered at a depth ranging from 0.1 to 1.8 m below ground surface in seven test pits in the eastern portion of APEC 2, the FFTA. The same bedrock was encountered in one test pit at 1.8 m depth at APEC 10 at the western top slope of the landfill south of LTU.

4.2 General Hydrogeology

Limited groundwater was encountered during the investigation at all APECs. The crushed rock fill material present at most APECs was generally free-draining and did not allow groundwater to accumulate. In some cases, groundwater was encountered at the fill / peat boundary; however, the saturated thickness was negligible. Approximately 0.12 m of groundwater was present in 01-MW06-01, installed at APEC 1, the former maintenance garage; however, this was insufficient to develop and sample the well. The underlying native peat and glacial deposits were generally found to be frozen, indicating that the permafrost had advanced upwards since placement of the fill.

At locations where silt and sand soils were present, particularly APEC 8 at the Shell Lake, saturated soils were encountered at lake level and perched on fine-grained horizons; however the saturated thickness was generally negligible or seepage was minor. At test pit 08-TP06-03, several metres from Shell Lake, sufficient groundwater seeped from the sandy silt unit at surface for collection and analysis.

3.0 INVESTIGATION RESULTS

The investigation results for each APEC are described in this section. Photographs of field activities and general views are presented in Appendix A.

5.1 APEC 1 - Former Maintenance Garage Location

5.1.1 Observations and Work Plan

APEC 1 is located at the west end of the airport's main development area, just west of the Terminal, as shown in Figure 1-2. The old maintenance garage at APEC 1 was removed from the site in the summer of 2004. During operation of the maintenance garage, several holes had been drilled in the concrete slab floor allowing for drainage. In addition, two ASTs were operated on site, one on each side of the maintenance garage. In 2004, a sampling program was conducted by Environmental Management Technologies (EMT) and identified F2 to F4 PHC contamination in soil in the crawl space of the building and at both ASTs.

The original land surface in the vicinity of the maintenance garage had been altered by the installation of the crushed rock pad which extends east and southeast from this location; however, a swale appears to have led north and then northwest from the maintenance garage area and may represent a preferential pathway for groundwater and contaminant drainage.

During discussions with the airport manager, Ms. Karen King, it was determined that two fuel ASTs (9,000 L diesel fuel and 4,500 L gasoline) were historically located south of the former maintenance building, across the access road, near the south edge of the crushed rock pad. Some minor areas of surficial staining were observed in this area.

During the site reconnaissance, it was observed that there were small areas of surficial staining on the gravel surface along the east side of the sheds (W57 – cold storage and W56 – carpentry shop) west of the former maintenance garage. A 2,273 L heating oil AST was noted between the sheds and a vertical, galvanised steel culvert, approximately 1 m in diameter and containing water at approximately 2 m depth was present immediately west of the AST. No information regarding the culvert was available; however, it appeared that the water in the culvert may represent groundwater. Soil staining was also observed at the northeast corner of building W57. An 1136 L heating oil AST is located between W56 and T4 – electrical shop, to the south; no surficial staining was present at this location.

During the current program, 28 test pits were completed in the area of the former maintenance garage to investigate the areas of impacted soil identified by EMT as well as the additional suspect areas described above. A total of twelve test pits were advanced inside the footprint of the former building, four at the former 1,136 L heating oil AST north of the former building, six around the building footprint, five south of the former building in the gravel area where two

former fuel ASTs were formerly located, and one at the location of surficial staining between the sheds, east of the heating oil AST. No test pit was excavated at the area of surficial staining northeast of shed W57 due to presence of underground services beneath the staining. In addition to the test pit program, one borehole with a monitoring well installation was advanced inside the northwest corner of the former building footprint. A groundwater sample was collected from within a vertical steel culvert located in the ground between buildings W56 and W57.

Surficial material at APEC 1 was found to consist of crushed rock applied directly on the pre-existing surface, marked by a peaty unit. The underlying native materials were not encountered due to excavator refusal on permafrost. In some test pits, permafrost was encountered in the crushed rock unit before the peat was reached. Minor groundwater seepage and saturated horizons were observed in some test pits; however, no significant groundwater yields were encountered in any of the test pits in APEC 1.

Hydrocarbon odours were noted in soil samples collected from various test pits in the maintenance building footprint, surrounding area, and at the former fuel ASTs to the south. The highest soil headspace vapour concentration, 480 ppm, was from this latter area. Soil headspace vapour concentration in samples from the maintenance building footprint were generally in the range of 50 ppm though several samples from the peat unit produced concentrations over 100 ppm.

5.1.2 Soil Analytical Results

Selected soil samples were analyzed for total metals, BTEX, PHC F1 to F4, VOCs, and PAHs. Tables 1, 2, 3, and 4 summarize the soil analytical results obtained at APEC 1. Figure 5-1 summarises the results of the soil analytical data and the approximate extents of impacted areas.

The soil analytical results are in compliance with applicable GNWT standards and guidelines except for PHC F2 to F4 in some samples, as follows:

- North edge of former maintenance garage: Soil samples 01-TP06-04-01 (0.4-0.6 m) and 01-TP06-18-01 (0.3-0.5 m) had PHC F3 concentrations respectively of 2,830 and 2,330 µg/g exceeding the GNWT CL standard (coarse/surface soil) of 1700 µg/g. PHC chromatograms indicate a mixture of oil(s) and fuel range hydrocarbon products at 01-TP06-04 and other locations within the former maintenance garage footprint. The mixture of products varies from location to location, but is generally consistent vertically (i.e. similar at various depths from the same test pit). The product at 01-TP06, outside the northwest corner of the former garage appears to be solely a lubricating oil range product.

- Former fuel ASTs to south: At test pit 01-TP06-21, three samples were analyzed and all of them exceeded F2 standards of 760 µg/g for CL (coarse/surface soil) and 2,000 µg/g for CL (coarse/subsurface soil, below 1.5 m). The reported PHC F2 concentrations were; 3,930 µg/g for sample -02 (0.4-0.6 m), 3,810 µg/g for sample -03 (1.4-1.6 m), and 2,840 µg/g for sample -04 (2.1-2.4 m). Based on the PHC chromatogram, the hydrocarbon present in these samples is diesel fuel.
- Surficial staining near shed W57: At test pit 01-TP06-28, three samples from different depths were analyzed and PHC F2 to F4 were detected in all three samples. Sample -01 (0.1-0.3 m) exceeded the standards for F3 (8,440 µg/g) and F4 (6,680 µg/g), sample -02 (0.4-0.5 m) exceeded the standards for F2 (2,560 µg/g) and F3 (3,650 µg/g), and sample -03 (0.6-0.8 m) exceeded the standard for F3 (6,920 µg/g). The PHC chromatograms indicate that there are two distinct products present in these samples: diesel fuel and a lubricating oil range material.

5.1.3 Water Analytical Results

As noted previously, a sample of groundwater could not be collected from the monitoring well as there was not enough water to develop the well or collect a representative sample. A water sample was collected from the vertical galvanised steel culvert between sheds W56 and W57 and analyzed for total metals, BTEX, PHC F1, PHC F2-F4, VOCs, and PAHs. Tables 7, 8, 9, and 10 summarize the water analytical results obtained at APEC 1. These results were compared to the applicable CCME standards and all results were compliant except for a concentration of dissolved zinc measured at 2960 µg/L compared to CCME guideline of 30 µg/L (See Figure 5-2). Concentrations of petroleum hydrocarbon parameters and VOCs in the samples from the culvert were all less than the laboratory MDLs.

5.2 APEC 2 - Former Fire Fighting Training Area

5.2.1 Observations and Work Plan

APEC 2 comprises a levelled area approximately 60 m by 100 m located on an east-west ridge located southwest of the airport runway. The land falls away gently to the north towards the runway with some lower level benches along the north side of the levelled area. A gravel access road separates APEC 2 from another levelled area on the south side that is the location of a Land Treatment Unit (LTU) that is not presently in use. A second, neighbouring LTU has been decommissioned. APEC 10 is located along the southeast side on the LTUs, on the southern ridge face.

The site consists of a former mock-up area where fuel was periodically burned as part of firefighting training exercises. Contamination at the FFTA was previously identified at the

southeast corner of the levelled area in the vicinity of former ASTs. Groundwater sampling had not been possible in the last two attempts during previous investigations due to restricted flow.

During the site reconnaissance, it was observed that there were areas of surficial staining on the gravel surface in three areas: southeast corner where fuel ASTs were formerly located, south central area where mock-ups were formerly located; and the west central area where drum storage may have occurred in the past (as noted in the 1994 Environmental Baseline Study (EBS) report).

During the current program, 18 test pits were excavated to depths ranging from 0.4 to 3.6 m in the area of APEC 2 to investigate the areas of former hydrocarbon contamination and possible presence of buried drums of prime oil. Test pits were placed in a 20 m grid across APEC 2. In addition to the test pits program, two monitoring wells were installed at APEC 2 to assess the groundwater. The locations chosen were in shallow depressions near the former mock-ups where surface run-off would be expected to gather and possibly result in accumulation of contamination and groundwater.

Surficial material at APEC 2 was found to consist of crushed rock applied directly on the pre-existing surface, marked by a thin peaty horizon developed on native deposits of sand-gravel-silt-clay. In some locations, bedrock was encountered directly beneath the crushed rock. Test pits extended to a maximum depth of 3.6 m and commonly terminated when permafrost or bedrock was encountered. Minor groundwater seepage and saturated horizons were observed in some test pits; however, no significant groundwater yields were encountered in any of the test pits in APEC 2.

Hydrocarbon odours were noted in soil samples collected from test pits near the former location of the mock-ups and area to the north and northwest. Soil headspace vapour concentrations in samples from this area exceeded 100% LEL in several cases and were generally elevated throughout this area. Hydrocarbon odours were also noted in soil samples from test pits north of the former fuel ASTs in the southeast of APEC 2.

Liquid tar, now hardened, was noted on the surface on a lower bench of APEC 2 at the northwest corner. Tar was noted in the crushed rock fill to a depth of 1.0 m.

5.2.2 Soil Analytical Results

The soil samples were selectively analyzed for total metals, BTEX, PHC F1, PHC F2-F4, and PAHs. Tables 1, 2, and 4 summarize the soils analytical results obtained at APEC 2. Figure 5-3 highlights the results of the soil analytical data and the inferred extents of impacted areas. Various petroleum hydrocarbon concentrations in soil exceeded the applicable GNWT and CCME guidelines at 7 locations as follows:

- Location of former mock-ups, extending to surficial staining along west central area: Samples from four test pits (02-TP06-07, 02-TP06-08, 02-TP06-09, and 02-TP06-10) variously exceeded for PHC F1 through F4, toluene, and xylenes at depths ranging from near-surface to as great as 2.5 m below grade. Multiple samples were analysed from four of these test pits and illustrate that concentrations decrease with depth. The highest concentration encountered was 12,800 µg/g PHC F3. PHC chromatograms indicate the presence of diesel fuel and in some cases, lubricating oil range product as well. The PHC product mix at any test pit is generally consistent with depth, although the depth to which the PHC extends varies between locations.
- Southwest corner near surficial staining: A sample from one test pit, 02-TP06-03, exceeded the F3 guideline at a depth of 0.1-0.3 m (3,240 versus 1,700 µg/g). Based on the PHC chromatograms, diesel fuel and lubricating oil range material is present in this area, similar to the mock-ups area.
- Northeast corner near former fuel ASTs: Samples from two test pits (02-TP06-16 and 02-TP06-17) north of the former fuel ASTs where surficial staining was observed, exceeded PHC F3 and F4 guidelines in near-surface samples. No deeper samples were available as bedrock was found to be shallow in this area. The highest concentrations encountered were 28,500 µg/g PHC F3 and 8,660 µg/g PHC F4, versus guidelines of 1,700 and 3,300 µg/g, respectively. PHC chromatograms indicate the presence of a lubricating oil range product.

5.2.3 Groundwater Analytical Results

As noted previously, a sample of groundwater could not be collected from the monitoring well as there was not enough water to develop the well or collect a representative sample. Insufficient water for sampling was also present in the two pre-existing wells found at the southeast corner of APEC 2.

5.3 APEC 3 - Former Construction Camp Site

The location of the former construction camp site was identified by Hank Rogers, a maintenance employee at the airport. The camp was located on the north shore of Dolomite Lake shore, south of the FFTA, as shown in Figure 1-2. This area has a moderate slope, apparently expressing the bedrock topography, and numerous bedrock outcrops and the occasional south-facing cliff were observed during the site reconnaissance. Numerous raised gravel pads up to 0.5 m were observed throughout and appeared to represent the former location of buildings and other structures. These pads were located on natural and man-made benches on the slope above the lake, some of which have been colonised by shrubs and small trees. A small amount of demolition debris (lumber and drywall) was observed at one location but is likely not related to the activities of the camp or its subsequent demolition; the paucity of vegetation at this site and vehicular access implies a more recent deposit of the material. There was no evidence found of

surficial staining that might be associated with the former presence of the work camp buildings, ASTs, or other facilities.

Rusty metal objects, including empty drums, a possible boiler, and pipes were noted in the camp area, partially buried in a bench face, and on the lake shore; however none of these items appeared to represent probable sources of contamination. An electrical box and outlets and guy wire were also observed but do not appear to have any present use. The electrical and guy wires disappear underground into the face of a bench. There appears to be on-going activities (campsites) at several locations in APEC 3, based on the presence of rough shelters and fire pits, as shown in photographs in Appendix A.

Based on the findings of the site reconnaissance, no evidence of contamination was found and consequently no subsurface investigation was conducted.

5.4 APEC 4 - Cleared Area, west edge of Main Quarry

There are two bedrock quarries (Main Quarry and North Quarry) located along the west side of an access road in a relatively undeveloped portion of the airport between the airport terminal and floatplane base, as shown in Figure 2-1. The Statement of Work indicated that prime oil drums may have been buried in a clearing west of the Main Quarry. Inquiries were made with the airport manager to identify the location and obtain further details; however, Ms. King was unable to provide any information regarding this APEC.

Reconnaissance of the area revealed that the quarry is actively being worked for crushed rock / aggregate and continues to expand. Operations appear to be currently focussed in the southern, lower portion of the quarry. The margins of the quarry are generally vertical walls at this time with the ground surface beyond the margins being lightly forested with vegetation typical of the area. A deep, bedrock gully is present approximately 100 to 150 m west of the main Quarry. There appears to be only limited soil lying on bedrock in the Quarry area.

If the supposed clearing and buried drums had been encountered during expansion of the quarry, it seems likely that the drums would have been separated and either stored on site or taken off site for disposal. Underlying rock would have been excavated and processed. No such drums were observed along the western edge of the quarry or within the quarry itself.

Based on the findings of the site reconnaissance, no evidence of APEC 4 or contamination was found and consequently no subsurface investigation was conducted. A small landfill was noted outside the northwest corner of the Main Quarry on the upper slope of the gully near a communications shed. It is possible that this landfill represents the drum burial site reported as APEC 4; however as this is uncertain, it was assigned the identifier APEC 9 and will be discussed in detail in a subsequent section.

5.5 APEC 5 - Distance Measuring Equipment (DME) Building

Information presented in the Statement of Work indicated that a stained area southeast of the DME building represented an APEC. The staining apparently originated from an emergency generator that had been placed near the building. In interviewing the airport manager, it was determined that there are two DME buildings at the airport but Ms. King did not know which building the APEC referred to and consequently, both DME sites were examined. The old DME building is located approximately 300 m southeast of the east end of the runway on a gravel pad in a level, undeveloped area, as shown in Figure 2-1. A small, skid-mounted shed, electrical box, and antenna are located at the site. No generator or tank was present and no indications of surficial staining were observed and consequently, no subsurface investigation was conducted.

The new DME building is located approximately 2000 m west of the airport terminal in an undeveloped area between the terminal and floatplane base, as shown in Figure 2-1. The site is constructed on a gravel pad at the top of a knoll. There are two skid-mounted sheds located at the site with a large, circular, horizontal, antenna overhead. No generator or tank was present and no indications of surficial staining were observed and consequently, no subsurface investigation was conducted.

5.6 APEC 6 - Main Quarry, Landfill Operation 1962-67

According to the Statement of Work, the Main Quarry site has been used for several purposes, including a landfill from 1962 to 1967. Inquiries were made with the airport manager to identify the location of the landfill and to obtain further details; however, Ms. King was unable to provide any information regarding landfill activities at the Main Quarry. A reconnaissance of the Main Quarry was conducted for landfill (and other) operations. General features were previously described under APEC 4 and the quarry location is shown on Figure 2-1. As the quarry floor appeared to be bedrock, it seems unlikely that there is a landfill located within the quarry itself; however, a small landfill was found outside the northwest corner of the landfill and was assigned identifier APEC 9 as it was not clear if this was the APEC 4 or APEC 6 landfill area referred to in the Statement of Work, or another landfill area altogether.

Based on the findings of the site reconnaissance, no evidence of a landfill was found within the quarry and consequently no subsurface investigation was conducted.

5.7 APEC 7 - Main Quarry, Asphalt Operations

According to the Statement of Work, the Main Quarry was the site of asphalt operations related to work at the airport and Dempster Highway. Inquiries were made with the airport manager to identify the location and nature of the asphalt operations; however, Ms. King was unable to

provide any information regarding such operations at the Main Quarry. General features were previously described under APEC 4 and the quarry location is shown on Figure 2-1.

Examination of the quarry was made for typical asphalt operations and plant features such as asphaltic concrete on surface or in stockpiles, run-off retention ponds, and liquid asphalt spills. No indications of asphalt operations observed in the quarry area. Based on the findings of the site reconnaissance, no evidence of contamination related to asphalt operations was found and consequently no subsurface investigation was conducted.

5.8 APEC 8 - Shell Lake, Lots 11-11 and 11-12

5.8.1 Observations and Work Plan

The Statement of Work indicated that surficial debris was present on two lots at the Shell Lake floatplane base, as shown on Figure 2-1, but that no information on related contamination was available. In interviewing the airport manager, it was determined that a house was formerly located on one of the lots and that it had been destroyed by fire. The former tenants reportedly abandoned materials and debris on the property when they departed. The lots are located side-by-side on the north shore of Shell Lake near the centre of the partially developed floatplane base and service area. An access road forms the north boundary of the lots while additional lots are located east and west along the shore.

During the site reconnaissance, it was found that there were a number of structures and facilities remaining on the lots as well as a large amount of debris, as shown in photographs in Appendix A. The majority of the facilities and debris are located on the western lot, 11-11, as shown on Figure 5-4. The lots step down to the waterfront from the access road in two benches. The lower bench is less than a metre above lake level. Overgrown grass is present amongst the gravel and cobbles common on the western lot around the structures and on the flat bench areas. Much of the eastern lot is thickly vegetated with bushes and small trees.

The driveway runs near the western property boundary to a float plane dock on the waterfront. A partially collapsed shed straddles the western property line near the waterfront and an AST was located on a stand with a soil containment berm beneath, between the shed and waterfront. A second dock is located on the waterfront of lot 11-12. The burnt house was located in the centre of lot 11-11, on the lower bench, and the fire debris remains in place, including an apparent heating oil AST along the south side. Two smaller ASTs are located on the edge of the upper bench, above the house. All of the ASTs appeared to be empty or contain minimal liquid and no staining was observed on the ground around the tanks. To the southeast of the burnt house, close to the waterfront, is a concrete slab presumed to be the former location of a shop or shed. A tool shed in poor condition is located east of the slab. A nearly complete floatplane is present on the waterfront. A site plan obtained from GNWT indicates that two

additional structures were once present in the northwest corner of lot 11-12 but there was no indication of these structures at the time of the site visit.

A wide variety of debris is scattered across the site and in the remaining structures, including empty steel drums, lumber, furniture, two satellite dishes, equipment, metal, fibreglass insulation, tarps, hosing, tires, vehicle parts, a pick-up truck, a van, a fish smoking cabinet, and a 20 L pail of undetermined liquid. Cans of paint were noted inside the partially collapsed shed.

Small areas of surficial staining were noted around the concrete slab, with the heaviest staining near the southeast corner. No staining was observed near the ASTs. The ground surface was not visible across much of the southeast portion of the west lot due to the extensive presence of debris.

In the current program, a total of seven test pits were excavated on the two lots and one grab surface sample was collected from inside the berm beneath the elevated AST at the southwest corner of lot 11-11. A monitoring well (08-MW06-01) was also installed downgradient of the two ASTs north of the burnt house, an area where visual contamination and odour was encountered during the test pit program.

The general geology at APEC 8 consists of 1 to 2 m of silty sand overlying clayey silt. These two units are separated by a thin peaty horizon. Granular fill was encountered at surface at some locations. Saturated soils were generally encountered at 1 to 2 m depth in the clayey silt unit and investigation was terminated just below the water table. There was only minor groundwater seepage from the test pit walls due to the fine-grained nature of the soils encountered. Permafrost was encountered in two test pits at 1.7 m depth, but may be depressed or absent near the lakeshore.

Hydrocarbon odour and/or staining were noted in test pits around the concrete slab and at the two ASTs north of the burnt house. Soil headspace vapour concentrations were all extremely low with the exception of a reading of 140 ppm from the surficial sample collected in a stained area at the southeast corner of the concrete slab. Hydrocarbon sheen was observed on seepage water table at this location. Note that the ground surface is barely above the lake level at this location and groundwater was encountered near the ground surface.

5.8.2 Soil Analytical Results

The soil samples were selectively analyzed for total metals, BTEX, PHC F1, PHC F2-F4, and PAHs. Tables 1, 2, and 4 summarize the soils analytical results obtained at APEC 8. Figure 5-4 highlights the results of the soil analytical data.

Various petroleum hydrocarbon and metals concentrations in soil exceeded the applicable GNWT and CCME guidelines at 2 locations as follows:

- Two ASTs north of burnt house: PHC F1 exceeded the guideline of 310 µg/g from 1.4-1.6 m (concentration of 901 µg/g) and PHC F2 exceeded the guideline of 760 µg/g at 0.1-0.3 m and 1.4-1.6 m with concentrations of 1080 µg/g and 5020 µg/g respectively. In the same test pit, at depth 1.7-1.8 m, hydrocarbons F2-F4 concentrations obtained from the collected frozen sample were detectable, though compliant. BTEX were detected in the sample from 1.4-1.6 m, though compliant. PHC chromatograms indicate the presence of diesel fuel in these samples.
- Southeast corner of concrete slab: PHC F3 (12,800 µg/g) and F4 (7,090 µg/g), arsenic (30 µg/g), lead (371 µg/g), and zinc (643 µg/g) exceeded the guidelines (1700, 3300, 12, 260, and 360 µg/g, respectively) at 0.1-0.3 m depth. The same parameters were analyzed at 0.6-0.8 m and only arsenic (23 µg/g) exceeded, though PHC F2-F4 were also detected. PHC chromatograms indicate the presence of a complex mixture of lubricating oil range products and possibly some fuel in this sample.

5.8.3 Groundwater Analytical Results

Monitoring well 08-MW06-01, installed at the location of the two ASTs north of the burnt house, was dry and therefore no groundwater sample could be collected from this monitoring well. However, during the test pit program, water was encountered in the test pit at the southeast corner of the concrete slab and a sample was collected for analysis of BTEX, PHC F1-F4, PAHs, and dissolved metals. All hydrocarbon parameter results obtained for this water sample were compliant with the applicable CCME guideline. The reported concentrations of iron and selenium, which were measured at 2470 and 2 µg/L, respectively, exceeded the CCME CEQGs of 300 and 1 µg/L, respectively. When a ten times dilution factor on discharge is taken into account, the concentrations are less than the resulting value.

The laboratory's method detection limit for cadmium was greater than the calculated CCME CEQG (0.2 µg/L versus 0.017 µg/L), and the concentration of cadmium in groundwater may therefore exceed the guideline, and may marginally exceed the ten times dilution factor value. A soil sample from this test pit contained an elevated concentration of cadmium, though less than the applicable soil standard.

PHC F2 and F3 were detected in the sample at concentrations barely above the laboratory MDL. There is no guideline for PHC in groundwater. Chemical analytical results are summarized in Tables 7, 8, and 10 and on Figure 5-5.

5.9 APEC 9 - Landfill Northwest of Main Quarry

5.9.1 Observations and Work Plan

During the reconnaissance of the Main Quarry, a small landfill was noted outside the northwest corner of the quarry, as shown on Figure 1-2, and has been designated APEC 9. The western edge of the upper, northern portion of the Main Quarry is the site of a small airport communications shed (mounted on sleepers) with underground utilities (wires) leading to it. An access road traverses the Quarry and runs along the west side of the Quarry to the shed, and then crosses a deep gully on a fill causeway. The access road terminates at the top of the bank on the opposite side of the gully. The APEC 9 landfill is located across the access road from the shed on the upper slope of the gully. Wastes noted on the surface included truck tires, pieces of metal and equipment, steel pails, a wooden crate, an empty steel drum, and a medium-duty truck (mostly buried). Small bushes have colonised the gravel/cobble surface of the landfill. The landfill is semi-circular in plan with dimensions of approximately 35 m by 20 m and a maximum height of approximately 2 m on the west bank face, and a calculated volume of approximately 500 m³. The bottom of the gully and a small stream are approximately 15 to 20 m from the toe of the landfill and least 10 m below the elevation of the landfill. The stream flows approximately 275 m to Dolomite Lake. Two test pits were completed in APEC 9 to investigate for potentially buried debris.

Wastes encountered (crushed steel drums, metal parts, plastic pipe, fibreglass insulation) were similar to those observed on surface and mixed with sand, gravel, and cobbles. The waste extended to a depth of 1.6 m and native fine sands were encountered below the waste. No odours or indications of petroleum hydrocarbons were noted in the test pits. Soil vapour headspace concentrations were extremely low. Wet soil was encountered at 2.3 m depth and permafrost at 2.8 m depth. No groundwater seepage was observed in the test pits and it was judged that there was insufficient groundwater to warrant a monitoring well installation.

5.9.2 Soil Analytical Results

Selected soil samples were analyzed for total metals, PHC F1, PHC F2-F4, BTEX, VOCs, PAHs, PCBs, and leachable metals. Tables 1, 2, 3, 4, 5, and 6 summarize the soil analytical results obtained at APEC 9. Figure 5-6 summarises the soil chemical analytical results obtained at APEC 9.

No exceedances were identified in the soil analytical results; however, we note that the arsenic concentration of 12 µg/g detected in one sample at 1.3-1.5 m depth in the waste is equal to the GNWT commercial land use standard. Leachable metals concentrations were generally less than the method detection limits, with traces of barium detected in both samples analysed, and traces of zinc and boron in one sample.

5.10 APEC 10 - Landfill South of Land Treatment Units

This APEC was added to the work plan based on the observations during the site reconnaissance. APEC 10 is an area southeast of the LTUs, as shown on Figure 1-2, where numerous drums were observed on surface and partially buried during the site reconnaissance of the nearby FFTA – APEC 2. The local setting of the LTUs and FFTA were previously described under APEC 2. The foot of the landfill is located approximately 400 m north of Dolomite Lake. The drums are located on and at the base of a steep landfill slope, approximately 5 m high and vegetated with grass and small shrubs. Cracks were noted on the top of the landfill. Four test pits were excavated along the top of the landfill using the backhoe to a maximum depth of 2.9 m and five shallow test pits (0.5 m) were excavated by hand along the bottom of the slope as the backhoe could not access this area. The landfill appears to extend approximately 50 m along the bank. The volume of the landfill is estimated to be 500 to 1,000 m³.

Wastes encountered included many crushed steel drums and lids with tar residues, tar, metal, wood, paper, and tires. The wastes were mixed with and partially covered with variable fine sands. Soil samples were collected to avoid the inclusion of visible tar. Depth of wastes in the upper test pits extended to the maximum depth of investigation (i.e. up to 2.9 m), though at one location, bedrock was encountered at 1.8 m depth with a thin native soil unit present above. The lower test pits encountered fine sand lying on a peaty soil unit. No petroleum hydrocarbons odours were noted in the test pits. Soil vapour headspace concentrations were 60 ppm or less in all samples except for a native peaty soil sample from the base of the slope which exhibited a reading of >100% LEL but no petroleum or chemical odour. Permafrost was not encountered, although refusal at 2.9 m depth in two test pits may have indicated frozen soils. No groundwater seepage was observed, although wet soil was noted in one test pit at 2.8 m depth. No monitoring wells were installed.

5.10.1 Soil Analytical Results

Soil samples were selectively analyzed for total metals, PHC F1, PHC F2-F4, BTEX, VOCs, PAHs, PCBs, and leachable metals. Tables 1, 2, 3, 4, 5, and 6 summarize the soil analytical results obtained at APEC 10. Figure 5-7 highlights the results of the soil analytical data.

All chemical results were compliant with the applicable standard for all parameters except for some metals in three samples.

- The arsenic concentration in one sample from test pit 10-TP06 at 1.4 to 1.6 m depth at the top of the bank exceeded the guideline (13 µg/g versus 12 µg/g). Lead and zinc concentrations for another sample in the same test pit also exceeded the guidelines (918 and 449 µg/g versus 260 and 360 µg/g, respectively). This sample was the deepest sample collected in the test pit at 2.4 to 2.6 m, within the waste.

- The arsenic concentration in the native peaty soil in one of the lower test pits also exceeded the guideline (19 µg/g versus 12 µg/g).

Leachable metals concentrations were generally less than the method detection limits, with traces of barium detected in all five samples analysed, and a trace of zinc detected in one of the samples.

6.0 DISCUSSION AND RECOMMENDATIONS

The following sections present a discussion of the findings and recommendations for each APEC. A summary of the contaminants identified at each APEC, volume of contamination, and recommendations for further work are presented in Table C at the end of this section.

6.1 APEC 1 – Former Maintenance Garage Location

The former maintenance garage and surrounding area has been designated as APEC 1. The former building's crawlspace remains as a hole within the asphalt area. Floor drains in the garage discharged directly to the crawlspace. A heating oil AST was formerly located immediately north and south of the garage. Two heating oil ASTs and (unrelated) patches of surficial staining were present on the gravel surface around sheds located approximately 15 m west of the former garage. A diesel fuel and gasoline AST were formerly located on a gravel area approximately 20 m south of the former garage.

APEC 1 is located at the western end of the airport terminal facilities with undeveloped land present to the north, east, and west. The general topography of the area drops to the west and groundwater would be expected to flow in that direction but may have a radially outwards component as the developed area has been constructed on crushed rock fill built up several metres above the original ground surface. Only limited groundwater was encountered during the investigation and precipitation infiltrating through the exposed soil (crushed rock) in the crawlspace likely drains away along the permafrost surface located at the native soil interface. Prior to demolition of the garage, infiltration at the garage location was likely very limited as the entire area was hard-surfaced. This would have reduced the potential for contaminants to be transported away from the garage footprint. Gravel areas exist to the north, west, and south of the garage. Of the 28 test pits excavated at APEC 1, four test pits in four areas had samples exceeding the applicable PHC standards.

A previous investigation in the garage footprint involved the collection of surface samples. The samples were composited and results for samples collected from the eastern two thirds of the crawlspace beneath the building were found to variously exceed the standards for F2, F3, and F4 PHC. FRANZ's 2006 samples were generally collected from greater depths, extending to permafrost, and indicated that exceedances of the standards are limited to the shallow soils (less than 0.5 m), although there has been some migration of fuel and oil range hydrocarbons to greater depths. PHC chromatograms for various depths in the same test pit revealed similar petroleum hydrocarbon products in each sample, but differing products and/or ratios at each test pit. This implies that there is downwards migration in the soil while lateral migration appears to be limited. PHC concentrations in soil samples from test pits located around the perimeter of the garage did not exceed the standards, further indicating that there has been little lateral migration of contaminants from the garage footprint. The south side of the footprint could not be

investigated as permission to excavate in the asphalted access road at this location was not granted by the airport manager.

An F3 PHC exceedance was detected in a sample collected from outside the northwest corner of the former garage footprint at a depth of 0.3-0.5 m and does not extend to the depth of the next sample at 1.3-1.5 m depth. The product present at this location appears to be lubricating oil. The elevation of the exceeding sample is above the elevation of the crawlspace floor and is therefore not related. Furthermore, exceedances in soil have not been identified in the western portion of the garage footprint. The test pit was excavated in an area surfaced with gravel. Surficial staining was observed approximately 20 m west (between sheds W56 and W57) and samples collected from a test pit at that location also contained lubricating oil and F2 to F4 exceedances. It is not clear if the contamination extends between these two locations or if they are separate areas of contamination. This second location is located next to a heating oil tank and heating oil was also evident in the PHC chromatograms at this location. Areal delineation of contamination in this area is not complete but is constrained by the limits of the development area and is likely limited to the gravel area between the former garage and existing sheds where surficial staining was observed. The vertical extent of contamination near the heating oil AST has not been determined, but is likely constrained by the permafrost layer at a depth of approximately 2.5 to 3.0 m.

A vertical, galvanised steel culvert is located west of the heating oil tank between sheds W56 and W57 and contained water at approximately 2 metres depth. The nature and purpose of the culvert could not be determined. A sample of the water standing in the culvert was collected and analysed for dissolved metals, VOCs, and petroleum hydrocarbon parameters. Despite the proximity to the heating oil AST and the exceeding soil samples, no VOCs or petroleum hydrocarbon parameters were detected in the sample. An elevated zinc concentration was detected and may derive from the zinc galvanising on the culvert itself from an extended period of contact. Based on the observations in test pits nearby (no groundwater observed), and the drop in elevation to the west of the sheds, it is unlikely that the water in the culvert is groundwater. It appears likely that culvert is sealed at the base and the standing water represents accumulated precipitation. Based on the available information, FRANZ concludes that the water observed in the culvert does not represent groundwater and that the elevated zinc concentration detected in the water is therefore non-significant.

A previous investigation indicated the presence of contaminated surficial soil at the location of the former heating oil ASTs immediately north and south of the former garage. FRANZ excavated two test pits at the location of the north AST and determined that contamination is relatively shallow and extends no deeper than 1.7 m bgs.

FRANZ was unable to conduct further investigation at the south AST as permission to excavate in the asphalted access road at this location was not granted by the airport manager.

FRANZ excavated five test pits at the location of the former gasoline and diesel fuel ASTs in the gravel pad area 20 m south of the former maintenance garage. Overland flow or migration along the permafrost surface would be expected to carry contaminants southward to the lower lying undeveloped lands less than 10 m south of the former ASTs' location. Test pitting locations were limited by the presence of buried electrical utilities. F2 exceedances identified as diesel fuel were reported in all three samples (spanning depths of 0.4 to 2.4 m) analysed from the test pit at the location of the former ASTs. Only traces of petroleum hydrocarbons were detected in samples from the four surrounding test pits. The area of contamination is delineated to the east, south, and southwest. The northern limit of contamination would likely be the edge of the asphalt.

Based on the available information, FRANZ estimates that the following volumes of contaminated soil are present at APEC 1:

TABLE B: Contaminated Soil Areas and Volumes at APEC 1

Location	Most Probable (m ³)	Likely Maximum (m ³)
Former maintenance garage footprint	400	500
Northwest of former maintenance garage	200	500
North former heating oil AST	25	50
South former heating oil AST	25	100
Former gasoline and diesel fuel ASTs	400	750
TOTALS	1050	1900

Further test pitting to delineate the extent of contamination and volume of soil in those areas where a high degree of uncertainty remains is recommended prior to evaluation of remediation options. Sampling of the monitoring well installed in the former maintenance garage is recommended if monitoring indicates that sufficient groundwater is present. No action is recommended for the elevated dissolved zinc concentration observed in the vertical culvert.

6.2 APEC 2 – Former Fire Fighting Training Area

The site consists of a former mock-up area where fuel was periodically burned as part of firefighting training exercises. The mock-ups were formerly located in the southwest to central

portion of the Site and ASTs were formerly located in the southeast portion of the Site. An investigation of the FFTA in 1994 involved the drilling of three boreholes, one of which, southeast of the mock-up area, was completed as a monitoring well. Elevated concentrations of petroleum hydrocarbons that exceeded the standard of the day but are not directly comparable to today's guidelines, were detected in a sample from 1.81 m depth. Groundwater samples could not be collected from the monitoring well during previous investigations.

APEC 2 comprises a levelled area approximately 60 m by 100 m located on an east-west ridge located southwest of the airport runway. The land falls away gently to the north towards the runway with some lower level benches along the north side of the levelled area. The lands surrounding the Site are generally undeveloped except for some access roads and runway approach lights. A gravel access road separates APEC 2 from another levelled area on the south side that is the location of a Land Treatment Unit (LTU) not presently in use.

The general topography of the Site area drops to the north and groundwater would be expected to flow in that direction, although there may be a southeasterly component directed toward a swale along the south side of the ridge. Minor groundwater seepage and saturated horizons were observed in some test pits; however, no significant groundwater yields were encountered in any of the test pits in APEC 2. Precipitation infiltrating through the exposed soil (crushed rock) of the levelled area likely drains away along the permafrost surface towards surrounding lands. In 2006, FRANZ excavated 18 test pits on a 20 m grid at APEC 2. The test pits extended to permafrost or bedrock and reached a maximum depth of 3.6 m. Bedrock was only encountered in the northeast portion of APEC 2. Two monitoring wells were also installed during the 2006 field program; however these wells and those installed during a previous investigation contained insufficient water for sampling.

Of the 18 test pits excavated at APEC 2, seven test pits in two areas had samples exceeding the applicable PHC standards. PHC F1 through F4, toluene, and xylene concentrations were reported exceeding the applicable soil standards in samples collected from four test pits in the central-southwest portion of APEC 2 where the mock-ups were formerly located. Contamination extended to a maximum depth of 2.5 m. PHC chromatograms indicate the presence of diesel fuel and in some cases, lubricating oil range product as well. The PHC product mix at any test pit is generally consistent with depth, indicating that migration in the subsurface is primarily downwards from the surface, rather than laterally. Contamination in this area is delineated by additional test pits in all directions except to the south, where the access road is located.

A test pit immediately west of the mock-up area was excavated where surficial staining was noted. F3 contamination exceeding the standard was encountered to a depth of 0.3 m at this location. Based on the PHC chromatograms, diesel fuel and lubricating oil range material is

present in this area, similar to the mock-ups area. Contamination in this area is delineated by additional test pits, except for towards the limits of the pad on the west.

Staining was noted on the ground surface in the northeast portion of APEC 2, north of the former ASTs. Soil samples taken from two test pits in this area exceeded the PHC F3 and F4 standards. PHC chromatograms indicate the presence of a lubricating oil range product. Bedrock was encountered at a depth of 0.15 m. Staining did not appear to extend into the bedrock. Contamination in this area is delineated by additional test pits, except for towards the limits of the pad on the northeast.

Tar was noted on surface and extending to a depth of 1 m at a test pit in the northwest corner of APEC 2 on a lower bench. Concentrations of petroleum hydrocarbon parameters in a soil sample from 0.3 to 0.5 m depth, collected to avoid visible tar, did not exceed the standards.

The volume of contaminated soil at each area of APEC 2, based on the available information, is estimated as follows:

- Southwest and centre area: 1500 m³ (most probable) to 3600 m³ (likely maximum);
- Northeast area: 30 m³ (most probable) to 120 m³ (likely maximum); and
- Northwest bench: 200 m³ (likely maximum).

Further investigation is recommended to accurately determine the volume of contaminated soil and delineate contamination to the south and west around the former mock-ups, and to the north and east in the area north of the former ASTs prior to evaluation of remediation options for APEC 2. Excavation of the contaminated soil is recommended to remediate APEC 2. Sampling of the monitoring wells installed at APEC 2 is recommended if monitoring indicates that sufficient groundwater is present.

A FCSAP NCS evaluation form was prepared for APEC 2 based on the information obtained during the investigation. The resulting score for APEC 2 was 60.3, which corresponds to "Class 2 – Action Likely Required". A copy of the FCSAP NCS form is included in Appendix D.

6.3 APEC 3 – Former Construction Camp Site

The location of a former construction camp was identified on the north shore of Dolomite Lake, southwest of the main airport development area. During the field reconnaissance at APEC 3, crushed rock pads, likely the location of former structures, scattered demolition debris, and recently used campsites were noted; however, no visual indications of contamination were identified. As a result, no further investigation of APEC 2 was required.

6.4 APEC 4 – Cleared Area, West Edge of Main Quarry

The Statement of Work indicated that prime oil drums may have been buried in a clearing west of the Main Quarry. Inquiries were made with the airport manager to identify the location and obtain further details; however, no information was available. The quarry continues to operate and no evidence of drums or a clearing were observed along the western edge of the quarry or within the quarry itself during the site reconnaissance. As a result, no target for further investigation was identified.

A small landfill was noted outside the northwest corner of the Main Quarry on the upper slope of the gully near a communications shed. It is possible that this landfill represents the drum burial site reported as APEC 4; however as this is uncertain, it was assigned the identifier APEC 9 and discussed separately.

6.5 APEC 5 – Distance Measuring Equipment (DME) Building

Information presented in the Statement of Work indicated that a stained area southeast of the DME building represented an APEC. The staining apparently originated from an emergency generator that had been placed near the building. In interviewing the airport manager, it was determined that there are two DME buildings at the airport and both sites were examined for evidence of staining. No generator was present or surficial staining were observed at either location and consequently, no subsurface investigation was conducted.

6.6 APEC 6 – Main Quarry, Landfill operation 1962-67

According to the Statement of Work, the Main Quarry site has been used for several purposes, including a landfill from 1962 to 1967. Inquiries were made with the airport manager to identify the location of the landfill and to obtain further details; however, no information was available. A reconnaissance of the Main Quarry was conducted for landfill operations. The quarry continues to operate and no evidence of a landfill was observed within the quarry itself during the site reconnaissance. As a result, no target for further investigation was identified.

A small landfill was noted outside the northwest corner of the Main Quarry on the upper slope of the gully near a communications shed. It is possible that this landfill represents the landfill reported as APEC 6; however as this is uncertain, it was assigned the identifier APEC 9 and discussed separately.

6.7 APEC 7 – Main Quarry, Asphalt Plant Site

According to the Statement of Work, the Main Quarry was the site of asphalt operations related to work at the airport and Dempster Highway. Inquiries were made with the airport manager to identify the location and nature of the asphalt operations; however, no information was

available. A reconnaissance of the Main Quarry was conducted for evidence of asphalt plant operations; however, no such evidence was observed. As a result, no target for further investigation was identified.

6.8 APEC 8 – Shell Lake, Lots 11-11 and 11-12

APEC 8 is located on the north shore of Shell Lake in the airport's float plane area and consists of two lots where surficial debris is present. Several sheds, ASTs, and the remains of a burned house are located on the lots. The majority of the facilities and debris are located on the western lot. The lots step down in two benches to the waterfront from the access road that forms the northern boundary. The lower bench is less than a metre above lake level. Overgrown grass is present amongst the gravel and cobbles common on the western lot around the structures and on the flat bench areas. Much of the eastern lot is thickly vegetated with bushes and small trees.

A partially collapsed shed straddles the western property line near the waterfront and an AST was located on a stand with a soil containment berm beneath. The remains of the burned house are located in the centre of the west lot, on the lower bench. Two small ASTs are located on the edge of the upper bench, above the house. To the southeast of the burnt house, close to the waterfront, is a concrete slab presumed to be the former location of a shop or shed. A tool shed in poor condition is located east of the slab.

Small areas of surficial staining were noted around the concrete slab, with the heaviest staining near the southeast corner. No staining was observed near the ASTs. The groundwater surface was not visible across much of the southeast portion of the west lot due to the extensive presence of debris.

Seven test pits were excavated at APEC 8 and soil samples collected for each. A sample of seepage water was collected from the test at the southeast corner of the concrete slab. A monitoring well was installed downgradient of the two ASTs north of the burnt house, an area where visual contamination and odour was encountered during the test pit program; however, insufficient water accumulated in the well for sampling. A soil sample was collected from inside the berm beneath the AST in the southwest corner of the site.

The general geology at APEC 8 consists of 1 to 2 m of silty sand overlying clayey silt. These two units are separated by a thin peaty horizon. Granular fill was encountered at surface at some locations. Saturated soils were generally encountered at 1 to 2 m depth in the clayey silt unit and investigation was terminated just below the water table. There was only minor groundwater seepage from the test pit walls due to the fine-grained nature of the soils encountered. Permafrost was encountered in two test pits at 1.7 m depth, but may be depressed or absent near the lakeshore.

PHC F1 and F2 exceeded the applicable guidelines in soil samples collected from the vicinity of the ASTs north of the burnt house to a depth of 1.6 m, where permafrost was encountered. PHC chromatograms indicate the presence of diesel fuel in these samples. The extent of contamination in this area has not been delineated.

Based on information collected to date, it is not possible to estimate the volume of contaminated soil present. However, two areas of contamination have been identified: the first area is at the ASTs north of the burnt house and the second area is associated with the surficial staining around the concrete slab. Contamination at the ASTs extends to a depth of 1.6 m and is delineated downgradient by a test pit 15 m distant. A maximum volume of 250 m³ is considered a reasonable estimate of soil contamination associated with the ASTs north of the burnt house.

At the southeast corner of concrete slab, PHC F3 and F4, arsenic, lead, and zinc exceeded the guidelines at 0.1-0.3 m depth. The same parameters were analyzed at 0.6-0.8 m depth and only arsenic exceeded. PHC chromatograms indicate the presence of a complex mixture of lubricating oil range products and possibly some fuel in this sample.

Contamination at the concrete slab is likely restricted to areas of surficial staining (<10 m²) and limited in vertical extent by the proximity to the lake level and groundwater. A maximum volume of 5 m³ is considered a reasonable estimate of soil contamination associated with the surficial staining.

Concentrations of petroleum hydrocarbon parameters in the sample collected from within the berm beneath the AST in the southwest corner of the site were less than the applicable guidelines, although a trace amount of weathered PHC was detected. Concentrations of petroleum hydrocarbon parameters in samples from other areas of APEC 8 were less than the applicable guidelines.

The concentration of all analysed parameters (except cadmium) in groundwater from the test pit at the southwest corner of the concrete pad were less than ten times the CCME CEQGs, which takes into account a ten times dilution factor on discharge of groundwater to an aquatic environment. The laboratory's method detection limit for cadmium was greater than the calculated CCME CEQG (0.2 µg/L versus 0.017 µg/L) and therefore the concentration of cadmium in groundwater at this location may marginally exceed ten times the CEQG. As a soil sample from this test pit contained an elevated concentration of cadmium (though less than the applicable standard), a more accurate determination of the cadmium concentration in groundwater at this location is recommended.

Further investigation to delineate the extent of the contamination observed at the ASTs north of the burnt house is recommended to refine the volume of soil contamination prior to the determination of remedial options at APEC 8. Sampling of the monitoring well installed at this location is recommended if monitoring indicates that sufficient groundwater is present. Removal of the debris from the site is recommended to allow a proper examination of the ground surface across the site for additional areas of surficial staining and any remediation activities that are undertaken at APEC 8. Removal of the debris, including remains of a burnt house, is recommended to prevent the material from entering the Lake.

A FCSAP NCS evaluation form was prepared for APEC 8 based on the information obtained during the investigation. The resulting score for APEC 1 was 83.8, which corresponds to "Class 1 – Action Required". A copy of the FCSAP NCS form is included in Appendix D.

6.9 APEC 9 – Landfill West of Main Quarry

During site reconnaissance activities at the main quarry, a small landfill was encountered was noted outside the northwest corner of the Main Quarry on the upper slope of the gully near a communications shed. Wastes noted on the surface of the landfill included truck tires, pieces of metal and equipment, steel pails, a wooden crate, an empty steel drum, and a medium-duty truck (mostly buried). Small bushes have colonised the gravel/cobble surface of the landfill. The landfill is semi-circular in plan with dimensions of approximately 35 m by 20 m and a maximum height of approximately 2 m on the west bank face, and a calculated volume of approximately 500 m³. The bottom of the gully and a small stream are approximately 15 to 20 m from the toe of the landfill and least 10 m below the elevation of the landfill. The stream flows approximately 275 m to Dolomite Lake. Groundwater flow would be expected to flow southeast towards the creek in the gully. Two test pits were excavated in the landfill to investigate for potentially buried debris.

Wastes encountered in the test pits were similar to those observed on surface and where mixed with sand, gravel, and cobbles. Wastes extended to 1.6 m depth in the test pits and native fine sands were encountered below the waste. Wet soil was encountered at 2.3 m depth and permafrost at 2.8 m depth. No groundwater seepage was observed in the test pits and it was judged that there was insufficient groundwater to warrant a monitoring well installation.

Selected soil samples were analyzed for total metals, petroleum hydrocarbon parameters, VOCs, PAHs, PCBs, and leachable metals. Concentrations did not exceed the applicable standards or guidelines and leachable metals concentrations were generally less than the method detection limits.

Based on the types of wastes observed at APEC 9 and the results of the soil analyses, no further environmental sampling is recommended. However, landfills are heterogeneous by

nature and contaminated material or buried wastes, other than those types already encountered, may be present within the landfill at locations not investigated. Further work in the form of an engineering review covering physical hazards, fencing, signage, capping, long-term monitoring, or risk assessment should be considered.

A FCSAP NCS evaluation form was prepared for APEC 9 based on the information obtained during the investigation. The resulting score for APEC 9 was 53.2, which corresponds to "Class 2 – Action Likely Required". A copy of the FCSAP NCS form is included in Appendix D.

6.10 APEC 10 – Landfill South of Land Treatment Units

This APEC was added to the work plan based on the observations during the site reconnaissance. APEC 10 is an area southeast of the LTUs where numerous drums were observed on surface and partially buried during the site reconnaissance of the nearby FFTA – APEC 1. APEC 10 is located on south slope of an east-west ridge located southwest of the airport runway. The land falls away to the south and groundwater would be expected to flow in that direction. The lands surrounding the Site are generally undeveloped except for some access roads. A large level area, formerly developed as an LTU, is located along the top of the ridge is located immediately north of APEC 10.

The foot of the landfill is located approximately 400 m north of Dolomite Lake. The drums are located on and at the base of a steep landfill slope, approximately 5 m high and vegetated with grass and small shrubs. Cracks were noted on the top of the landfill. Four test pits were excavated along the top of the landfill using the backhoe to a maximum depth of 2.9 m and five shallow test pits (0.5 m) were excavated by hand along the bottom of the slope as the backhoe could not access this area. The landfill appears to extend approximately 50 m along the bank. The volume of the landfill is estimated to be 500 to 1000 m³.

Wastes encountered included many crushed steel drums and lids with tar residues, tar, metal, wood, paper, and tires. The wastes were mixed with and partially covered with variable fine sands. Soil samples were collected to avoid the inclusion of visible tar. Depth of wastes in the upper test pits extended to the maximum depth of investigation, though at one location, bedrock was encountered at 1.8 m depth with a thin native soil unit present above. The lower test pits encountered fine sand lying on a peaty soil unit. Permafrost was not encountered, although refusal at 2.9 m depth in two test pits may have indicated frozen soils. No groundwater seepage was observed, although wet soil was noted in one test pit at 2.8 m depth. No monitoring wells were installed.

Selected soil samples were analyzed for total metals, petroleum hydrocarbon parameters, VOCs, PAHs, PCBs, and leachable metals. Concentrations did not exceed the applicable standards or guidelines with the exception of two samples from the waste in which arsenic, lead,

and/or zinc exceeded. A sample of native peaty soil from the base of the landfill also exceeded the arsenic guideline. Leachable metals concentrations were generally less than the method detection limits.

Based on the surface and test pit observations, it appears that the type of the buried wastes at APEC 10 have been adequately determined. However, landfills are heterogeneous by nature and contaminated material or buried wastes, other than those types already encountered, may be present within the landfill at locations not investigated.

Further investigation of soil is recommended to assess metals contamination and elevated soil vapours in the native soils at the foot of the landfill and the relationship to the landfill wastes. A geotechnical assessment is recommended to examine what may be tension cracks in the upper surface of the landfill and determine if there is a risk of slope failure in the landfill. Further work in the form of an engineering review covering physical hazards, fencing, signage, capping, long-term monitoring, or risk assessment should be considered.

A FCSAP NCS evaluation form was prepared for APEC 10 based on the information obtained during the investigation. The resulting score for APEC 10 was 53.2, which corresponds to "Class 2 – Action Likely Required". A copy of the FCSAP NCS form is included in Appendix D.

TABLE C: SUMMARY OF CONCLUSIONS RECOMMENDATIONS

APEC No.	Name	Area of Environmental Concern (AEC) Yes/No	Contaminants of Concern (COCs) in Soil	Estimated Volume of Contaminated Soil (m ³)	Contaminants of Concern (COCs) in Groundwater	NCS Score and Recommendations for Further Work
1	Former Maintenance Garage	Yes	F2, F3, F4	1050 to 1900	None identified (no groundwater)	• Further test pitting to delineate contamination in some areas and determine accurate soil volumes for remedial option evaluation. • Sampling of groundwater, if any present, in monitoring well.
2	Former Fire Fighting Training Area (FFTA)	Yes	Toluene, xylenes, F1, F2, F3, F4	1730 to 3920	None identified (no groundwater)	• FCSAP NCS Score: 60.3 – Class 2 – Action Likely Required • Further test pitting to delineate extents of contamination and determine accurate volumes for remedial option evaluation. • Sampling of groundwater, if any present, in monitoring wells.
3	Former Construction Camp Site	No	None identified (no sampling conducted)	0	None identified (no sampling conducted)	• No further work recommended.
4	Cleared Area, West Edge of Main Quarry	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.
5	Distance Measuring Equipment (DME) Building	No	Reported contamination could not be identified at either DME Building	0	APEC location could not be identified	• No further work recommended.
6	Main Quarry Landfill	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.
7	Main Quarry Asphalt Plant Site	No	APEC location could not be identified	Not applicable	APEC location could not be identified	• No further work recommended.

APEC No.	Name	Area of Environmental Concern (AEC) Yes/No	Contaminants of Concern (COCs) in Soil	Estimated Volume of Contaminated Soil (m ³)	Contaminants of Concern (COCs) in Groundwater	NCS Score and Recommendations for Further Work
8	Shell Lake, Lots 11-11 and 11-12	Yes	F1, F2, F3, F4, arsenic, lead, zinc	260	None identified; however hydrocarbon sheen observed and cadmium data is inconclusive.	• FCSAP NCS Score: 83.8 – Class 1 – Action Required • Further test pitting to delineate extents of contamination and determine accurate volumes for remedial option evaluation. • Removal of surface debris to allow further investigation for surficial staining. • Removal of the debris, including remains of burned house, to prevent the material from entering the Lake. • Sampling of groundwater, if any present in monitoring well. • Obtain groundwater sample from southeast corner of concrete pad to determine cadmium concentration.
9	Landfill Northwest of Main Quarry	No	None identified	0 (landfill volume: 500)	None identified (no groundwater)	• FCSAP NCS Score: 53.2 – Class 2 – Action Likely Required • An engineering review covering physical hazards, fencing, signage, capping, long-term monitoring, or risk assessment should be considered.
10	Landfill South of Land Treatment Units (LTUs)	Yes	Arsenic, lead, zinc	Not determined (landfill volume: 500 to 1000)	None identified (no groundwater)	• FCSAP NCS Score: 53.2 – Class 2 – Action Likely Required • Further investigation to assess metals contamination in native soils at foot of landfill • Geotechnical investigation to assess possible tension cracks and determine stability of landfill face. • An engineering review covering physical hazards, fencing, signage, capping, long-term monitoring, or risk assessment should be considered.

7.0 LIMITATIONS

FRANZ prepared this report for PWGSC's and Transport Canada's exclusive use. The report's purpose is to provide PWGSC and Transport Canada with a documentation of the environmental work conducted on the subject site. The material in this report reflects FRANZ's judgment in light of the information available to FRANZ at the time of preparation.

The conclusions in this report are based on information collected from the investigation locations chosen for this study. The locations were selected based on the best information available to us at the time of this study. This does not preclude the possibility that different conditions may be present elsewhere on the property. No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce this possibility to an acceptable level.

Third party information reviewed and used to formulate the preliminary remediation plan and conclusions contained in this report is assumed to be complete and correct. FRANZ used this information in good faith and will not accept any responsibility for deficiencies, misinterpretation, or incompleteness of the information contained in documents prepared by third parties.

Professional judgement was exercised in gathering and analysing the information obtained. Like all professional persons rendering advice, we cannot act as absolute insurers of the conclusions we reach; we commit ourselves to care and competence in reaching those conclusions. Our undertaking therefore, is to perform our work, within the limits prescribed by our client, with the usual thoroughness and competence of the profession. No other warranty or representation, expressed or implied, is included or intended in this report.

Any use of this report by a third party and any decision made based on the information contained in this report by the third party is the sole responsibility of the third party. FRANZ will not accept any responsibility for damages resulting from a decision or an action made by a third party based on the information contained in this report.

Sincerely,

Franz Environmental Inc.

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8.0 REFERENCES

- *Environmental Guideline for Contaminated Site Remediation*, Northwest Territories Government, November 2003
- *Canadian Council of Ministers of the Environment*, updated 2006, *Canadian Environmental Quality Guideline*.
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- *Canadian Council of Ministers of the Environment*, *Guidance Manual on Sampling, Analysis and Data Management for Contaminated Sites, Volume I*; December 1993
- *Geological Map of Canada*, Map1860A; Wheeler, J O; Hoffman, P F; Card, K D; Davidson, A; Sanford, B V; Okulitch, A V; Roest, W R, 1996.
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- *Inuvik Airport Environmental Baseline Study – 1994*, M.M. Dillon Limited Consulting Engineers, Planners and Environmental Scientists, 94-2185, Volume I and II, February 1995;
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FIGURES



INUUVIK

Inuvik

Dempster Highway

Float Plane Base

Shell Lake

Long Lake

Airport Terminal

Quarries

Dolomite Lake/Airport Lake

Mackenzie River



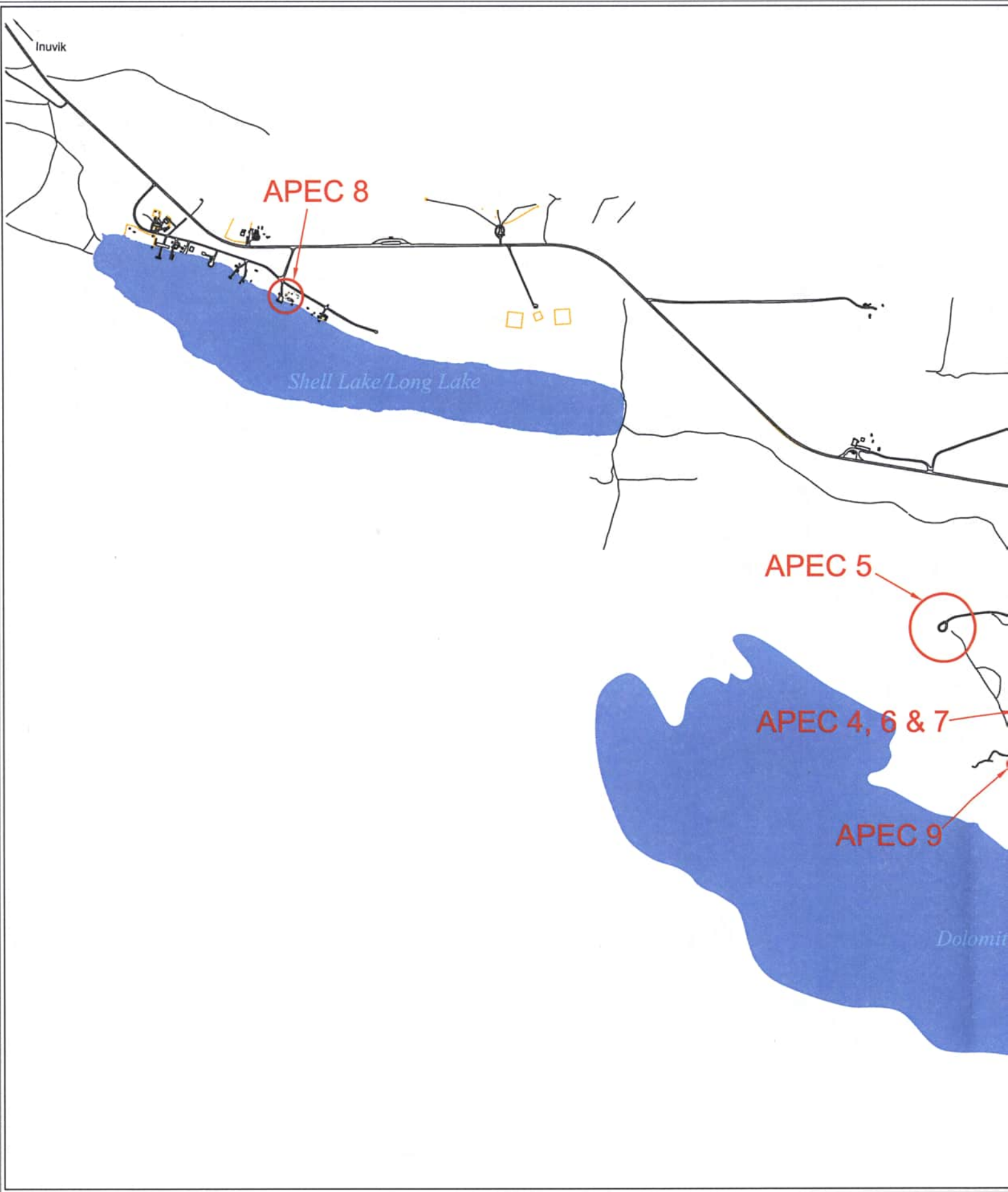
SCALE APPROXIMATELY 1:7,600,000

References:

Inset map (above): "Road Atlas: Canada, U.S.A., Mexico", MapArt Publishing Corp., 2005.

Satellite image (left): <http://maps.google.ca/>

Title: SITE LOCATION	
 FRANZ ENVIRONMENTAL INC. CONSULTING • ENGINEERING • TECHNOLOGIES	Project: PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES
	Date: DECEMBER 2006
SCALE 1:50,000 	
FIGURE 1-1	



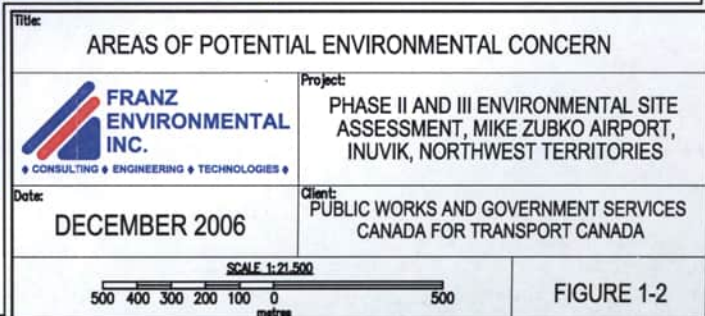
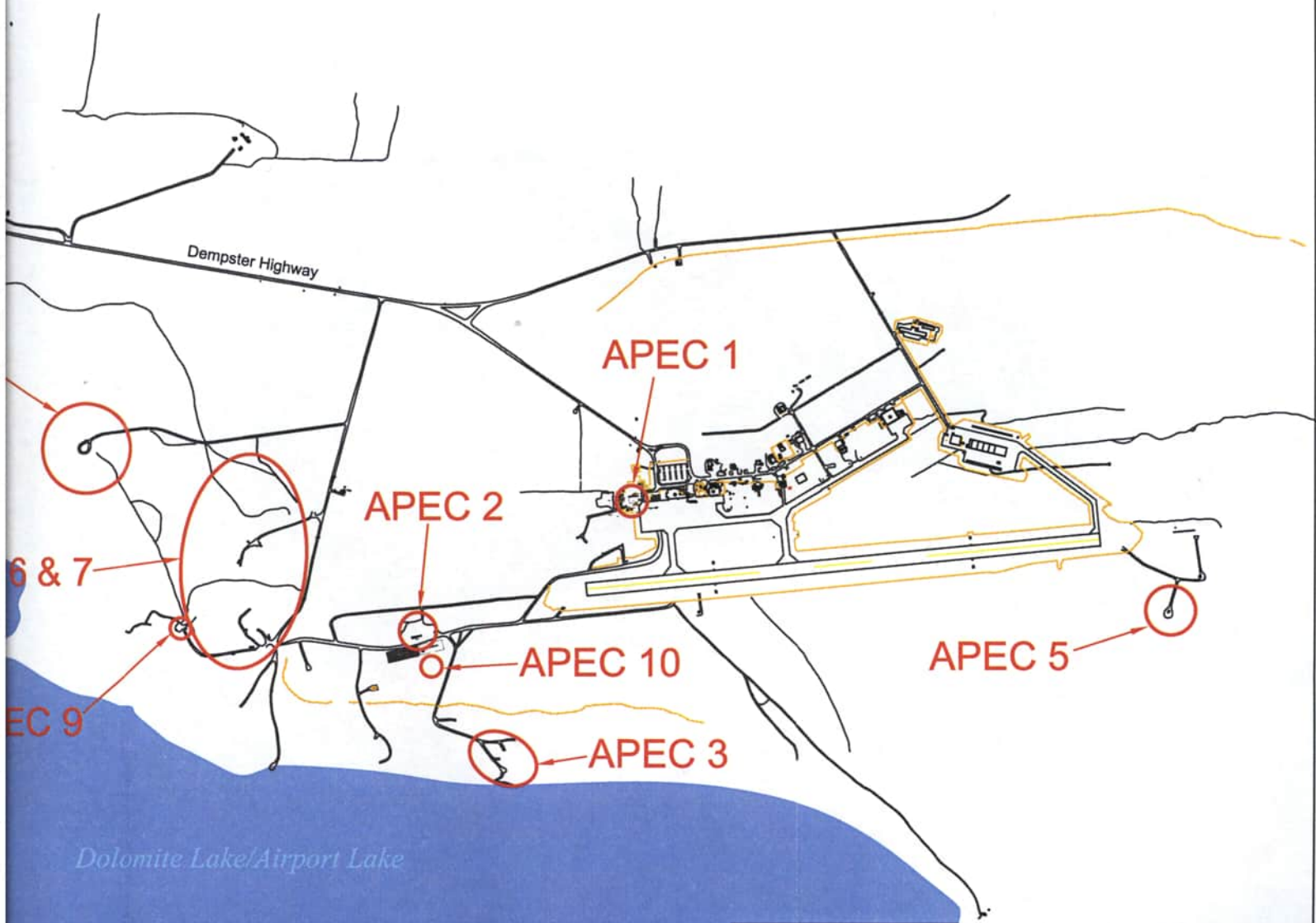


FIGURE 1-2

Native Vegetation

GRAVEL

4546 L
HEATING OIL
AST

1136 L
HEATING OIL
AST
1136 L
HEATING OIL
AST

01-CULVERT	
23 Sept. 2006	
BTEX/VOC	<STD
F1-F4	<STD
PAHs	<STD
Zinc	2960
Other metals	<STD

ASPHALT

CULVERT

2273 L
HEATING OIL
AST

GRAVEL

1136 L
HEATING OIL
AST

GRAVEL

1136 L
HEATING OIL
AST

FORMER
MAINTENANCE
GARAGE

HEATING
OIL
AST

ASPHALT

9000 L
HEATING OIL
AST

4500 L
GASOLINE
AST

9000 L DIESEL
AST

AIRCRAFT

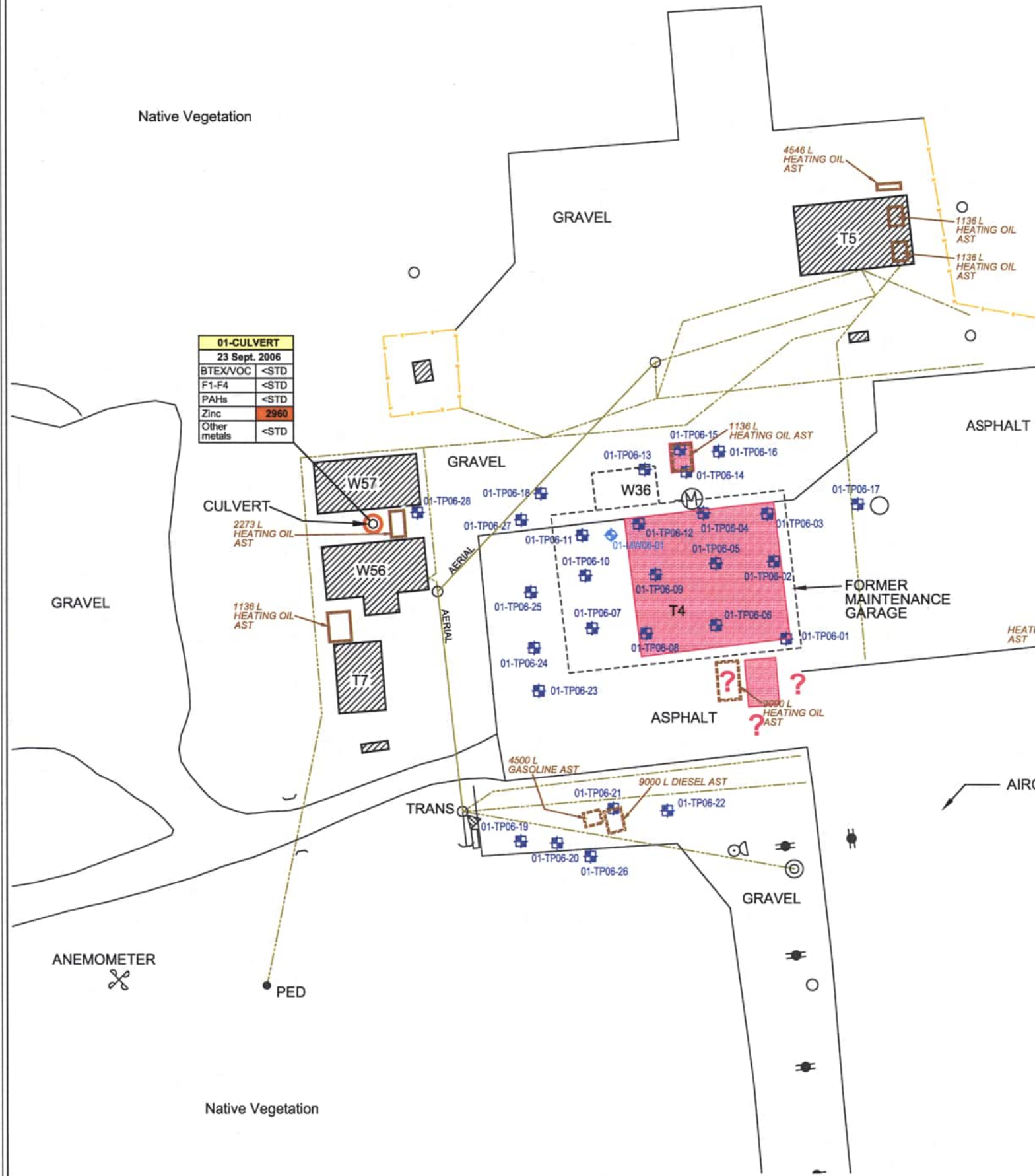
TRANS

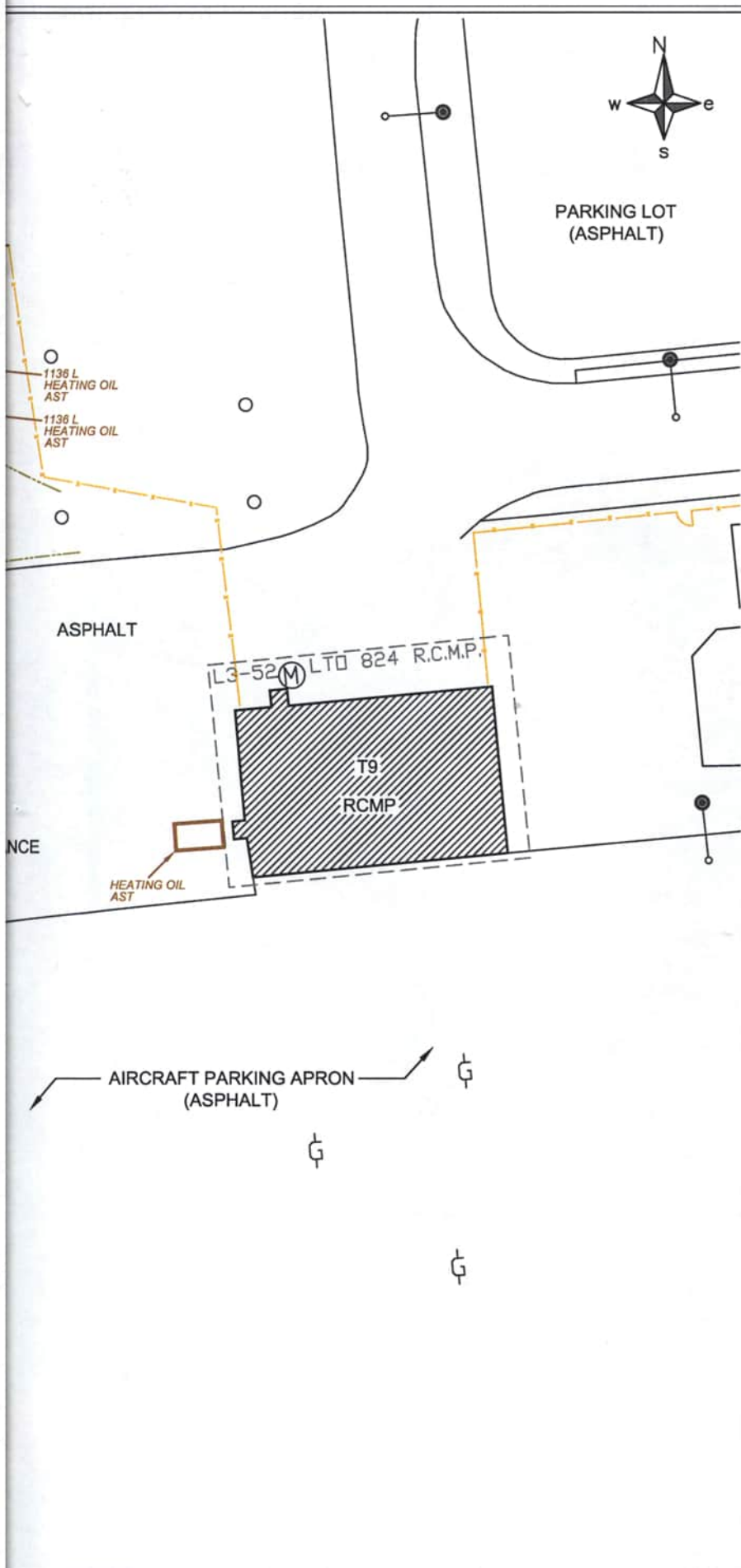
GRAVEL

ANEMOMETER

PED

Native Vegetation





LEGEND:

- Monitoring Well
- Test Pit
- Former Building
- Existing Building
- Fence
- Underground Utility
- Aerial Utility
- Former Above Ground Storage Tank (AST)
- Existing Above Ground Storage Tank (AST)

01-TP06-04		Sample Location
-01 (0.4-0.6m)		Sample ID (Depth)
F2, F4	<STD	Concentration less than standard
F3	2830	Concentration exceeds standard
Metals	<STD	

All concentrations shown in µg/L

NOTE: For comparison standards, please refer to tables and report

- Sampling locations with all concentrations below standards
- Sampling locations with one or more parameters at concentrations above standards
- Inferred extents of soil exceedances
- Extent of near-surface soil exceedances identified by previous investigation

APEC 1 - GROUNDWATER ANALYTICAL RESULTS

FRANZ ENVIRONMENTAL INC.
CONSULTING • ENGINEERING • TECHNOLOGIES

Project:
PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES

Date:
DECEMBER 2006

Client:
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR TRANSPORT CANADA

FIGURE 5-1

Native Vegetation

GRAVEL

4546 L
HEATING OIL
AST

1136 L
HEATING OIL
AST
1136 L
HEATING OIL
AST

01-TP06-13
-01 (0.4-0.6m)
F2-F4 <STD

01-TP06-14
-03 (1.7-1.9m)
F2-F4 <STD

01-TP06-15
-03 (2.2-2.4m)
F2-F4 <STD

01-TP06-18
-01 (0.3-0.5m) -02 (1.3-1.5m)
F2,F4 <STD F2,F4 <STD
F3 2330
Metals <STD

01-TP06-12
-03 (1.6-1.8m)
F2-F4 <STD
Metals <STD

01-TP06-11
-01 (0.4-0.6m)
F2-F4 <STD

01-TP06-16
-03 (2.2-2.4m)
F2-F4 <STD

01-TP06-04
-01 (0.4-0.6m) -02 (1.0-1.2m)
F2,F4 <STD F2-F4 <STD
F3 2830
Metals <STD

01-TP06-03
-03 (1.7-1.8m)
F2-F4 <STD

ASPHALT

01-TP06-28
-01 (0.1-0.3m) -02 (0.4-0.5m) -03 (0.6-0.8m)
F2 <STD F2 2560 F2,F4 <STD
F3 8440 F3 3650 F3 6920
F4 6680 F4 <STD
PAHs <STD PAHs <STD

01-TP06-27
-03 (2.1-2.3m)
F2-F4 <STD

CULVERT

01-TP06-10
-02 (1.4-1.6m)
F2-F4 <STD

01-TP06-25
-04 (2.8-3.0m)
F2-F4 <STD

GRAVEL

1136 L
HEATING OIL
AST

01-TP06-07
-01 (0.4-0.6m) -03 (1.8-2.0m)
F2-F4 <STD F2-F4 <STD

01-TP06-24
-03 (2.6-2.8m)
F2-F4 <STD

01-TP06-08
-01 (0.5-0.7m)
F2-F4 <STD
PAHs <STD
VOC <STD

01-TP06-19
-01 (0.3-0.5m)
F2-F4 <STD

01-TP06-20
-04 (2.3-2.5m)
F2-F4 <STD

01-TP06-26
-03 (1.4-1.6m)
F2-F4 <STD

01-TP06-22
-03 (1.4-1.6m)
F2-F4 <STD

01-TP06-21
-02 (0.4-0.6m) -03 (1.4-1.6m) -04 (2.1-2.4m)
F2 3930 F1 <STD F2 2840
F3,F4 <STD F2 3810 F3,F4 <STD
PAHs <STD F3,F4 <STD
BTEX/VOC <STD
Metals <STD

ANEMOMETER

PED

Native Vegetation

TRANS

ASPHALT

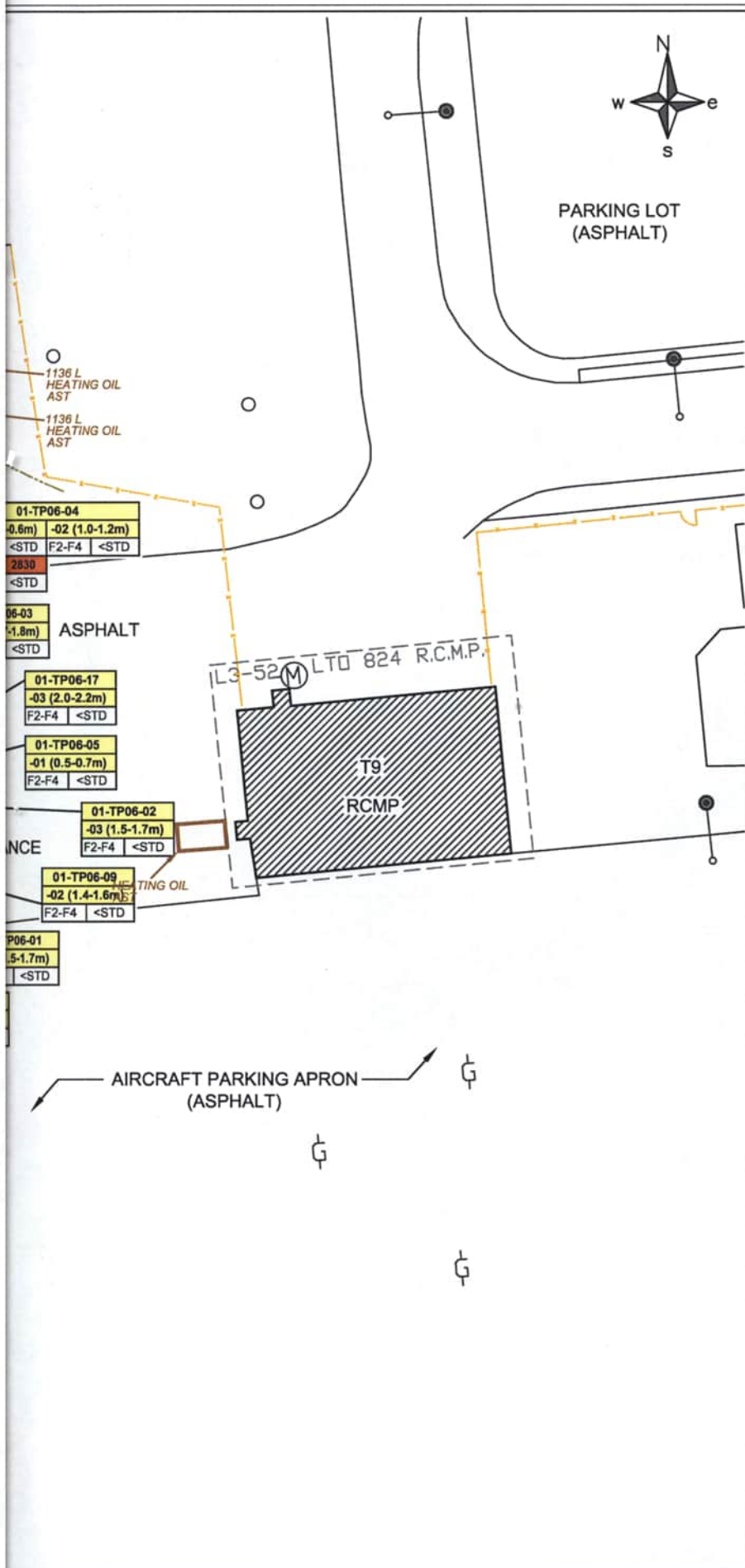
4500 L
GASOLINE AST

9000 L
DIESEL AST

GRAVEL

FORMER
MAINTENANCE
GARAGE

AIRC



Title:

APEC 1 - SOIL ANALYTICAL RESULTS



Project:

PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES

Date:

DECEMBER 2006

Client:

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR TRANSPORT CANADA

SCALE 1:700

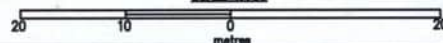


FIGURE 5-2

Native Vegetation

02-TP06-04			
-01 (0.3-0.5m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-05			
-01 (0.2-0.4m)			
F2-F4	<STD		
PAHs	<STD		
Metals	<STD		

02-TP06-13			
-02 (1.3-1.4m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-12			
-01 (0.1-0.3m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-07			
-02 (0.3-0.5m)		-04 (0.9-1.1m)	
BE	<STD	BEX	<STD
T	1.2	T	0.9
X	66	F1	<STD
F1	1530	F2-F4	<STD
F2	2830	PAHs	<STD
F3	4910		
F4	<STD		
PAHs	<STD		

02-TP06-06			
-01 (0.3-0.6m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-11			
-01 (0.2-0.4m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-10			
-02 (0.6-0.8m)			
BTEX	<STD		
F1	<STD		
F2	<STD		
F3	7600		
F4	<STD		

02-TP06-03			
-01 (0.1-0.3m)		-03 (0.7-0.9m)	
BTEX	<STD	F2-F4	<STD
F1	<STD		
F2,F4	<STD		
F3	3240		

02-TP06-02			
-02 (0.8-1.0m)		-04 (1.6-1.8m)	
BTEX	<STD	BTEX	<STD
F1	<STD	F1	<STD
F2,F4	<STD	F2,F4	<STD

02-TP06-01			
-04 (1.4-1.6m)			
F2-F4	<STD		

02-TP06-08							
-02 (0.5-0.7m)		-05 (1.7-1.9m)		-06 (2.3-2.5m)			
BTE	<STD	BE	<STD	BEX	<STD		
X	49	T	9.6	T	1.2		
F1	1270	X	47	F1	<STD		
F2	1880	F1	974	F2-F4	<STD		
F3,F4	<STD	F2	968				
Lead	<STD	F3,F4	<STD				
		PAHs	<STD				

02-TP06-14			
-02 (0.2-0.4m)			
BTEX	<STD		
F1	<STD		
F2-F4	<STD		

02-TP06-09							
-01 (0.1-0.3m)		-03 (1.2-1.4m)		-04 (2.0-2.2m)		-05	
BTEX	<STD	PAHs	<STD	BTEX	<STD	BT	
F1	1380			F1	<STD	F1	
F2	3580			F2-F4	<STD	F2	
F3	12,800			Lead	<STD		
F4	6830						

FIRE TRAINING AREA

Gravel

LAND TREATMENT UNIT
(dimensions and location approximate)

FORMER LAND T
(dimensions and location approximate)

MW04

MW03

02-MW06-01

Mock-ups

02-MW06-02

02-MW06-03

02-MW06-04

02-MW06-05

02-MW06-06

02-MW06-07

02-MW06-08

02-MW06-09

02-MW06-10

02-MW06-11

02-MW06-12

02-MW06-13

02-MW06-14

02-MW06-15

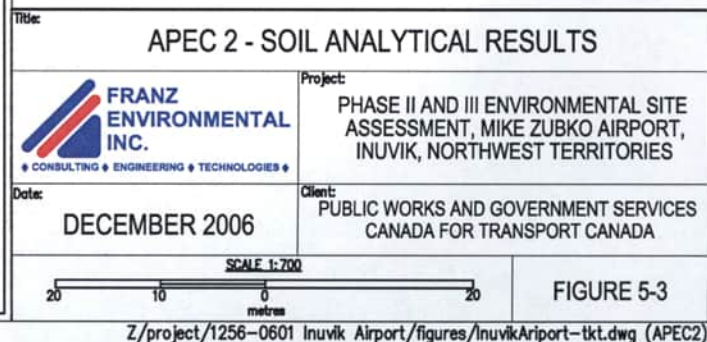
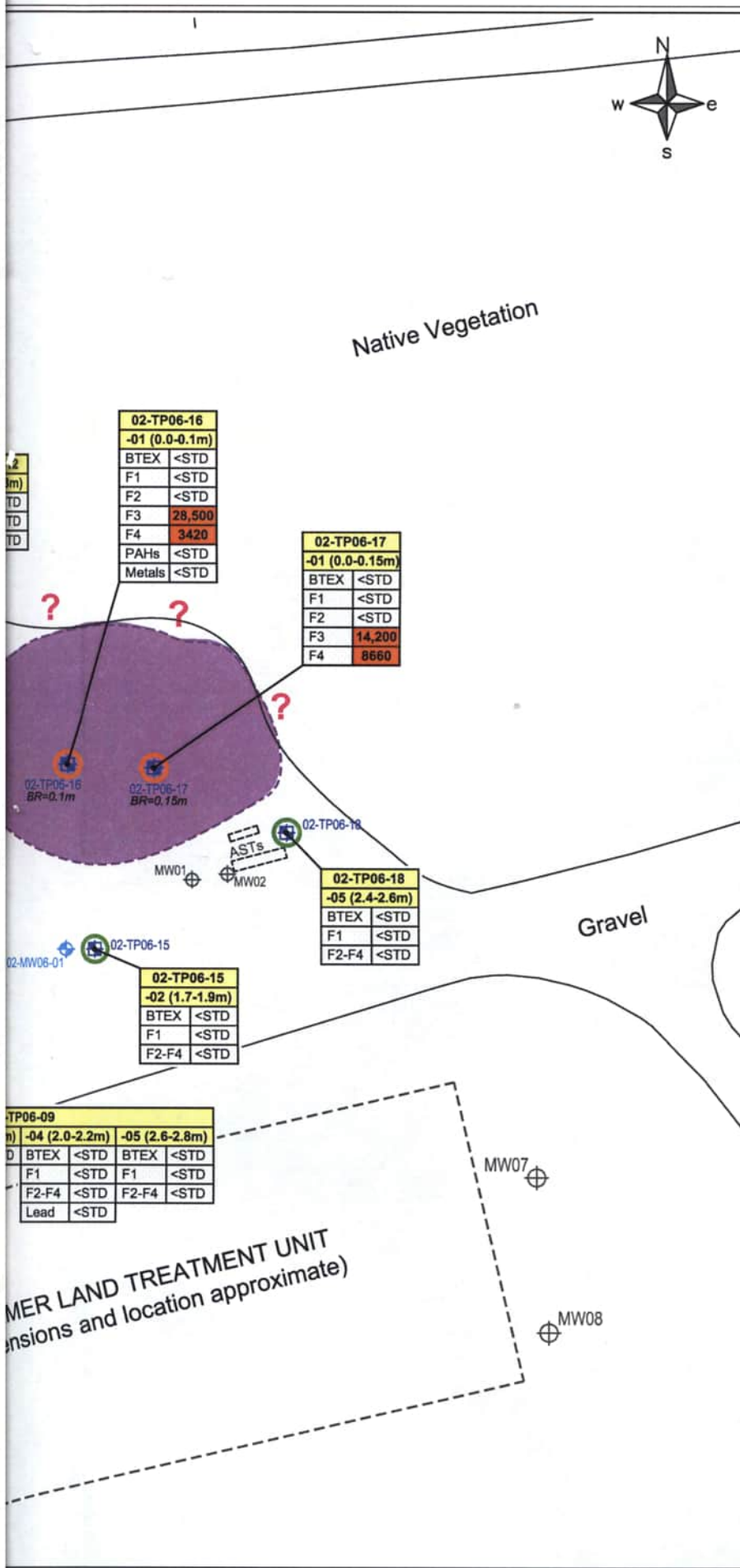
02-MW06-16

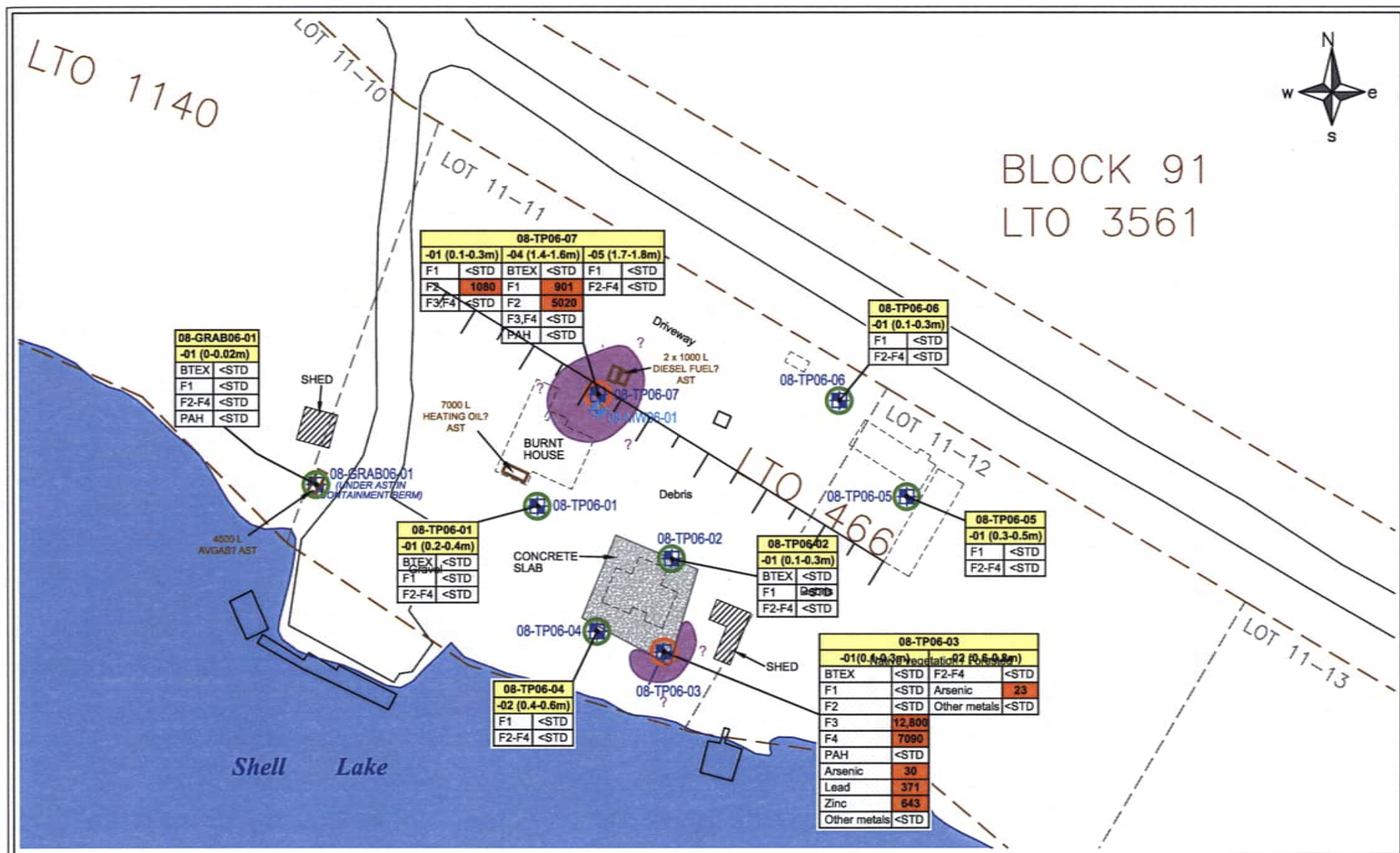
02-MW06-17

02-MW06-18

02-MW06-19

02-MW06-20





LEGEND:

- Monitoring Well
- Test Pit
- Former Building
- Existing Building
- Above Ground Storage Tank (existing)
- Sampling locations with one or more parameters at concentrations above standards
- Sampling locations with all concentrations below standards
- Inferred extents of soil exceedences

01-TP06-04	Sample Location
-01 (0.4-0.6m)	Sample ID (Depth)
F2-F4 <STD	Concentration less than applicable standard
F3 2830	Concentration exceeds applicable standard
Metals <STD	

All concentrations shown in µg/g

NOTE: For applicable standards, please refer to tables and report

APEC 8 - SHELL LAKE SOIL ANALYTICAL RESULTS

FRANZ ENVIRONMENTAL INC.
CONSULTING & ENGINEERING & TECHNOLOGIES

Project: PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES

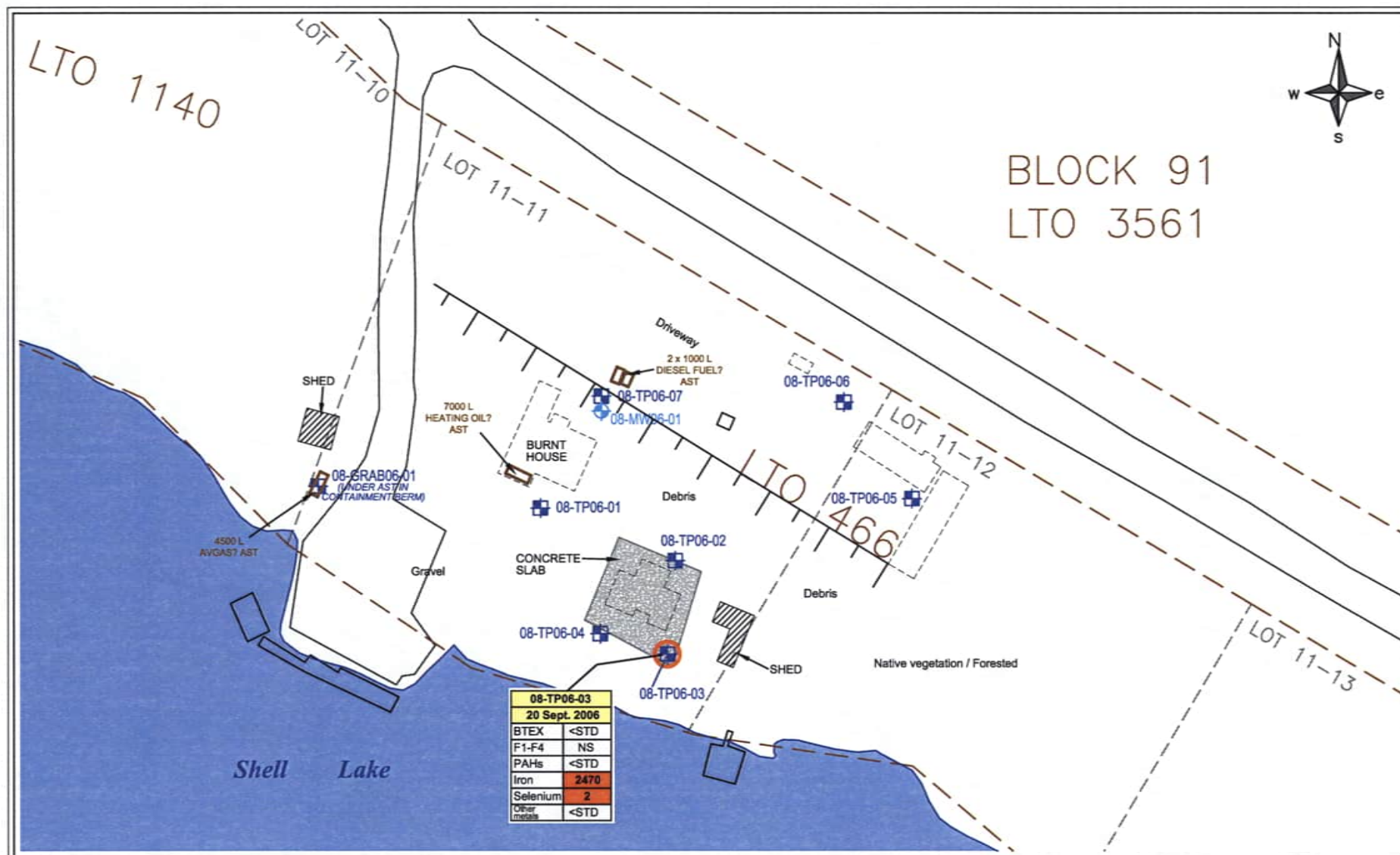
Date: DECEMBER 2006

Client: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR TRANSPORT CANADA

SCALE 1:800

FIGURE 5-4

Z:/project/1256-0601 Inuvik Airport/figures/Inuvik-ShellLake-tkt.dwg (APEC 8-soil)



LEGEND:

- Monitoring Well
- Test Pit
- Former Building
- Existing Building
- Above Ground Storage Tank (existing)
- Sampling locations with one or more parameters at concentrations above standards
- Sampling locations with all concentrations below standards

Parameters analyzed	01-TP06-04	Sample Location
	-01 (0.4-0.6m)	Sample ID (Depth)
	F2,F4	Concentration less than standard
	F3	Concentration exceeds standard
	Metals	<STD

All concentrations shown in µg/L

NOTE: For comparison standards, please refer to tables and report

APEC 8 - GROUNDWATER ANALYTICAL RESULTS



Date: **DECEMBER 2006**

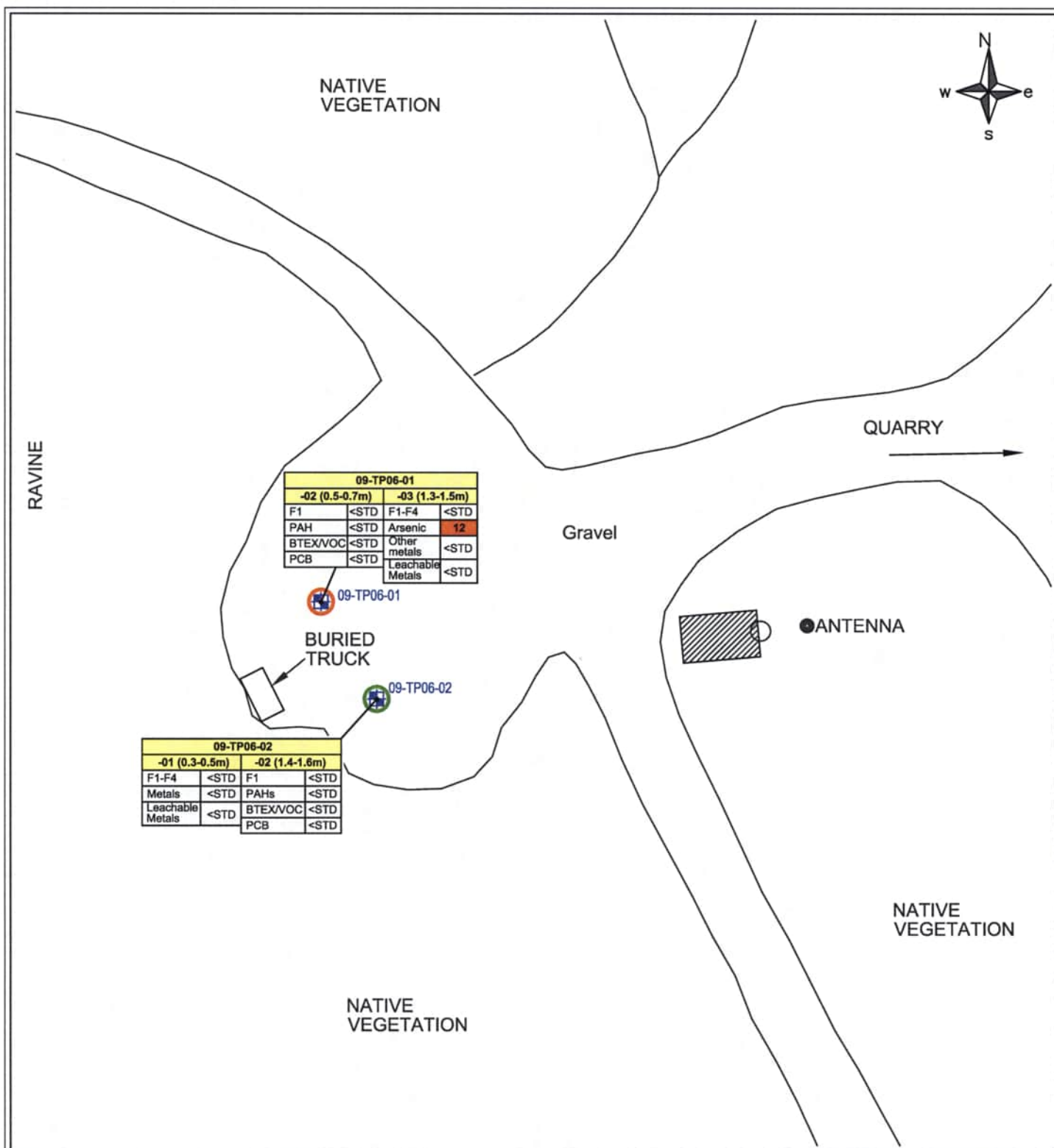
Project: **PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES**

Client: **PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR TRANSPORT CANADA**

SCALE 1:800
0 10 20 metres

FIGURE 5-5

Z:/project/1256-0601 Inuvik Airport/figures/Inuvik-Shelloket-tkt.dwg (APEC 8-GW)



LEGEND:

- Monitoring Well
- Test Pit
- Former Building
- Existing Building

Parameters analyzed	01-TP06-04		Sample Location
	-01 (0.4-0.6m)		Sample ID (Depth)
	F2,F4	<STD	Concentration exceeds applicable standard
	F3	2830	Concentration less than applicable standard
	Metals	<STD	

All concentrations shown in µg/g

NOTE: For applicable standards, please refer to tables and report

Sampling locations with all concentrations below applicable standards

Sampling locations with one or more parameters at concentrations above applicable standards

Title:

APEC 9 - SOIL ANALYTICAL RESULTS



Date:

DECEMBER 2006

Project:

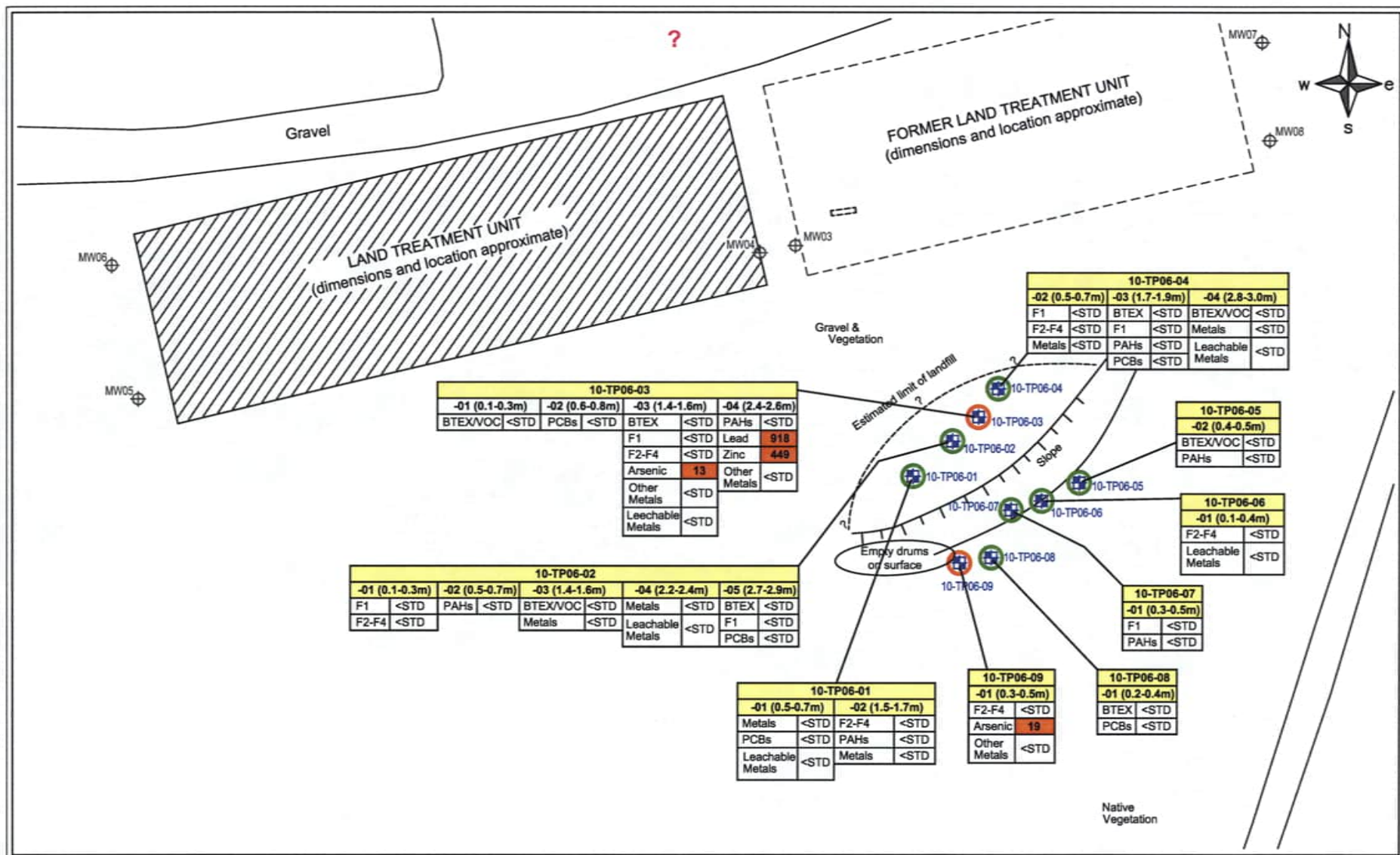
PHASE II AND III ENVIRONMENTAL SITE ASSESSMENT, MIKE ZUBKO AIRPORT, INUVIK, NORTHWEST TERRITORIES

Client:

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA FOR TRANSPORT CANADA

SCALE 1:400
metres

FIGURE 5-6



General and CWS Endnotes for Soil

Endnotes

General Endnotes:

All values are reported as µg/g unless otherwise indicated.

- 10** = Value is greater than the applicable CCME or CWS Guideline
- NS = No Standard
- = Not Analyzed
- NA = Not Applicable
- NR = Not Recorded
- NSA = Sample was submitted to laboratory but not scheduled for any analyses
- IP = Some data for the sample is either still in progress at the lab or not yet received by Franz
- RPD = Relative percent difference is calculated as the difference over the average of the two values and is only calculated when both concentrations are greater than 5 times the method detection limit.

Laboratory Notes

Refer to Laboratory reports for sample specific notes

- < = less than method detection limit (mdl)

General CWS for Petroleum Hydrocarbons (PHC) in Soil

- (B) *Canada-Wide Standards (CWS) for Petroleum Hydrocarbons (PHC) in Soil*, Endorsed by CCME Council of Ministers, April 20-May 1, 2001, Winnipeg
- (i) PHC are considered to be comprised of 4 fractions
- (ii) PHC exclude known carcinogens such as benzene and benzo(a)pyrene, which are addressed as target compounds.
- (iii) PHC exclude toluene, ethylbenzene, and xylenes (TEX), which are addressed as target compounds.

PHC sub-fractions

The relative composition of each carbon (equivalent) range sub-fraction within each fraction, and the relative composition of aliphatics and aromatics within each sub-fraction.

- F1 35% >C₅ to C₆(100% aliphatics); 35% >C₆ to C₈(100% aliphatics); 30% >C₈ to C₁₀(80% aliphatics, 20% aromatics);
- F2 45% >C₁₀ to C₁₂(80% aliphatics, 20% aromatics); 55% >C₁₂ to C₁₆(80% aliphatics, 20% aromatics);
- F3 70% >C₁₆ to C₂₁(80% aliphatics, 20% aromatics); 30% >C₂₁ to C₃₄(80% aliphatics, 20% aromatics); and
- F4 100% >C₃₄(80% aliphatics, 20% aromatics).

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	CWS Soil CL/IL (Fine)	01-TP06-08-1	01-TP06-21-03	01-TP06-28-02	01-TP06-28-03	02-TP06-02-02	02-TP06-02-04
										0.5-0.7	1.4-1.6	0.4-0.5	0.6-0.8	0.8-1.0	1.6-1.8
										C80525	C80587	C82517	C82518	C82536	C82539
										15-Sep-06	16-Sep-06	17-Sep-06	17-Sep-06	17-Sep-06	17-Sep-06
										Franz	Franz	Franz	Franz	Franz	Franz
Sample Depth (m):															
Lab ID #:															
Sample Date:															
Prepared by:															
Volatiles															
Benzene	5	5	NS	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.0050	<0.0050	<0.0050	0.074
Toluene	0.8	0.8	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	<0.020	<0.020	<0.020	0.14
Ethylbenzene	20	20	NS	NS	NS	NS	NS	NS	NS	<0.01	<0.01	<0.010	<0.010	<0.010	0.33
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.04	<0.04	<0.020	<0.020	<0.020	3.6
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	0.031	<0.020	0.038	1.3
Styrene	50	50	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	NS	NS	<0.04	<0.04	0.031	<0.020	0.038	4.9
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	660	660	-	150	118	61	77	26
Volatiles															
F1 (C6-C10) - BTEX								NS	NA	-	150	118	61	77	21

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-02-05	02-TP06-03-01	02-TP06-04-01	02-TP06-06-01	02-TP06-07-02	02-TP06-DUP7	RPD
								2.6-2.8	0.1-0.3	0.3-0.5	0.3-0.6	0.3-0.5	02-TP06-07-02	
								C82540	C87432	C87446	C87453	C87459	C87552	
								17-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	
Sample Depth (m):														
Lab ID #:														
Sample Date:														
Prepared by:								Franz	Franz	Franz	Franz	Franz	Franz	
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	0.024	<0.0050	<0.0050	<0.0050	0.16	<0.0050	n/a
Toluene	0.8	0.8	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	1.2	0.15	156%
Ethylbenzene	20	20	NS	NS	NS	NS	NS	<0.010	<0.010	<0.010	<0.010	4.7	0.19	184%
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	40	35	13%
o-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	26	26	0%
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	66	60	10%
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	<10	<10	<10	<10	1530	1130	30%
Volatiles														
F1 (C6-C10) - BTEX							NS	<10	<10	<10	<10	1460	1030	35%

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	CWS Soil CL/IL (Fine)	01-TP06-08-1	01-TP06-21-03	01-TP06-28-02	01-TP06-28-03	02-TP06-02-02	02-TP06-02-04
										0.5-0.7	1.4-1.6	0.4-0.5	0.6-0.8	0.8-1.0	1.6-1.8
										C80525	C80587	C82517	C82518	C82536	C82539
										15-Sep-06	16-Sep-06	17-Sep-06	17-Sep-06	17-Sep-06	17-Sep-06
										Franz	Franz	Franz	Franz	Franz	Franz
Sample Depth (m):															
Lab ID #:															
Sample Date:															
Prepared by:															
Volatiles															
Benzene	5	5	NS	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.0050	<0.0050	<0.0050	0.074
Toluene	0.8	0.8	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	<0.020	<0.020	<0.020	0.14
Ethylbenzene	20	20	NS	NS	NS	NS	NS	NS	NS	<0.01	<0.01	<0.010	<0.010	<0.010	0.33
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.04	<0.04	<0.020	<0.020	<0.020	3.6
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	0.031	<0.020	0.038	1.3
Styrene	50	50	NS	NS	NS	NS	NS	NS	NS	<0.02	<0.02	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	NS	NS	<0.04	<0.04	0.031	<0.020	0.038	4.9
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	660	660	-	150	118	61	77	26
Volatiles															
F1 (C6-C10) - BTEX								NS	NA	-	150	118	61	77	21

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-02-05	02-TP06-03-01	02-TP06-04-01	02-TP06-06-01	02-TP06-07-02	02-TP06-DUP7	RPD
								2.6-2.8	0.1-0.3	0.3-0.5	0.3-0.6	0.3-0.5	02-TP06-07-02	
								C82540	C87432	C87446	C87453	C87459	C87552	
								17-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	
Sample Depth (m):														
Lab ID #:														
Sample Date:														
Prepared by:								Franz	Franz	Franz	Franz	Franz	Franz	
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	0.024	<0.0050	<0.0050	<0.0050	0.16	<0.0050	n/a
Toluene	0.8	0.8	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	1.2	0.15	156%
Ethylbenzene	20	20	NS	NS	NS	NS	NS	<0.010	<0.010	<0.010	<0.010	4.7	0.19	184%
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	40	35	13%
o-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	26	26	0%
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	66	60	10%
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	<10	<10	<10	<10	1530	1130	30%
Volatiles														
F1 (C6-C10) - BTEX							NS	<10	<10	<10	<10	1460	1030	35%

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-07-04	02-TP06-08-02	02-TP06-08-05	02-TP06-08-06	02-TP06-09-01	02-TP06-09-04	02-TP06-09-05
									0.9-1.1	0.5-0.7	1.7-1.9	2.3-2.5	0.1-0.3	2.0-2.2	2.6-2.8
									C87462	C87466	C87478	C87480	C87492	C87495	C87496
									18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06
									Franz	Franz	Franz	Franz	Franz	Franz	Franz
Sample Depth (m):															
Lab ID #:															
Sample Date:															
Prepared by:															
Volatiles															
Benzene	5	5	NS	NS	NS	NS	NS	0.26	0.45	3.8	1.1	0.1	0.8	0.27	
Toluene	0.8	0.8	NS	NS	NS	NS	NS	0.9	0.45	9.6	1.2	0.068	0.2	0.21	
Ethylbenzene	20	20	NS	NS	NS	NS	NS	0.098	2.5	7.4	0.61	0.49	1.1	0.031	
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	0.24	37	36	2.2	5.1	2.9	0.062	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	0.068	13	11	0.94	0.49	1.7	<0.020	
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-	
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	0.31	49	47	3.1	5.5	4.1	0.062	
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	16	1270	974	47	1380	70	14	
Volatiles															
F1 (C6-C10) - BTEX							NS	14	1220	906	41	1380	64	14	

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-07-04	02-TP06-08-02	02-TP06-08-05	02-TP06-08-06	02-TP06-09-01	02-TP06-09-04	02-TP06-09-05
								0.9-1.1	0.5-0.7	1.7-1.9	2.3-2.5	0.1-0.3	2.0-2.2	2.6-2.8
								C87462	C87466	C87478	C87480	C87492	C87495	C87496
								18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06
								Franz	Franz	Franz	Franz	Franz	Franz	Franz
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	0.26	0.45	3.8	1.1	0.1	0.8	0.27
Toluene	0.8	0.8	NS	NS	NS	NS	NS	0.9	0.45	9.6	1.2	0.068	0.2	0.21
Ethylbenzene	20	20	NS	NS	NS	NS	NS	0.098	2.5	7.4	0.61	0.49	1.1	0.031
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	0.24	37	36	2.2	5.1	2.9	0.062
o-Xylene	NS	NS	NS	NS	NS	NS	NS	0.068	13	11	0.94	0.49	1.7	<0.020
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	0.31	49	47	3.1	5.5	4.1	0.062
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	16	1270	974	47	1380	70	14
Volatiles														
F1 (C6-C10) - BTEX							NS	14	1220	906	41	1380	64	14

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1

Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Sample Date: Prepared by:	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-10-2	02-TP06-11-01	02-TP06-12-01	02-TP06-DUP8	RPD	02-TP06-13-02	02-TP06-14-02
									0.6-0.8	0.2-0.4	0.1-0.3	02-TP06-12-01		1.3-1.4	0.2-0.4
									C87498	C87538	C87551	C87553		C87504	C87507
									18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06		19-Sep-06	19-Sep-06
									Franz	Franz	Franz	Franz		Franz	Franz
Volatiles															
Benzene	5	5	NS	NS	NS	NS	NS	0.11	0.013	<0.0050	<0.0050	n/a	<0.0050	<0.0050	
Toluene	0.8	0.8	NS	NS	NS	NS	NS	0.031	<0.020	<0.020	<0.020	n/a	<0.020	<0.020	
Ethylbenzene	20	20	NS	NS	NS	NS	NS	0.38	<0.010	<0.010	<0.010	n/a	<0.010	<0.010	
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	<0.020	n/a	<0.020	<0.020	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	0.035	<0.020	<0.020	n/a	<0.020	<0.020	
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-	
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	<0.020	0.035	<0.020	<0.020	n/a	<0.020	<0.020	
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	138	15	<10	<10	n/a	<10	<10	
Volatiles															
F1 (C6-C10) - BTEX							NS	138	15	<10	<10	n/a	<10	<10	

Notes (Refer to endnotes for complete list)

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NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	02-TP06-15-02	02-TP06-16-01	02-TP06-DUP9	RPD	02-TP06-17-01	02-TP06-18-05	08-TP06-01-01
								1.7-1.9	0.0-0.1	02-TP06-16-01		0.0-0.15	2.4-2.6	0.2-0.4
								C87512	C87515	C87537		C87516	C87521	C87839
								19-Sep-06	19-Sep-06	19-Sep-06		19-Sep-06	19-Sep-06	20-Sep-06
Sample Depth (m):														
Lab ID #:														
Sample Date:														
Prepared by:								Franz	Franz	Franz		Franz	Franz	Franz
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	<0.0050	<0.0050	<0.0050	n/a	<0.0050	0.0069	<0.0050
Toluene	0.8	0.8	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	n/a	<0.020	<0.020	<0.020
Ethylbenzene	20	20	NS	NS	NS	NS	NS	<0.010	<0.010	<0.010	n/a	<0.010	<0.010	<0.010
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	n/a	<0.020	<0.020	<0.020
o-Xylene	NS	NS	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	n/a	<0.020	0.037	<0.020
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	<0.020	<0.020	<0.020	n/a	<0.020	0.037	<0.020
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	<10	<10	<10	n/a	11	21	<10
Volatiles														
F1 (C6-C10) - BTEX							NS	<10	<10	<10	n/a	11	21	<10

Notes (Refer to endnotes for complete list)

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NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	08-TP06-02-01	08-TP06-03-01	08-TP06-04-02	08-TP06-05-01	08-TP06-DUP10	RPD	08-TP06-06-01
									0.1-0.3	0.1-0.3	0.4-0.6	0.3-0.5	08-TP06-05-01		0.1-0.3
									C87842	C87847	C87851	C87855	C87866		C87858
									20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06		20-Sep-06
									Franz	Franz	Franz	Franz	Franz		Franz
Sample Depth (m):															
Lab ID #:															
Sample Date:															
Prepared by:															
Volatiles															
Benzene	5	5	NS	NS	NS	NS	NS	0.025	0.026	-	-	-	-	-	-
Toluene	0.8	0.8	NS	NS	NS	NS	NS	0.25	0.19	-	-	-	-	-	-
Ethylbenzene	20	20	NS	NS	NS	NS	NS	0.034	0.028	-	-	-	-	-	-
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	0.26	<0.020	-	-	-	-	-	-
o-Xylene	NS	NS	NS	NS	NS	NS	NS	0.079	<0.020	-	-	-	-	-	-
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	0.34	<0.020	-	-	-	-	-	-
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	<10	278	16	<10	<10	n/a	<10	<10
Volatiles															
F1 (C6-C10) - BTEX							NS	<10	278	-	-	-	-	-	-

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	08-TP06-07-01	08-TP06-07-04	08-TP06-07-05	08-GRAB06-01-01	09-TP06-01-02	09-TP06-01-03
									0.1-0.3	1.4-1.6	1.7-1.8	0.0-0.02	0.5-0.7	1.3-1.5
									C87861	C87864	C87865	C87867	C87832	C87833
									20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06
									Franz	Franz	Franz	Franz	Franz	Franz
Sample Depth (m):														
Lab ID #:														
Sample Date:														
Prepared by:														
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	-	<0.0050	-	<0.0050	<0.005	-	
Toluene	0.8	0.8	NS	NS	NS	NS	NS	-	0.074	-	0.16	<0.02	-	
Ethylbenzene	20	20	NS	NS	NS	NS	NS	-	0.069	-	<0.010	<0.01	-	
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	-	0.31	-	<0.020	<0.04	-	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	-	0.18	-	<0.020	<0.02	-	
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	-	-	-	
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	-	0.49	-	<0.020	<0.04	-	
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	85	901	<10	<10	<10	<10	
Volatiles														
F1 (C6-C10) - BTEX							NS	-	900	-	<10	<10	-	

Notes (Refer to endnotes for complete list)

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NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	09-TP06-02-01	09-TP06-02-02	10-TP06-02-01	10-TP06-02-03	10-TP06-02-05	10-TP06-03-01	10-TP06-03-03
								0.3-0.5	1.4-1.6	0.1-0.3	1.4-1.6	2.7-2.9	0.1-0.3	1.3-1.5
								C87836	C87837	C87524	C87526	C87528	C87529	C87531
								20-Sep-06	20-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06
Sample Depth (m):														
Lab ID #:														
Sample Date:														
Prepared by:								Franz	Franz	Franz	Franz	Franz	Franz	Franz
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	-	<0.005	-	<0.005	<0.0050	<0.005	<0.0050
Toluene	0.8	0.8	NS	NS	NS	NS	NS	-	<0.02	-	<0.02	<0.020	<0.02	<0.020
Ethylbenzene	20	20	NS	NS	NS	NS	NS	-	<0.01	-	<0.01	<0.010	<0.01	<0.010
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	-	<0.04	-	<0.04	<0.020	<0.04	<0.020
o-Xylene	NS	NS	NS	NS	NS	NS	NS	-	<0.02	-	<0.02	<0.020	<0.02	<0.020
Styrene	50	50	NS	NS	NS	NS	NS	-	-	-	<0.02	-	<0.02	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	-	<0.04	-	<0.04	<0.020	<0.04	<0.020
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	<10	<10	<10	-	<10	-	<10
Volatiles														
F1 (C6-C10) - BTEX							NS	-	<10	-	-	<10	-	<10

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 1
Analytical Results for BTEX/VPH, CWS F1 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	GNWT Tier 1 Soil CL/IL (coarse/surface)	GNWT Tier 1 Soil CL/IL (fine/surface)	GNWT Tier 1 Soil CL/IL (coarse/subsurface)	GNWT Tier 1 Soil CL/IL (fine/subsurface)	CWS Soil CL/IL (coarse)	10-TP06-04-02	10-TP06-04-03	10-TP06-04-04	10-TP06-05-02	10-TP06-07-01	10-TP06-08-01
									0.5-0.7	1.7-1.9	2.8-3.0	0.4-0.5	0.3-0.5	0.2-0.4
									C87534	C87535	C87536	C93205	C93207	C93208
									19-Sep-06	19-Sep-06	19-Sep-06	22-Sep-06	22-Sep-06	22-Sep-06
									Franz	Franz	Franz	Franz	Franz	Franz
Volatiles														
Benzene	5	5	NS	NS	NS	NS	NS	NS	-	<0.0050	<0.005	<0.005	-	<0.0050
Toluene	0.8	0.8	NS	NS	NS	NS	NS	NS	-	<0.020	<0.02	<0.02	-	<0.020
Ethylbenzene	20	20	NS	NS	NS	NS	NS	NS	-	<0.010	<0.01	<0.01	-	<0.010
m & p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	-	<0.020	<0.04	<0.04	-	<0.020
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	-	<0.020	<0.02	<0.02	-	<0.020
Styrene	50	50	NS	NS	NS	NS	NS	NS	-	-	<0.02	<0.02	-	-
Xylenes (Total)	17	20	NS	NS	NS	NS	NS	NS	-	<0.020	<0.04	<0.04	-	<0.020
F1 (C6-C10) - BTEX	NA	NA	310	660	700	1000	310	310	<10	<10	-	-	<10	-
Volatiles														
F1 (C6-C10) - BTEX								NS	-	<10	-	-	-	-

Notes (Refer to endnotes for complete list)

- 10** value is greater than the applicable GNWT criteria, CCME Standard or CWS Guideline
NS - No Standard.
- Not analyzed
NA - Not applicable
NC - Not calculated
*,** etc. Refer to Laboratory notes

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/JL (coarse/surface)	GNWT Tier 1 Soil CL/JL (fine/surface)	GNWT Generic Soil CL/JL (coarse/subsurface)	GNWT Generic Soil CL/JL (fine/subsurface)	GNWT Soil CL/JL CCME Soil CL/JL (coarse/fine)	01-TP06-01-03	01-TP06-02-03	01-TP06-03-03	01-TP06-04-01	01-TP06-04-02	01-TP06-05-01	01-TP06-06-02	01-TP06-07-1	01-TP06-07-3	01-TP06-08-1	01-TP06-09-2
							1.5-1.7	1.5-1.7	1.7-1.8	0.4-0.6	1.0-1.2	0.5-0.7	1.4-1.6	0.4-0.6	1.8-2.0	0.5-0.7	1.4-1.6
							A643248	A643248	A643248	A643248	A643248	A643248	A643248	A643216	A643216	A643216	A643216
							C80865	C80868	C80872	C80873	C80874	C80877	C80881	C80522	C80524	C80525	C80529
							14/09/2006	14/09/2006	14/09/2006	14/09/2006	14/09/2006	14/09/2006	14-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06
						Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocarbons																	
CWS F2 (C10-C16)	760	1500	2000	3000	NA	19	25	54	205	81	38	73	17	30	17	48	
CWS F3 (C16-C34)	1700	2500	3500	5000	NA	273	645	520	2830	1410	378	203	242	365	58	587	
CWS F4 (C34-C50)	3300	6600	10000	10000	NA	199	182	86	450	246	69	26	51	73	<10	114	
Reached Baseline at C50						Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
OIL & GREASE																	
F4SG (Heavy Hydrocarbons-SilicaGel)																	
Polycyclic Aromatics Hydrocarbons																	
Naphthalene	NA	NA	NA	NA	22	-	-	-	-	-	-	-	-	-	-	0.11	-
2-Methylnaphthalene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	0.09	-
Acenaphthylene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	<0.05	-
Acenaphthene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	0.39	-
Fluorene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	0.17	-
Phenanthrene	NA	NA	NA	NA	50	-	-	-	-	-	-	-	-	-	-	0.2	-
Anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	0.18	-
Fluoranthene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	1.1	-
Pyrene	NA	NA	NA	NA	100	-	-	-	-	-	-	-	-	-	-	0.75	-
Benzo(c)phenanthrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	0.14	-
Chrysene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	0.14	-
Benzo(b&j)fluoranthene	NA	NA	NA	NA	10 ^x	-	-	-	-	-	-	-	-	-	-	0.06	-
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	<0.05	-
Benzo(a)pyrene	NA	NA	NA	NA	0.7	-	-	-	-	-	-	-	-	-	-	<0.05	-
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	<0.05	-
Dibenz(a,h)anthracene	NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	<0.05	-
Benzo(g,h,i)perylene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	<0.05	-
Dibenzo(a,h)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,i)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,l)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

^x Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/I/L (coarse/surface)	GNWT Tier 1 Soil CL/I/L (fine/surface)	GNWT Generic Soil CL/I/L (coarse/subsurface)	GNWT Generic Soil CL/I/L (fine/subsurface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	01-TP06-10-2	01-TP06-11-1	01-TP06-DUP1	RPD	01-TP06-12-3	01-TP06-13-1	01-TP06-14-3	01-TP06-15-3	01-TP06-16-3	01-TP06-17-3	01-TP06-18-01	
		CWS Soil CL/I/L (coarse)	CWS Soil CL/I/L (fine)				1.4-1.6	0.4-0.6	01-TP06-11-1		1.6-1.8	0.4-0.6	1.7-1.9	2.2-2.4	2.2-2.4	2.0-2.2	0.3-0.5	
							A643216	A643216	A643216		A643216	A643216	A643216	A643216	A643216	A643216	A643216	
							C80532	C80534	C80561		C80540	C80542	C80547	C80553	C80556	C80559	C80562	
							15-Sep-06	15-Sep-06	15-Sep-06		15-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06	15-Sep-06	16-Sep-06
							Franz	Franz	Franz			Franz	Franz	Franz	Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocabrons																		
CWS F2 (C10-C16)		760	1500	2000	3000	NA	31	31	20	43%	70	25	16	32	15	<10	<10	
CWS F3 (C16-C34)		1700	2500	3500	5000	NA	451	342	338	1%	990	362	137	532	94	13	2330	
CWS F4 (C34-C50)		3300	6600	10000	10000	NA	64	67	120	57%	163	55	62	26	31	<10	1960	
Reached Baseline at C50							Yes	Yes	Yes	-	Yes	Yes	Yes	Yes	Yes	Yes	No	
OIL & GREASE																		
F4SG (Heavy Hydrocarbons-SilicaGel)																	3200	
Polycyclic Aromatics Hydrocarbons																		
Naphthalene		NA	NA	NA	NA	22	-	-	-	-	-	-	-	-	-	-	-	
2-Methylnaphthalene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Acenaphthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Fluorene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Phenanthrene		NA	NA	NA	NA	50	-	-	-	-	-	-	-	-	-	-	-	
Anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Fluoranthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Pyrene		NA	NA	NA	NA	100	-	-	-	-	-	-	-	-	-	-	-	
Benzo(c)phenanthrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	-	
Chrysene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 ^x	-	-	-	-	-	-	-	-	-	-	-	
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	-	
Benzo(a)pyrene		NA	NA	NA	NA	0.7	-	-	-	-	-	-	-	-	-	-	-	
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	-	
Dibenz(a,h)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	-	-	-	
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	
Dibenzo(a,l)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

** etc. Refer to Laboratory notes

^x Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/L (coarse/surface)	GNWT Tier 1 Soil CL/L (fine/surface)	GNWT Generic Soil CL/L (coarse/subsurface)	GNWT Generic Soil CL/L (fine/subsurface)	GNWT Soil CL/L CCME Soil CL/L (coarse/fine)	01-TP06-18-02	01-TP06-19-01	01-TP06-20-04	01-TP06-21-02	01-TP06-DUP2	RPD	01-TP06-21-03	01-TP06-DUP3	RPD	01-TP06-21-04	01-TP06-22-03
							1.3-1.5	0.3-0.5	2.3-2.5	0.4-0.6	01-TP06-21-02		1.4-1.6	01-TP06-21-03		2.1-2.4	1.4-1.6
							A643216	A643216	A643216	A643216	A643216		A643216	A643216		A643216	A643216
							C80576	C80578	C80584	C80586	C80662		C80587	C80669		C80655	C80658
							16-Sep-06	16-Sep-06	16-Sep-06	16-Sep-06	16-Sep-06		16-Sep-06	16-Sep-06		16-Sep-06	16-Sep-06
							Franz	Franz	Franz	Franz	Franz		Franz	Franz		Franz	Franz
Extractable Petroleum Hydrocarbons																	
CWS F2 (C10-C16)		760	1500	2000	3000	NA	<10	<10	13	3930	3750	5%	3810	2770	32%	2840	11
CWS F3 (C16-C34)		1700	2500	3500	5000	NA	394	52	57	1260	1260	0%	1110	919	19%	1060	31
CWS F4 (C34-C50)		3300	6600	10000	10000	NA	337	38	23	14	14	n/a	<10	<10	n/a	18	<10
Reached Baseline at C50							Yes	Yes	Yes	Yes	Yes	-	Yes	Yes	-	Yes	Yes
OIL & GREASE																	
F4SG (Heavy Hydrocarbons-SilicaGel)																	
Polycyclic Aromatics Hydrocarbons																	
Naphthalene		NA	NA	NA	NA	22	-	-	-	0.22	-	-	-	-	-	-	-
2-Methylnaphthalene		NA	NA	NA	NA	NS	-	-	-	0.11	-	-	-	-	-	-	-
Acenaphthylene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Acenaphthene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Fluorene		NA	NA	NA	NA	NS	-	-	-	0.12	-	-	-	-	-	-	-
Phenanthrene		NA	NA	NA	NA	50	-	-	-	<0.05	-	-	-	-	-	-	-
Anthracene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Fluoranthene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Pyrene		NA	NA	NA	NA	100	-	-	-	<0.05	-	-	-	-	-	-	-
Benzo(c)phenanthrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene		NA	NA	NA	NA	10	-	-	-	<0.05	-	-	-	-	-	-	-
Chrysene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 ⁴	-	-	-	<0.05	-	-	-	-	-	-	-
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene		NA	NA	NA	NA	10	-	-	-	<0.05	-	-	-	-	-	-	-
Benzo(a)pyrene		NA	NA	NA	NA	0.7	-	-	-	<0.05	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10	-	-	-	<0.05	-	-	-	-	-	-	-
Dibenz(a,h)anthracene		NA	NA	NA	NA	10	-	-	-	<0.05	-	-	-	-	-	-	-
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS	-	-	-	<0.05	-	-	-	-	-	-	-
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,l)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-

Notes (Refer to endnotes for complete list)

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* ** etc. Refer to Laboratory notes

* Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/JL (coarse/surface) CWS Soil CL/JL (coarse)	GNWT Tier 1 Soil CL/JL (fine/surface) CWS Soil CL/JL (fine)	GNWT Generic Soil CL/JL (coarse/subsurface)	GNWT Generic Soil CL/JL (fine/subsurface)	GNWT Soil CL/JL CCME Soil CL/JL (coarse/fine)	01-TP06-23-01	01-TP06-24-03	01-TP06-DUP4	RPD	01-TP06-25-04	01-TP06-26-03	01-TP06-27-03	01-TP06-DUP5	01-TP06-28-02	01-TP06-28-03	02-TP06-01-04
		0.2-0.4	2.6-2.8	01-TP06-24-03			2.8-3.0	1.4-1.6	2.1-2.3		01-TP06-28-01	0.4-0.5	0.6-0.8	1.4-1.6			
		A643216	A643501	A643501			A643501	A643501	A643501		A643501	A643501	A643501	A643501			
		C80663	C82495	C82542			C82500	C82503	C82515		C82543	C82517	C82518	C82522			
		16-Sep-06	17-Sep-06	17-Sep-06			17-Sep-06	17/09/2006	17/09/2006		17-Sep-06	17-Sep-06	17-Sep-06	17-Sep-06			
		Franz	Franz	Franz			Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	
Extractable Petroleum Hydrocarbons																	
CWS F2 (C10-C16)		760	1500	2000	3000	NA	17	<10	<10	n/a	<10	15	<10	171	2560	559	25
CWS F3 (C16-C34)		1700	2500	3500	5000	NA	123	64	178	94%	<10	10	<10	8440	3650	8920	24
CWS F4 (C34-C50)		3300	6600	10000	10000	NA	207	24	46	n/a	<10	51	<10	6680	630	1070	26
Reached Baseline at C50							Yes	Yes	Yes	-	Yes	Yes	Yes	No	Yes	Yes	Yes
OIL & GREASE																	
F4SG (Heavy Hydrocarbons-SilicaGel)																	
Polycyclic Aromatics Hydrocarbons																	
Naphthalene		NA	NA	NA	NA	22	-	-	-	-	-	-	-	<0.05	0.21	-	-
2-Methylnaphthalene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	1.7	-	-
Acenaphthylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Acenaphthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	0.09	-	-
Fluorene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	0.24	-	-
Phenanthrene		NA	NA	NA	NA	50	-	-	-	-	-	-	-	0.05	0.34	-	-
Anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Fluoranthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Pyrene		NA	NA	NA	NA	100	-	-	-	-	-	-	-	0.08	<0.05	-	-
Benzo(c)phenanthrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Chrysene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 ³	-	-	-	-	-	-	-	<0.05	<0.05	-	-
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Benzo(a)pyrene		NA	NA	NA	NA	0.7	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Dibenz(a,h)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	<0.05	<0.05	-	-
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,j)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

NS - No Standard,

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

* Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/L (coarse/surface)	GNWT Tier 1 Soil CL/L (fine/surface)	GNWT Generic Soil CL/L (coarse/surface)	GNWT Generic Soil CL/L (fine/surface)	GNWT Soil CL/L CCME Soil CL/L (coarse/fine)	02-TP06-02-02	02-TP06-02-04	02-TP06-03-01	02-TP06-03-03	02-TP06-04-01	02-TP06-05-01	02-TP06-06-01	02-TP06-07-02	02-TP06-DUP7	RPD	02-TP06-07-04
		CWS Soil CL/L (coarse)	CWS Soil CL/L (fine)	GNWT Generic Soil CL/L (coarse/surface)	GNWT Generic Soil CL/L (fine/surface)	GNWT Soil CL/L CCME Soil CL/L (coarse/fine)	0.8-1.0	1.6-1.8	0.1-0.3	0.7-0.9	0.3-0.5	0.2-0.4	0.3-0.6	0.3-0.5	0.2-TP06-07-02		0.9-1.1
		A643501	A643501	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350		A644350
		C82536	C82539	C87432	C87442	C87446	C87449	C87453	C87459	C87552	C87462	C87462	C87462	C87462	C87462		C87462
		17-Sep-06	17-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06		18-Sep-06
							Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz		Franz
Extractable Petroleum Hydrocarbons																	
CWS F2 (C10-C16)	760	1500	2000	3000	NA	610	32	175	12	13	71	96	2830	4530	46%	49	
CWS F3 (C16-C34)	1700	2500	3500	5000	NA	1460	68	3240	257	31	760	1040	4910	7180	38%	80	
CWS F4 (C34-C50)	3300	6600	10000	10000	NA	449	47	2250	119	69	1420	623	1690	2190	26%	71	
Reached Baseline at C50						Yes	Yes	No	Yes	Yes	No	No	No	No	-	Yes	
OIL & GREASE																	
F4SG (Heavy Hydrocarbons-SilicaGel)								8000				2700	8300				
Polycyclic Aromatics Hydrocarbons																	
Naphthalene	NA	NA	NA	NA	22	-	-	-	-	-	19	-	<0.05	-	-	<0.05	
2-Methylnaphthalene	NA	NA	NA	NA	NS	-	-	-	-	-	40	-	<0.05	-	-	<0.05	
Acenaphthylene	NA	NA	NA	NA	NS	-	-	-	-	-	0.36	-	<0.05	-	-	<0.05	
Acenaphthene	NA	NA	NA	NA	NS	-	-	-	-	-	0.5	-	<0.05	-	-	<0.05	
Fluorene	NA	NA	NA	NA	NS	-	-	-	-	-	1.5	-	<0.05	-	-	<0.05	
Phenanthrene	NA	NA	NA	NA	50	-	-	-	-	-	2.4	-	<0.05	-	-	<0.05	
Anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	0.1	-	<0.05	-	-	<0.05	
Fluoranthene	NA	NA	NA	NA	NS	-	-	-	-	-	0.16	-	<0.05	-	-	<0.05	
Pyrene	NA	NA	NA	NA	100	-	-	-	-	-	0.27	-	<0.05	-	-	<0.05	
Benzo(c)phenanthrene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Benzo(a)anthracene	NA	NA	NA	NA	10	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Chrysene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Benzo(b&j)fluoranthene	NA	NA	NA	NA	10 ⁴	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	0.06	-	<0.05	-	-	<0.05	
Benzo(k)fluoranthene	NA	NA	NA	NA	10	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Benzo(a)pyrene	NA	NA	NA	NA	0.7	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	10	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Dibenz(a,h)anthracene	NA	NA	NA	NA	10	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Benzo(g,h,i)perylene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Dibenzo(a,h)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Dibenzo(a,i)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	
Dibenzo(a,l)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	<0.05	-	<0.05	-	-	<0.05	

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

**, etc. Refer to Laboratory notes

⁴ Standard is for Benzo(b&j)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/I/L (coarse/surface)	GNWT Tier 1 Soil CL/I/L (fine/surface)	GNWT Generic Soil CL/I/L (coarse/subsurface)	GNWT Generic Soil CL/I/L (fine/subsurface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	02-TP06-08-02	02-TP06-08-05	02-TP06-08-06	02-TP06-09-01	02-TP06-09-03	02-TP06-09-04	02-TP06-09-05	02-TP06-10-2	02-TP06-11-01
		CWS Soil CL/I/L (coarse)	CWS Soil CL/I/L (fine)	GNWT Generic Soil CL/I/L (coarse/subsurface)	GNWT Generic Soil CL/I/L (fine/subsurface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	0.5-0.7	1.7-1.9	2.3-2.5	0.1-0.3	1.2-1.4	2.0-2.2	2.6-2.8	0.6-0.8	0.2-0.4
		A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350	A644350
		C87466	C87478	C87480	C87492	C87494	C87495	C87496	C87498	C87538					
		18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06	18-Sep-06				
							Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocarbons															
CWS F2 (C10-C16)	760	1500	2000	3000	NA	1880	968	18	3580	-	43	<10	609	107	
CWS F3 (C16-C34)	1700	2500	3500	5000	NA	974	452	37	12800	-	45	27	7600	1070	
CWS F4 (C34-C50)	3300	6600	10000	10000	NA	535	135	49	6830	-	16	29	2670	1670	
Reached Baseline at C50						No	Yes	Yes	No	-	Yes	Yes	No	No	
OIL & GREASE															
F4SG (Heavy Hydrocarbons-SilicaGel)						2800			27000						
Polycyclic Aromatics Hydrocarbons															
Naphthalene	NA	NA	NA	NA	22	-	3.4	-	-	4	-	-	-	-	
2-Methylnaphthalene	NA	NA	NA	NA	NS	-	7.3	-	-	5.2	-	-	-	-	
Acenaphthylene	NA	NA	NA	NA	NS	-	0.07	-	-	<0.05	-	-	-	-	
Acenaphthene	NA	NA	NA	NA	NS	-	<0.05	-	-	<0.05	-	-	-	-	
Fluorene	NA	NA	NA	NA	NS	-	0.22	-	-	0.15	-	-	-	-	
Phenanthrene	NA	NA	NA	NA	50	-	0.13	-	NA	0.19	-	-	-	-	
Anthracene	NA	NA	NA	NA	NS	-	<0.05	-	-	<0.05	-	-	-	-	
Fluoranthene	NA	NA	NA	NA	NS	-	<0.05	-	-	<0.05	-	-	-	-	
Pyrene	NA	NA	NA	NA	100	-	<0.05	-	-	<0.05	-	-	-	-	
Benzo(c)phenanthrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	
Benzo(a)anthracene	NA	NA	NA	NA	10	-	<0.05	-	-	<0.05	-	-	-	-	
Chrysene	NA	NA	NA	NA	NS	-	<0.05	-	-	<0.05	-	-	-	-	
Benzo(b&j)fluoranthene	NA	NA	NA	NA	10 ^a	-	<0.05	-	-	<0.05	-	-	-	-	
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	
Benzo(k)fluoranthene	NA	NA	NA	NA	10	-	<0.05	-	-	<0.05	-	-	-	-	
Benzo(a)pyrene	NA	NA	NA	NA	0.7	-	<0.05	-	NA	<0.05	-	-	-	-	
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	10	-	<0.05	-	-	<0.05	-	-	-	-	
Dibenz(a,h)anthracene	NA	NA	NA	NA	10	-	<0.05	-	-	<0.05	-	-	-	-	
Benzo(g,h,i)perylene	NA	NA	NA	NA	NS	-	<0.05	-	-	<0.05	-	-	-	-	
Dibenzo(a,h)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	
Dibenzo(a,i)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	
Dibenzo(a,l)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	

Notes (Refer to endnotes for complete list)

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NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

^a Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/I/L (coarse/surface)	CWS Soil CL/I/L (coarse)	GNWT Tier 1 Soil CL/I/L (fine/surface)	CWS Soil CL/I/L (fine)	GNWT Generic Soil CL/I/L (coarse/surface)	GNWT Generic Soil CL/I/L (fine/surface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	02-TP06-12-01	02-TP06-DUP8	RPD	02-TP06-13-02	02-TP06-14-02	02-TP06-15-02	02-TP06-16-01	02-TP06-DUP9	RPD	02-TP06-17-01	02-TP06-18-05
									0.1-0.3	02-TP06-12-01		1.3-1.4	0.2-0.4	1.7-1.9	0.0-0.1	02-TP06-16-01		0.0-0.15	2.4-2.6
									A644350	A644350		A644354	A644354	A644354	A644354	A644354		A644354	A644354
									C87551	C87553		C87504	C87507	C87512	C87515	C87537		C87516	C87521
Extractable Petroleum Hydrocarbons									18-Sep-06	18-Sep-06		19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06		19-Sep-06	19-Sep-06
									Franz	Franz		Franz	Franz	Franz	Franz	Franz		Franz	Franz
CWS F2 (C10-C16)		760	1500	2000	3000	NA			314	383	20%	15	11	<10	588	564	4%	602	<10
CWS F3 (C16-C34)		1700	2500	3500	5000	NA			1280	1220	5%	75	129	<10	28500	31000	8%	14200	<10
CWS F4 (C34-C50)		3300	6600	10000	10000	NA			599	563	6%	31	72	<10	3420	3630	6%	8660	<10
Reached Baseline at C50									No	Yes	-	Yes	Yes	Yes	No	Yes	-	No	Yes
OIL & GREASE																			
F4SG (Heavy Hydrocarbons-SilicaGel)																			
Polycyclic Aromatic Hydrocarbons																			
Naphthalene		NA	NA	NA	NA	22	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
2-Methylnaphthalene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	0.21	<0.05	n/a	-	-
Acenaphthylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	0.49	0.32	42%	-	-
Acenaphthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Fluorene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	0.18	<0.05	n/a	-	-
Phenanthrene		NA	NA	NA	NA	50	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Fluoranthene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	0.07	0.07	n/a	-	-
Pyrene		NA	NA	NA	NA	100	-	-	-	-	-	-	-	-	0.27	0.28	4%	-	-
Benzo(c)phenanthrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Chrysene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 [*]	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Benzo(a)pyrene		NA	NA	NA	NA	0.7	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Dibenz(a,h)anthracene		NA	NA	NA	NA	10	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	<0.05	<0.05	n/a	-	-
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,l)pyrene		NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-	-

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* ** etc. Refer to Laboratory notes

* Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/L (coarse/surface)	CWS Soil CL/L (coarse)	GNWT Tier 1 Soil CL/L (fine/surface)	CWS Soil CL/L (fine)	GNWT Generic Soil CL/L (coarse/subsurface)	GNWT Generic Soil CL/L (fine/subsurface)	GNWT Soil CL/L CCME Soil CL/L (coarse/fine)	08-TP06-01-01	08-TP06-02-01	08-TP06-03-01	08-TP06-03-02	08-TP06-04-02	08-TP06-05-01	08-TP06-DUP10	RPD	08-TP06-06-01	08-TP06-07-01	08-TP06-07-04	
									0.2-0.4	0.1-0.3	0.1-0.3	0.6-0.8	0.4-0.6	0.3-0.5	08-TP06-05-01		0.1-0.3	0.1-0.3	1.4-1.6	
									A644374	A644374	A644374	A644374	A644374	A644374	A644374		A644374	A644374	A644374	
									C87839	C87842	C87847	C87848	C87851	C87855	C87866		C87858	C87861	C87864	
									20-Sep-06	20/09/2006	20/09/2006	20/09/2006	20-Sep-06	20/09/2006	20-Sep-06		20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06
									Franz	Franz	Franz	Franz	Franz	Franz	Franz		Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocarbons																				
CWS F2 (C10-C16)		760	1500	2000	3000	NA		15	14	423	19	17	12	<10	n/a	<10	1080	5020		
CWS F3 (C16-C34)		1700	2500	3500	5000	NA		173	95	12800	73	111	221	150	38%	23	298	841		
CWS F4 (C34-C50)		3300	6600	10000	10000	NA		277	65	7090	26	57	113	75	40%	<10	<10	<10		
Reached Baseline at C50								Yes	Yes	No	Yes	Yes	Yes	Yes	-	Yes	Yes	Yes		
OIL & GREASE																				
F4SG (Heavy Hydrocarbons-SilicaGel)																				
Polycyclic Aromatics Hydrocarbons																				
Naphthalene		NA	NA	NA	NA	22		-	-	0.34	-	-	-	-	-	-	-	<0.05		
2-Methylnaphthalene		NA	NA	NA	NA	NS		-	-	0.71	-	-	-	-	-	-	-	2.2		
Acenaphthylene		NA	NA	NA	NA	NS		-	-	0.05	-	-	-	-	-	-	-	0.12		
Acenaphthene		NA	NA	NA	NA	NS		-	-	<0.05	-	-	-	-	-	-	-	0.17		
Fluorene		NA	NA	NA	NA	NS		-	-	0.06	-	-	-	-	-	-	-	0.5		
Phenanthrene		NA	NA	NA	NA	50		-	-	0.19	-	-	-	-	-	-	-	0.6		
Anthracene		NA	NA	NA	NA	NS		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
Fluoranthene		NA	NA	NA	NA	NS		-	-	0.14	-	-	-	-	-	-	-	<0.05		
Pyrene		NA	NA	NA	NA	100		-	-	0.35	-	-	-	-	-	-	-	<0.05		
Benzo(c)phenanthrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	-	-	-	-	-		
Benzo(a)anthracene		NA	NA	NA	NA	10		-	-	0.08	-	-	-	-	-	-	-	<0.05		
Chrysene		NA	NA	NA	NA	NS		-	-	0.12	-	-	-	-	-	-	-	<0.05		
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 ^k		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS		-	-	-	-	-	-	-	-	-	-	-		
Benzo(k)fluoranthene		NA	NA	NA	NA	10		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
Benzo(a)pyrene		NA	NA	NA	NA	0.7		-	-	0.06	-	-	-	-	-	-	-	<0.05		
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
Dibenz(a,h)anthracene		NA	NA	NA	NA	10		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS		-	-	<0.05	-	-	-	-	-	-	-	<0.05		
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	-	-	-	-	-		
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	-	-	-	-	-		
Dibenzo(a,l)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	-	-	-	-	-		

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

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- Not analyzed

NA - Not applicable

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**, etc. Refer to Laboratory notes

^a Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/I/L (coarse/surface)	GNWT Tier 1 Soil CL/I/L (fine/surface)	GNWT Generic Soil CL/I/L (coarse/subsurface)	GNWT Generic Soil CL/I/L (fine/subsurface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	08-TP06-07-05	08-GRAB06-01-01	09-TP06-01-02	09-TP06-01-03	09-TP06-02-01	09-TP06-02-02	10-TP06-01-02	10-TP06-02-01	10-TP06-02-02	10-TP06-03-03	10-TP06-03-04
		CWS Soil CL/I/L (coarse)	CWS Soil CL/I/L (fine)	GNWT Generic Soil CL/I/L (coarse/subsurface)	GNWT Generic Soil CL/I/L (fine/subsurface)	GNWT Soil CL/I/L CCME Soil CL/I/L (coarse/fine)	1.7-1.8	0.0-0.02	0.5-0.7	1.3-1.5	0.3-0.5	1.4-1.6	0.5-0.7	1.5-1.7	0.5-0.7	1.3-1.5	2.4-2.6
		A644374	A644374	A644374	A644374	A644374	C87865	C87867	C87832	C87833	C87836	C87837	C87523	A644354	A644354	A644354	A644354
		20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	20-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06
		Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocarbons																	
CWS F2 (C10-C16)	760	1500	2000	3000	NA	13	12	-	<10	<10	-	<10	<10	-	<10	-	-
CWS F3 (C16-C34)	1700	2500	3500	5000	NA	19	199	-	132	<10	-	134	17	-	15	-	-
CWS F4 (C34-C50)	3300	6600	10000	10000	NA	<10	<10	-	99	<10	-	389	43	-	58	-	-
Reached Baseline at C50						Yes	Yes	-	Yes	Yes	-	Yes	Yes	-	Yes	-	-
OIL & GREASE																	
F4SG (Heavy Hydrocarbons-SilicaGel)																	
Polycyclic Aromatics Hydrocarbons																	
Naphthalene	NA	NA	NA	NA	22	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
2-Methylnaphthalene	NA	NA	NA	NA	NS	-	0.06	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Acenaphthylene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Acenaphthene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Fluorene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Phenanthrene	NA	NA	NA	NA	50	-	0.16	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Anthracene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Fluoranthene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Pyrene	NA	NA	NA	NA	100	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Benzo(c)phenanthrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	NA	NA	NA	NA	10	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Chrysene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Benzo(b&j)fluoranthene	NA	NA	NA	NA	10 ^x	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	NA	NA	NA	NA	10	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Benzo(a)pyrene	NA	NA	NA	NA	0.7	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	10	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Dibenz(a,h)anthracene	NA	NA	NA	NA	10	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Benzo(g,h,i)perylene	NA	NA	NA	NA	NS	-	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	-	<0.05	<0.05
Dibenzo(a,h)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,i)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzo(a,l)pyrene	NA	NA	NA	NA	NS	-	-	-	-	-	-	-	-	-	-	-	-

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable CCME Standard or GNWT

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

^x Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 2
Analytical Results for PAH, CWS F2-F4 in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Lab Sample ID #: Sample Date: Prepared by:	GNWT Tier 1 Soil CL/L (coarse/surface)	CWS Soil CL/L (coarse)	GNWT Tier 1 Soil CL/L (fine/surface)	CWS Soil CL/L (fine)	GNWT Generic Soil CL/L (coarse/subsurface)	GNWT Generic Soil CL/L (fine/subsurface)	GNWT Soil CL/L CCME Soil CL/L (coarse/fine)	10-TP06-04-02	10-TP06-04-03	10-TP06-05-02	10-TP06-06-01	10-TP06-07-01	10-TP06-09-01
									0.5-0.7	1.7-1.9	0.4-0.5	0.1-0.4	0.3-0.5	0.3-0.5
									A644354	A644354	A645233	A645233	A645233	A645233
									C87534	C87535	C93205	C93206	C93207	C93209
									19-Sep-06	19-Sep-06	22-Sep-06	22-Sep-06	22-Sep-06	22-Sep-06
									Franz	Franz	Franz	Franz	Franz	Franz
Extractable Petroleum Hydrocarbons														
CWS F2 (C10-C16)		760	1500	2000	3000	NA		<10	-	-	11	-	15	
CWS F3 (C16-C34)		1700	2500	3500	5000	NA		39	-	-	19	-	104	
CWS F4 (C34-C50)		3300	6600	10000	10000	NA		155	-	-	14	-	128	
Reached Baseline at C50								Yes	-	-	Yes	-	Yes	
OIL & GREASE														
F4SG (Heavy Hydrocarbons-SilicaGel)														
Polycyclic Aromatic Hydrocarbons														
Naphthalene		NA	NA	NA	NA	22		-	<0.05	<0.05	-	<0.05	-	
2-Methylnaphthalene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Acenaphthylene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Acenaphthene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Fluorene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Phenanthrene		NA	NA	NA	NA	50		-	<0.05	<0.05	-	<0.05	-	
Anthracene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Fluoranthene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Pyrene		NA	NA	NA	NA	100		-	<0.05	<0.05	-	<0.05	-	
Benzo(c)phenanthrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	
Benzo(a)anthracene		NA	NA	NA	NA	10		-	<0.05	<0.05	-	<0.05	-	
Chrysene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Benzo(b&j)fluoranthene		NA	NA	NA	NA	10 ^a		-	<0.05	<0.05	-	<0.05	-	
7,12-Dimethylbenz(a)anthracene		NA	NA	NA	NA	NS		-	-	-	-	-	-	
Benzo(k)fluoranthene		NA	NA	NA	NA	10		-	<0.05	<0.05	-	<0.05	-	
Benzo(a)pyrene		NA	NA	NA	NA	0.7		-	<0.05	<0.05	-	<0.05	-	
Indeno(1,2,3-cd)pyrene		NA	NA	NA	NA	10		-	<0.05	<0.05	-	<0.05	-	
Dibenz(a,h)anthracene		NA	NA	NA	NA	10		-	<0.05	<0.05	-	<0.05	-	
Benzo(g,h,i)perylene		NA	NA	NA	NA	NS		-	<0.05	<0.05	-	<0.05	-	
Dibenzo(a,h)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	
Dibenzo(a,i)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	
Dibenzo(a,l)pyrene		NA	NA	NA	NA	NS		-	-	-	-	-	-	

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME Standard or GNWT

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

* Standard is for Benzo(b)fluoranthene; analytical results are cumulative Benzo(b&j)fluoranthene

Table 3
Analytical Results for VOCs/Chlorobenzenes in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	CCME Soil CL/IL (coarse)	CCME Soil IL/CL (Fine)	01-TP06-08-1	01-TP06-21-03	09-TP06-01-02	09-TP06-02-02	10-TP06-02-03
						0.5-0.7	1.4-1.6	0.5-0.7	1.4-1.6	1.4-1.6
						C80525	C80587	C87832	C87837	C87526
						15-Sep-06	16-Sep-06	20-Sep-06	20-Sep-06	19-Sep-06
						Franz	Franz	Franz	Franz	Franz
Sample Depth (m):										
Lab ID #:										
Sample Date:										
Prepared by:										
Chlorobenzenes										
1,2-dichlorobenzene	10	10	10	10	<0.02	<0.02	<0.02	<0.02	<0.02	
1,3-dichlorobenzene	10	10	10	10	<0.02	<0.02	<0.02	<0.02	<0.02	
1,4-dichlorobenzene	10	10	10	10	<0.02	<0.02	<0.02	<0.02	<0.02	
Chlorobenzene	10	10	10	10	<0.02	<0.02	<0.02	<0.02	<0.02	
Volatiles										
1,1,1,2-tetrachloroethane	50	50	50	50	<0.1	<0.1	<0.1	<0.1	<0.1	
1,1,1-trichloroethane	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
1,1,2,2-tetrachloroethane	50	50	50	50	<0.1	0.8	<0.1	<0.1	<0.1	
1,1,2-trichloroethane	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
1,1-dichloroethane	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
1,1-dichloroethene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
1,2-dibromoethane	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	
1,2-dichloroethane	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
1,2-dichloropropane	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
Bromodichloromethane	NS	NS	NS	NS	<0.03	<0.03	<0.03	<0.03	<0.03	
Bromoform	NS	NS	NS	NS	<0.05	<0.05	<0.05	<0.05	<0.05	
Bromomethane	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	
Carbon tetrachloride	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
Chlorodibromomethane	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	
Chloroethane	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	
Chloroform	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
Chloromethane	NS	NS	NS	NS	<0.03	<0.03	<0.03	<0.03	<0.03	
cis-1,2-dichloroethene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
cis-1,3-dichloropropene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
Dibromoethane	NS	NS	NS	NS	<0.1	<0.1	-	-	-	
Dichloromethane	50	50	50	50	<0.02	<0.02	<0.1	<0.1	<0.1	
Tetrachloroethene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
trans-1,2-dichloroethene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
trans-1,3-dichloropropene	50	50	50	50	<0.02	<0.02	<0.02	<0.02	<0.02	
Trichloroethene	31	31	0.01	0.01	<0.02	<0.02	<0.02	<0.02	<0.02	
Trichlorofluoromethane	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	
Vinyl chloride	NS	NS	NS	NS	<0.02	<0.02	<0.02	<0.02	<0.02	

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable GNWT or
CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 3
Analytical Results for VOCs/Chlorobenzenes in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL	GNWT Soil IL	CCME Soil CL/IL (coarse)	10-TP06-03-01	10-TP06-04-04	10-TP06-05-02
					0.1-0.3	2.8-3.0	0.4-0.5
					C87529	C87536	C93205
					19-Sep-06	19-Sep-06	22-Sep-06
					Franz	Franz	Franz
Sample Depth (m):							
Lab ID #:							
Sample Date:							
Prepared by:							
Chlorobenzenes							
1,2-dichlorobenzene		10	10	10	<0.02	<0.02	<0.02
1,3-dichlorobenzene		10	10	10	<0.02	<0.02	<0.02
1,4-dichlorobenzene		10	10	10	<0.02	<0.02	<0.02
Chlorobenzene		10	10	10	<0.02	<0.02	<0.02
Volatiles							
1,1,1,2-tetrachloroethane		50	50	50	<0.1	<0.1	<0.1
1,1,1-trichloroethane		50	50	50	<0.02	<0.02	<0.02
1,1,2,2-tetrachloroethane		50	50	50	<0.1	<0.1	<0.1
1,1,2-trichloroethane		50	50	50	<0.02	<0.02	<0.02
1,1-dichloroethane		50	50	50	<0.02	<0.02	<0.02
1,1-dichloroethene		50	50	50	<0.02	<0.02	<0.02
1,2-dibromoethane		NS	NS	NS	<0.02	<0.02	<0.02
1,2-dichloroethane		50	50	50	<0.02	<0.02	<0.02
1,2-dichloropropane		50	50	50	<0.02	<0.02	<0.02
Bromodichloromethane		NS	NS	NS	<0.03	<0.03	<0.03
Bromoform		NS	NS	NS	<0.05	<0.05	<0.05
Bromomethane		NS	NS	NS	<0.02	<0.02	<0.02
Carbon tetrachloride		50	50	50	<0.02	<0.02	<0.02
Chlorodibromomethane		NS	NS	NS	<0.02	<0.02	<0.02
Chloroethane		NS	NS	NS	<0.02	<0.02	<0.02
Chloroform		50	50	50	<0.02	<0.02	<0.02
Chloromethane		NS	NS	NS	<0.03	<0.03	<0.03
cis-1,2-dichloroethene		50	50	50	<0.02	<0.02	<0.02
cis-1,3-dichloropropene		50	50	50	<0.02	<0.02	<0.02
Dibromoethane		NS	NS	NS	-	-	-
Dichloromethane		50	50	50	<0.1	<0.1	<0.1
Tetrachloroethene		50	50	50	<0.02	<0.02	<0.02
trans-1,2-dichloroethene		50	50	50	<0.02	<0.02	<0.02
trans-1,3-dichloropropene		50	50	50	<0.02	<0.02	<0.02
Trichloroethene		31	31	0.01	<0.02	<0.02	<0.02
Trichlorofluoromethane		NS	NS	NS	<0.02	<0.02	<0.02
Vinyl chloride		NS	NS	NS	<0.02	<0.02	<0.02

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable GNWT or CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 4
Analytical Results for Total Metals in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWTSoil CL CCME Soil CL (coarse/fine)	GNWT Soil IL CCME Soil IL (coarse/fine)	SAND PACK	01-TP06-04-01	01-TP06-12-3	01-TP06-18-01	01-TP06-21-03	01-TP06-DUP3	RPD
				0.4-0.6	0.4-0.6	1.6-1.8	0.3-0.5	1.4-1.6	01-TP06-21-03	
				C80487	C80873	C80540	C80562	C80587	C80669	
				15/09/2006	14/09/2006	15-Sep-06	16-Sep-06	16-Sep-06	16-Sep-06	
				Franz	Franz	Franz	Franz	Franz	Franz	
Total Metals										
Soluble (Hot water) Boron (B)	NS	NS	NS	<0.1	-	-	-	-	-	-
Hex. Chromium (Cr 6+)	1.4	1.4	1.4	<0.3	-	-	-	-	-	-
Aluminum (Al)	NS	NS	NS	1260	6450	7350	7620	7680	8700	12%
Antimony (Sb)	40	40	40	<2	1	<1	<1	<1	<1	NC
Arsenic (As)	12	12	12	2	5	9	5	3	3	NC
Barium (Ba)	2000	2000	2000	25.5	140	107	165	140	93	40%
Beryllium (Be)	8	8	8	<0.1	0.8	0.8	0.9	1.1	0.8	NC
Boron (B)	NS	NS	NS	<10	12	12	8	10	13	26%
Cadmium (Cd)	22	22	22	<0.2	2.2	0.5	0.4	0.2	0.2	NC
Calcium (Ca)	NS	NS	NS	366000	114000	114000	120000	105000	113000	7%
Chromium (Cr)	87	87	87	2	29	21	17	15	10	40%
Cobalt (Co)	300	300	300	1.3	12	11	13	13	9	36%
Copper (Cu)	91	91	91	3	72	32	26	45	32	34%
Iron (Fe)	NS	NS	NS	1970	16500	18300	18800	21500	21300	1%
Lead (Pb)	260	600	600	<10	156	39	70	13	9	36%
Lithium (Li)	NS	NS	NS	1.6	15	17	17	18	18	NC
Magnesium (Mg)	NS	NS	NS	14600	45000	44100	38400	41500	46000	10%
Manganese (Mn)	NS	NS	NS	67	379	394	343	351	386	9%
Mercury (Hg)	24	50	50	<0.05	-	-	-	-	-	-
Molybdenum (Mo)	40	40	40	2.5	4.6	0.7	0.6	<0.4	<0.4	NC
Nickel (Ni)	50	50	50	7	24	22	24	24	17	34%
Phosphorus (P)	NS	NS	NS	559	1150	680	708	436	539	21%
Potassium (K)	NS	NS	NS	249	1060	1230	1060	1330	1620	20%
Selenium (Se)	3.9	3.9	3.9	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	NC
Silver (Ag)	40	40	40	<1	<1	<1	<1	<1	<1	NC
Sodium (Na)	NS	NS	NS	98	167	203	97	185	153	NC
Strontium (Sr)	NS	NS	NS	160	80	78	88	71	76	7%
Sulphur (S)	NS	NS	NS	707	901	972	648	3050	2320	27%
Thallium (Tl)	1	1	1	<1	<0.3	<0.3	<0.3	<0.3	<0.3	NC
Tin (Sn)	300	300	300	5	4	<1	<1	<1	<1	NC
Uranium (U)	NS	NS	NS	3.8	<1	<1	<1	<1	<1	NC
Vanadium (V)	130	130	130	6	17	14	14	14	10	33%
Zinc (Zn)	360	360	360	10	151	90	162	57	42	NC

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable
CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*** etc. Refer to Laboratory notes

Table 4
Analytical Results for Total Metals in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters	Sample Depth (m): Lab ID #: Sample Date: Prepared by:	GNWT Soil CL CCME Soil CL (coarse/fine)	01-TP06-28-02	02-TP06-05-01	02-TP06-08-02	02-TP06-09-04	02-TP06-16-01	08-TP06-03-01	08-TP06-03-02	09-TP06-01-03
			0.4-0.5	0.2-0.4	0.5-0.7	2.0-2.2	0.0-0.1	0.1-0.3	0.6-0.8	1.3-1.5
			C82517	C87449	C87466	C87495	C87515	C87847	C87848	C87833
			17-Sep-06	18/09/2006	18/09/2006	18-Sep-06	19-Sep-06	20-Sep-06	20/09/2006	20-Sep-06
			Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Total Metals										
Soluble (Hot water) Boron (B)	NS	-	1.4	-	-	-	5.9	-	-	
Hex. Chromium (Cr 6+)	1.4	-	<0.2	-	-	-	<0.2	-	<0.2	
Aluminum (Al)	NS	8170	8050	-	-	10100	11000	9650	6920	
Antimony (Sb)	40	<1	<1	-	-	<1	2	<1	<1	
Arsenic (As)	12	7	2	-	-	6	30	23	12	
Barium (Ba)	2000	204	113	-	-	84	216	327	164	
Beryllium (Be)	8	0.9	0.9	-	-	1	0.7	0.8	0.8	
Boron (B)	NS	13	11	-	-	15	27	6	12	
Cadmium (Cd)	22	1.8	0.2	-	-	0.3	4.1	0.4	0.9	
Calcium (Ca)	NS	89900	122000	-	-	82100	45700	7600	79800	
Chromium (Cr)	87	15	26	-	-	16	34	57	31	
Cobalt (Co)	300	12	8	-	-	13	13	16	13	
Copper (Cu)	91	36	27	-	-	16	65	30	31	
Iron (Fe)	NS	29300	19400	-	-	24200	64000	30100	37500	
Lead (Pb)	260	51	7	21	18	22	371	20	28	
Lithium (Li)	NS	17	15	-	-	24	15	21	11	
Magnesium (Mg)	NS	27300	46200	-	-	22900	15200	3630	37400	
Manganese (Mn)	NS	533	418	-	-	381	1930	298	532	
Mercury (Hg)	24	-	<0.05	-	-	-	0.1	-	-	
Molybdenum (Mo)	40	1.1	1.0	-	-	1.4	3.2	1.2	1.4	
Nickel (Ni)	50	26	18	-	-	27	30	43	26	
Phosphorus (P)	NS	628	527	-	-	725	3000	2630	517	
Potassium (K)	NS	1390	1580	-	-	2250	1400	726	793	
Selenium (Se)	3.9	<0.5	<0.5	-	-	<0.5	0.6	1.1	0.7	
Silver (Ag)	40	<1	<1	-	-	<1	<1	<1	<1	
Sodium (Na)	NS	90	114	-	-	119	225	132	157	
Strontium (Sr)	NS	75	73	-	-	87	94	65	48	
Sulphur (S)	NS	2030	676	-	-	900	3890	241	1480	
Thallium (Tl)	1	<0.3	<0.3	-	-	<0.3	<0.3	<0.3	<0.3	
Tin (Sn)	300	4	<1	-	-	<1	6	<1	<1	
Uranium (U)	NS	<1	-	-	-	<1	-	-	-	
Vanadium (V)	130	19	13	-	-	17	31	53	22	
Zinc (Zn)	360	111	37	-	-	178	643	144	120	

Notes (Refer to endnotes for complete)

10

value is greater than the applicable
CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 4
Analytical Results for Total Metals in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL CCME Soil CL (coarse/fine)	09-TP06-02-01	10-TP06-01-01	10-TP06-01-02	10-TP06-02-03	10-TP06-02-04	10-TP06-03-03	10-TP06-03-04	10-TP06-04-02
			0.3-0.5	0.5-0.7	1.5-1.7	1.4-1.6	2.2-2.4	1.3-1.5	2.4-2.6	0.5-0.7
			C87836	C87522	C87523	C87526	C87527	C87531	C87532	C87534
			20-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06
			Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Total Metals										
Soluble (Hot water) Boron (B)		NS	-	1.7	0.6	1.4	1.5	0.7	0.6	0.4
Hex. Chromium (Cr 6+)		1.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Aluminum (Al)		NS	4500	-	-	-	-	-	-	-
Antimony (Sb)		40	<1	<1	<1	<1	<1	<1	1	<1
Arsenic (As)		12	10	8	2	8	11	13	6	5
Barium (Ba)		2000	143	114	69	90	76	139	204	63
Beryllium (Be)		8	0.6	0.7	0.8	0.5	0.6	0.7	0.8	0.5
Boron (B)		NS	12	-	-	-	-	-	-	-
Cadmium (Cd)		22	0.4	0.3	0.3	0.2	0.2	0.2	1.3	0.2
Calcium (Ca)		NS	119000	-	-	-	-	-	-	-
Chromium (Cr)		87	27	31	34	32	35	31	36	24
Cobalt (Co)		300	11	10	11	10	10	11	11	7
Copper (Cu)		91	25	22	10	20	23	69	22	11
Iron (Fe)		NS	17500	-	-	-	-	-	-	-
Lead (Pb)		260	15	12	10	13	25	20	918	31
Lithium (Li)		NS	<10	-	-	-	-	-	-	-
Magnesium (Mg)		NS	65400	-	-	-	-	-	-	-
Manganese (Mn)		NS	771	-	-	-	-	-	-	-
Mercury (Hg)		24	-	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05
Molybdenum (Mo)		40	0.7	0.7	<0.4	0.7	1.3	1.6	0.8	0.8
Nickel (Ni)		50	22	24	28	24	25	29	29	18
Phosphorus (P)		NS	598	-	-	-	-	-	-	-
Potassium (K)		NS	819	-	-	-	-	-	-	-
Selenium (Se)		3.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (Ag)		40	<1	<1	<1	<1	<1	<1	<1	<1
Sodium (Na)		NS	158	-	-	-	-	-	-	-
Strontium (Sr)		NS	52	-	-	-	-	-	-	-
Sulphur (S)		NS	1260	-	-	-	-	-	-	-
Thallium (Tl)		1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Tin (Sn)		300	<1	<1	<1	<1	1	<1	<1	<1
Uranium (U)		NS	-	-	-	-	-	-	-	-
Vanadium (V)		130	15	17	12	16	14	22	20	10
Zinc (Zn)		360	56	52	56	45	49	62	449	39

Notes (Refer to endnotes for complete)

10

value is greater than the applicable
CCME Standard

not requested

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 4
Analytical Results for Total Metals in Soil
Inuvik Mike Zubko Airport
(all units $\mu\text{g/g}$ unless otherwise stated)

Parameters		GNWT Soil CL CCME Soil CL (coarse/fine)	10-TP06-04-04	10-TP06-09-01
			2.8-3.0	0.3-0.5
			C87536	C93209
			19-Sep-06	22-Sep-06
Prepared by:			Franz	Franz
Total Metals				
Soluble (Hot water) Boron (B)		NS	0.3	-
Hex. Chromium (Cr 6+)		1.4	<0.2	-
Aluminum (Al)		NS	-	15000
Antimony (Sb)		40	<1	<1
Arsenic (As)		12	4	19
Barium (Ba)		2000	64	306
Beryllium (Be)		8	0.9	0.8
Boron (B)		NS	-	15
Cadmium (Cd)		22	0.2	0.4
Calcium (Ca)		NS	-	23200
Chromium (Cr)		87	33	70
Cobalt (Co)		300	12	17
Copper (Cu)		91	13	36
Iron (Fe)		NS	-	40500
Lead (Pb)		260	13	21
Lithium (Li)		NS	-	29
Magnesium (Mg)		NS	-	11900
Manganese (Mn)		NS	-	458
Mercury (Hg)		24	<0.05	-
Molybdenum (Mo)		40	<0.4	1.5
Nickel (Ni)		50	28	46
Phosphorus (P)		NS	-	2240
Potassium (K)		NS	-	1050
Selenium (Se)		3.9	<0.5	1.5
Silver (Ag)		40	<1	<1
Sodium (Na)		NS	-	306
Strontium (Sr)		NS	-	87
Sulphur (S)		NS	-	888
Thallium (Tl)		1	<0.3	<0.3
Tin (Sn)		300	<1	<1
Uranium (U)		NS	-	-
Vanadium (V)		130	13	105
Zinc (Zn)		360	57	121

Notes (Refer to endnotes for complete

10 value is greater than the applicable
CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 5
Analytical Results for Leachable Metals in Soil
Inuvik Mike Zubko Airport
(all units mg/L unless otherwise stated)

Parameters		SAND PACK	09-TP06-01-03	09-TP06-02-01	10-TP06-01-01	10-TP06-02-04	10-TP06-03-03	10-TP06-04-04	10-TP06-06-01
	Sample Depth (m):	0.4-0.6	1.3-1.5	0.3-0.5	0.5-0.7	2.2-2.4	1.3-1.5	2.8-3.0	0.1-0.4
	Lab ID #:	C80487	C87833	C87836	C87522	C87527	C87531	C87536	C93206
	Sample Date:	15/09/2006	20-Sep-06	20-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	22-Sep-06
	Prepared by:	Franz	Franz	Franz	Franz	Franz	Franz	Franz	Franz
Elements									
Leachable Mercury (Hg) (ug/L)		-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Leachable Metals									
Leachable Arsenic (As)		<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Barium (Ba)		<10	0.4	0.6	0.6	0.5	1.1	0.6	0.2
Leachable Boron (B)		<50	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Cadmium (Cd)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Chromium (Cr)		<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Copper (Cu)		<10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Lead (Pb)		<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Molybdenum (Mo)		-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Selenium (Se)		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Silver (Ag)		<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Uranium (U)		<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Leachable Zinc (Zn)		<50	0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1

Notes (Refer to endnotes for complete list)

10 value is greater than the applicable
CCME Guideline

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

Table 6
Analytical Results for PCBs in Soil
Inuvik Mike Zubko Airport
(all units µg/g unless otherwise stated)

Parameters		GNWT Soil CL CCME Soil CL (coarse/fine)	GNWT Soil IL CCME Soil IL (coarse/fine)	09-TP06-01-02	09-TP06-02-02	10-TP06-01-01	10-TP06-02-05	10-TP06-03-02	10-TP06-04-03	10-TP06-08-01
				0.5-0.7	1.4-1.6	0.5-0.7	2.7-2.9	0.6-0.8	1.7-1.9	0.2-0.4
				C87832	C87837	C87522	C87528	C87530	C87535	C93208
				20-Sep-06	20-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	19-Sep-06	22-Sep-06
				Franz	Franz	Franz	Franz	Franz	Franz	Franz
Sample Depth (m):										
Lab ID #:										
Sample Date:										
Prepared by:										
PCB										
Aroclor 1016		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1221		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1232		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1242		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1248		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1254		-	-	<0.01	<0.01	0.01	0.06	<0.01	0.01	<0.01
Aroclor 1260		-	-	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01
Aroclor 1262		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aroclor 1268		-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Aroclors PCB		33	33	<0.01	<0.01	0.01	0.09	<0.01	0.01	<0.01

Notes (Refer to endnotes for complete list)

10

value is greater than the applicable CCME
Guideline

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

*,** etc. Refer to Laboratory notes

General and CCME Endnotes for Water

General Endnotes:

All values are reported as µg/g unless otherwise indicated.

- 10** = Value is greater than the applicable CCME or CWS Guideline
- NS = No Standard
- = Not Analyzed
- NA = Not Applicable
- NR = Not Recorded
- NSA = Sample was submitted to laboratory but not scheduled for any analyses
- IP = Some data for the sample is either still in progress at the lab or not yet received by Franz
- RPD = Relative percent difference is calculated as the difference over the average of the two values and is only calculated when both concentrations are greater than 5 times the method detection limit.

Laboratory Notes

Refer to Laboratory reports for sample specific notes

- < = less than method detection limit (mdl)

General CCME Notes

- (A) *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, Canadian Environmental Quality Guidelines and Summary of Guidelines for Canadian Drinking Water Quality (04/04)
- (4) ***Guidelines for the Protection of Community Water Supplies***
Summary of Guidelines for Canadian Drinking Water Quality (04/04)
Federal - Provincial - Territorial Committee on Drinking Water
- (5) ***Guidelines for the Protection of Aquatic Life (Freshwater)***
Canadian Water Quality Guidelines for the Protection of Aquatic Life, Canadian Environmental Quality Guidelines
CCME, 1999, updated 2001, updated 2002, updated 2003.

CCME values are for surface water, and can be applied to groundwater by assuming a 1:10 dilution from groundwater to surface water, and therefore a 10-fold increase in standard value will apply to groundwater samples if in exceedance of the surface water value.

Table 7
Analytical Results for BTEX/VPH, CWS F1 in Water
Inuvik Mike Zubko Airport
(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters		CCME Water Standards	08-TP06-03	01-CULVERT
			C90102	C93139
			20-Sep-06	23-Sep-06
			Franz	Franz
Lab ID #:				
Sample Date:				
Prepared by:				
Volatiles				
Benzene	370 ⁵	<0.5	<0.4	
Toluene	2 ⁵	<0.5	<0.4	
Ethylbenzene	90	<0.5	<0.4	
m & p-Xylene	NS	<0.5	<0.8	
o-Xylene	NS	<1	<0.4	
Styrene	72 ⁵	-	<0.5	
Xylenes (Total)	<=300 ⁴	<1	<0.8	
F1 (C6-C10)	NS	<100	<100	
Volatiles				
F1 (C6-C10) - BTEX	NS	<100	-	

Notes

10 value is greater than the applicable CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

Table 8

Analytical Results for PAH, CWS F2-F4 in Water

Inuvik Mike Zubko Airport

(all units mg/L (CWS F2-F4) and $\mu\text{g/L}$ (PAH) unless otherwise stated)

Parameters		Lab ID #: Sample Date: Prepared by:	CCME Water Standards	08-TP06-03		01-CULVERT	
				C90102		C93139	
				20-Sep-06		23-Sep-06	
				Franz		Franz	
Extractable Petroleum Hydrocrabons (mg/L)							
CWS F2 (C10-C16)		NS	0.4	<0.1			
CWS F3 (C16-C34)		NS	0.2	<0.1			
CWS F4 (C34-C50)		NS	<0.1	<0.1			
Reached Baseline at C50			Yes	Yes			
Polycyclic Aromatics Hydrocarbons (µg/L)							
Naphthalene		1.1 ⁵	<1	<1			
Quinoline		3.4 ⁵	<0.1	<0.1			
Acenaphthylene		NS	<0.1	<0.1			
Acenaphthene		5.8 ⁵	<0.1	<0.1			
Fluorene		3 ⁵	<0.1	<0.1			
Phenanthrene		0.4 ⁵	<0.3	<0.3			
Anthracene		0.012 ⁵	<0.1	<0.01			
Acridine		4.4 ⁵	<0.1	<0.1			
Fluoranthene		0.04 ⁵	<0.1	<0.04			
Pyrene		0.025 ⁵	<0.1	<0.02			
Benzo(a)anthracene		0.018 ⁵	<0.1	<0.01			
Chrysene		NS	<0.1	<0.1			
Benzo(b&j)fluoranthene		NS	<0.1	<0.1			
Benzo(k)fluoranthene		NS	<0.1	<0.1			
Benzo(a)pyrene		0.015 ⁵	<0.01	<0.01			
Indeno(1,2,3-cd)pyrene		NS	<0.1	<0.1			
Dibenz(a,h)anthracene		NS	<0.1	<0.1			
Benzo(g,h,i)perylene		NS	<0.1	<0.1			

Notes**10**

value is greater than the applicable CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

Table 9
Analytical Results for VOC in Water
Inuvik Mike Zubko Airport
(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters		CCME Water Standards	01-CULVERT
	Lab ID #		C93139
	Sample Date		23-Sep-06
	Prepared by:		Franz
Chlorobenzenes			
1,2-dichlorobenzene		0.7 ⁵	<0.5
1,3-dichlorobenzene		150 ⁵	<0.5
1,4-dichlorobenzene		26 ⁵	<0.5
Chlorobenzene		NS	<0.5
Volatiles			
1,1,1,2-tetrachloroethane		NS	<2
1,1,1-trichloroethane		NS	<0.5
1,1,2,2-tetrachloroethane		NS	<2
1,1,2-trichloroethane		NS	<0.5
1,1-dichloroethane		NS	<0.5
1,1-dichloroethene		NS	<0.5
1,2-dichloroethane		5 ⁴	<0.5
1,2-dichloropropane		NS	<0.5
Bromodichloromethane		NS	<0.5
Bromoform		NS	<0.5
Bromomethane		NS	<2
Carbon tetrachloride		5 ⁴	<0.5
Chlorodibromomethane		NS	<1
Chloroethane		NS	<1
Chloroform		1.8 ⁵	<0.5
Chloromethane		NS	<2
cis-1,2-dichloroethene		NS	<0.5
1,3-dichloropropene		NS	<0.5
Dibromoethane		NS	<0.5
Dichloromethane		50 ⁴	<2
Tetrachloroethene		30 ⁴	<0.5
Total Trihalomethanes			<0.5
trans-1,2-dichloroethene		NS	<0.5
trans-1,3-dichloropropene		NS	<0.5
Trichloroethene		21 ⁵	<0.5
Trichlorofluoromethane		NS	<0.5
Vinyl chloride		2 ⁴	<0.5

Notes

10

value is greater than the applicable
CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

*,** etc. Refer to Laboratory notes

Table 10

Analytical Results for Metals in Water

Inuvik Mike Zubko Airport

(all units $\mu\text{g/L}$ unless otherwise stated)

Parameters	Lab ID #: Sample Date: Prepared by:	CCME CEQG for the Protection of Aquatic Life	08-TP06-03	01- CULVERT
			C90102	C93139
			20-Sep-06	23-Sep-06
			Franz	Franz
Metals			Dissolved	Dissolved
Aluminum (Al)	5 @ pH<6.5 ⁵		<40	<40
	100 @ pH>=6.5			
Antimony (Sb)	NS		0.8	0.5
Arsenic (As)	5 ⁵		3	<1
Barium (Ba)	NS		90	30
Beryllium (Be)	NS		<1	<1
Boron (B)	NS		220	220
Cadmium (Cd)	0.017 ⁵		<0.2	<0.2
Calcium (Ca)	NS		321000	55400
Chromium (Cr)	1 ⁵		<10	<10
Cobalt (Co)	NS		7.8	0.7
Copper (Cu)	3 @ H: 120 -180 ⁵		1.5	0.8
	4 @H>180 ⁵			
Iron (Fe)	300 ⁵		2470	<60
Lead (Pb)	4 @ H: 120 <180 ⁵		2.2	0.5
	7 @ H: >180 ⁵			
Lithium (Li)	NS		20	<20
Magnesium (Mg)	NS		84100	25100
Manganese (Mn)	NS		8890	32
Molybdenum (Mo)	73 ⁵		2.5	0.6
Nickel (Ni)	110 @ H: 120 -180 ⁵		18.5	4.4
	150 @H>180 ⁵			
Phosphorus (P)	NS		200	<100
Potassium (K)	NS		5200	3800
Selenium (Se)	1 ⁵		2	<1
Silicon (Si)	NS		7800	1000
Silver (Ag)	0.1 ⁵		<0.1	<0.1
Sodium (Na)	<=200000 ⁴		32600	6800
Strontium (Sr)	NS		780	330
Sulphur (S)	NS		140000	49800
Thallium (Tl)	0.8 ⁵		<0.2	<0.2
Tin (Sn)	NS		<1	<1
Titanium (Ti)	NS		7	3
Uranium (U)	NS		2.1	0.7
Vanadium (V)	NS		38	<1
Zinc (Zn)	30 ⁵		25	2960

Notes**10**Value is greater than 10 times
the CCME Standard

NS - No Standard.

- Not analyzed

NA - Not applicable

NC - Not calculated

4,5 etc. Refer to endnotes

APPENDIX A

Photograph Log

APEC 01 : Former Maintenance Garage, Test pits program



Photo 1 : View toward west of APEC 01, former maintenance garage.

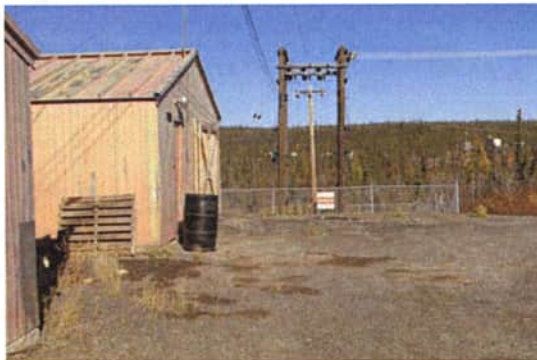


Photo 2 : Staining on ground surface near by buildings W56 and W57. View looking toward north.



Photo 3 : View toward west at 01-TP06-06, inside former maintenance garage footprint.



Photo 4 : Typical fill material encountered in test pits located at the former maintenance garage inside footprint. Permafrost at bottom. At 01-TP06-02



Photo 5 : View toward west at 01-TP06-21. Sampling soil from bucket for deep samples.



Photo 6 : Typical fill material in former ASTs area, south of former maintenance garage and asphalt road. At 01-TP06-22.



Photo 7 : View of test pit sidewall at 01-TP-06-24.



Photo 8 : View of test pit sidewall at 01-TP-06-28, black staining.

APEC 02 : Former Firefighting Training Area, Test pits program



Photo 9 : Tar found in fill material at 02-TP06-04.



Photo 10 : Debris of all kind found in fill material at 02-TP06-05.



Photo 11 : General stratigraphy observed at FFTA. Fill material at surface, peat layer and native soil. 02-TP06-08



Photo 12 : Bedrock outcrop at 0.4m below ground surface at 02-TP06-12. Steel pipe fixture anchored in bedrock.



Photo 13 : General view toward south at 02-TP06-14. View of Land Treatment Utility at back.



Photo 14 : View of test pit sidewall at 02-TP06-15.

APEC 03 : Former Campsite, General views



Photo 15 : Surfaces debris observed.



Photo 16 : Site is still being used as a recreative place, it seems to be a temporary fishman camp.

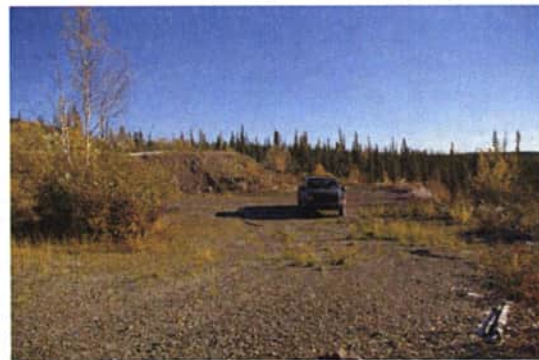


Photo 17 : View toward east at former campsite area.



Photo 18 : View toward southeast, former campsite is on the shore of lake dolomite.

APEC 05 : DME Buildings, General views



Photo 19 : New DME building located west of the airport terminal and runway.



Photo 20 : Old DME building located east of the airport terminal and runway.

APEC 08 : Shell Lake, Lots number 11-11 and 11-12, Test pits program



Photo 21 : View toward north at 08-TP06-01 south of burnt house.



Photo 22 : View toward east at 08-TP06-02, lot of debris all over the place.



Photo 23 : Presence of water coming from the fill material layer at surface. 08-TP06-03



Photo 24 : Typical stratigraphy observed at Shell Lake. Fill material at surface, peat layer and native soil. 08-TP06-05



Photo 25 : View toward north at 08-TP06-07, south of two ASTs.



Photo 26 : Sample of permafrost collected from bottom of 08-TP06-07. 1.7 to 1.8 m below ground surface

APEC 09 : Landfill area west of main quarry, Test pits program



Photo 27 : Debris found at 09-TP06-01. Refusal, pieces are too big, backhoe can not go deeper.



Photo 28 : At 09-TP06-01, because of refusal, extent Test pit toward west to complete it.



Photo 29 : View toward north at 09-TP06-01.



Photo 30 : Debris found at 09-TP06-02.

APEC 10 : Landfill area south of Land Treatment Utility, Test pits program



Photo 31 : Debris mainly composed of drums found in 10-TP06-01.



Photo 32 : View toward west at 10-TP06-01.



Photo 33 : Ice blocks encountered at 2.9 m below ground surface at 10-TP06-02



Photo 34 : View of Test pit 10-TP06-02, presence of lot of debris.



Photo 35 : Debris encountered at test pit 10-TP06-03.



Photo 36 : General view toward west at 10-TP06-04.



Photo 37 : Debris encountered at 10-TP06-04.

Drilling program, Monitoring Wells installation, APEC 02, 08 and 01



Photo 38 : Drilling borehole for monitoring well installation 02-MW06-01 at APEC 02, FFTA.



Photo 39 : Drilling borehole for monitoring well installation 08-MW06-01 at APEC 08, Shell Lake.



Photo 40 : Monitoring Well 01-MW06-01 was installed inside a test pit due to collapsing material during drilling.

APPENDIX B

Test Pit and Borehole Logs



Project No: 1256-0601

Borehole Log: 01-MW06-01

Project: Inuvik Airport Phase II/III ESA

Site ID: 01

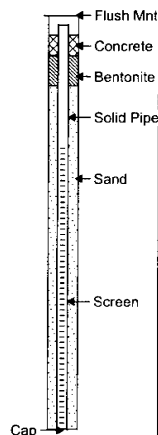
Client: Transport Canada

Logged By: JP

Location: Inuvik, NWT

Checked By: JP

SUBSURFACE PROFILE				Well Compilation Details	Remarks
Depth (m)	Symbol	Description	Elev.		
0		Ground Surface	59.3		
0		Crushed Shale Green to purple, wet, some to trace wood debris			
1					
2					
3					
4					
5					
6					
7					
8					
9					
2		End of Borehole	57.2		



Monitoring well installed in test pit using temporary casing

Drilled By: Northwind Industries Ltd. Hole Diameter: 250 mm

Well Diameter: 50 mm

Drill Method: Solid Stem Auger Ground Elevation: 59.250

TOC Elevation: 59.200

Drill Date: 21/09/06

Northing: 7577740.44 Easting: 561822.309 Sheet: 1 of 1



Project No: 1256-0601

Log of Test Pit: 01-TP06-01

Project: Inuvik Airport Phase II/III ESA

Site ID: 01

Client: Transport Canada

Logged By: JP

Location: Inuvik, NWT

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.6				
0		Crushed Shale Green to purple, wet, some wood debris, trace concrete.					
1							
2				1		20	
3							
4				2		25	
5							
6				3		25	
7							
8							
9							
2		End of Test Pit	57.8				

Excavated By: Northwind Industries Ltd. Northing: 7577725.418

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561847.541

Elevation (m.a.s.l.): 59.563

Date of Excavation: 14/09/06

Sample analysed for F2-F4
Frozen at 1.8m



Project No: 1256-0601 **Log of Test Pit: 01-TP06-02**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.4				Sample analysed for F2-F4
0		Crushed Shale Green to purple, wet, some wood debris, trace concrete.					
1				1		25	
2							
3				2		25	
4							
5				3		25	
6							
7			57.2				
7		Peat Some roots, ice (frozen), dark brown, some black and yellow	57.1	4		10	
8		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577736.612 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 561845.754 Elevation (m.a.s.l.): 59.381
 Date of Excavation: 14/09/06



Project No: 1256-0601 **Log of Test Pit: 01-TP06-03**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.4				Sample analysed for F2-F4 Frozen at 1.8 m
0		Crushed Shale Green to purple, wet, some wood debris, trace concrete					
1				1		25	
2							
3							
4				2		20	
5							
6							
6			57.6	3		30	
6		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577743.502 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 561844.788 Elevation (m.a.s.l.): 59.393
 Date of Excavation: 14/09/06



Project No: 1256-0601 **Log of Test Pit: 01-TP06-04**
Project: Inuvik Airport Phase II/III ESA Site ID: 01
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.3				
0		Crushed Shale Green to purple, wet, trace wood debris					
1							
2		Slight hydrocarbon odour		1		20	Sample analysed for F2-F4, metals
3							
4		No hydrocarbon odour		2		25	Sample analysed for F2-F4
5							
6			57.4	3		20	
6		End of Test Pit					Frozen at 1.9 m
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577743.607

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561835.585

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.286



Project No: 1256-0601 **Log of Test Pit: 01-TP06-05**
Project: Inuvik Airport Phase II/III ESA Site ID: 01
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.2				
0		Crushed Shale Green to purple, wet, trace wood debris					
1							
2				1		35	Sample analysed for F2-F4
3							
4				2		30	
5							
6			57.4				
6		Peat Sphagnum moss, some roots and rootlets, black, wet	57.3	3		70	
6		End of Test Pit					
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577736.343

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561837.407

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.240

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.5				Sample analysed for F2-F4, leachable metals
0		Crushed Shale Green to purple, wet, trace wood debris					
1				1		25	
2							
3							
4							
5				2		35	Sample analysed for F2-F4, leachable metals
5			57.7				
6			57.6	3		55	
6		Peat Sphagnum moss, some roots and rootlets, black, wet					End of Test Pit
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577727.4

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561837.418

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.471

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.9				Sample analysed for F2-F4, PAHs
0		Crushed Shale Green to purple, wet, some wood and concrete debris					
1				1		35	
2		Slight hydrocarbon odour					
3							Sample analysed for F2-F4, PAHs
4				2		50	
4		Trace wood debris and moderate hydrocarbon odour below 1.0 m					
5							Sample analysed for F2-F4, PAHs
6				3		50	
6			57.9				
7		End of Test Pit					Frozen at 2.0 m
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577726.977

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561819.556

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.865



Project No: 1256-0601 **Log of Test Pit: 01-TP06-08**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.8				Sample analysed for F2-F4, PAHs, VOC
0.5		Crushed Shale Purplish-red, some concrete and wood debris, wet, strong hydrocarbon odour, oily film					
2				1		45	
5		Trace wood debris below 1.5 m					
6				2		45	Sample analysed for F2-F4
7		Mild hydrocarbon odour below 2.0 m					
7			57.6	3		45	
7		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577726.205

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561827.368

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.802



Project No: 1256-0601 **Log of Test Pit: 01-TP06-09**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.2				Sample analysed for F2-F4
0.5		Crushed Shale Some medium to fine brown sand, moist to wet, trace wood and concrete debris, strong hydrocarbon odour					
1.5			58.7	1		35	
2		Crushed Shale Green to purple, wet, trace wood debris					Sample analysed for F2-F4
3		Strong hydrocarbon odour					
5				2		35	
7			57.1				Frozen at 2.2 m
7		Peat Sphagnum moss, some roots and rootlets, black, wet	57.0	3		180	
7		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577734.733

Method of Excavation: Backhoe

Date of Excavation: 14/09/06

Easting: 561828.731

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.235



Project No: 1256-0601 **Log of Test Pit: 01-TP06-10**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.2				
0.5		Crushed Shale Green to purple, wet, some to trace wood and concrete debris					
1.5				1		45	
2.5							
3.5							
4.5							
5.5				2		40	Sample analysed for F2-F4
6.5			57.3				
6.5		Peat Some roots, black, wet	57.2	3		70	
7.0		End of Test Pit					Frozen at 2.0 m

Excavated By: Northwind Industries Ltd. Northing: 7577734.583

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561818.588

Elevation (m.a.s.l.): 59.201

Date of Excavation: 14/09/06



Project No: 1256-0601 **Log of Test Pit: 01-TP06-11**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.3				
0.5		Crushed Shale Green to purple, wet, some to trace wood and concrete debris					
1.5		Slight hydrocarbon odour		1		40	Sample analysed for F2-F4
2.5							
3.5							
4.5							
5.5		Trace of ice, no hydrocarbon odour below 1.3 m		2		30	
6.5			57.4	3		35	
7.0		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577740.416

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561818.143

Elevation (m.a.s.l.): 59.275

Date of Excavation: 15/09/06

Project No: 1256-0601 **Log of Test Pit: 01-TP06-12**
Project: Inuvik Airport Phase II/III ESA
Client: Transport Canada
Location: Inuvik, NWT

Site ID: 01
Logged By: JP
Checked By: JP

SUBSURFACE PROFILE			SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	
0		Ground Surface	59.1			
0.5		Crushed Shale Green to purple, moist, trace wood debris		1		35
2				2		45
3				3		45
4				4		140
5		Wet below 1.5m				
6			57.2			
6.5		Peat Some roots, dark brown with some black and yellow, wet	57.1			
7		End of Test Pit				
8						
9						

Excavated By: Northwind Industries Ltd. Northing: 7577742.093

Method of Excavation: Backhoe

Date of Excavation: 15/09/06

Easting: 561826.305

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.123

Sample analysed for F2-F4, metals

Project No: 1256-0601 **Log of Test Pit: 01-TP06-13**
Project: Inuvik Airport Phase II/III ESA
Client: Transport Canada
Location: Inuvik, NWT

Site ID: 01
Logged By: JP
Checked By: JP

SUBSURFACE PROFILE			SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	
0		Ground Surface	59.9			
0.5		Crushed Shale with Silty Fine Sand Trace roots, brown, moist, some wood pieces		1		45
2				2		45
3		Crushed Shale Green to purple, wet, trace wood and concrete debris	59.1			
4				3		45
5						
6						
7			57.6			
8		End of Test Pit				
9						

Excavated By: Northwind Industries Ltd. Northing: 7577749.922

Method of Excavation: Backhoe

Date of Excavation: 15/09/06

Easting: 561827.164

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.878

Sample analysed for F2-F4



Project No: 1256-0601 **Log of Test Pit: 01-TP06-14**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.7				Sample analysed for F2-F4
0		Crushed Shale with Silty Fine Sand Trace roots, brown, moist, some wood pieces					
1				1		45	
2		Crushed Shale Trace silty sand, greyish - brown, moist, slight hydrocarbon odour	59.1				
3				2		25	
4		Crushed Shale Green to purple, wet, trace wood and concrete debris, slight hydrocarbon odour	58.6				
5							
6				3		30	
7		End of Test Pit	57.7				
8							

Excavated By: Northwind Industries Ltd. Northing: 7577749.573 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 561833.147 Elevation (m.a.s.l.): 59.72
 Date of Excavation: 15/09/06



Project No: 1256-0601 **Log of Test Pit: 01-TP06-15**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.6				Sample analysed for F2-F4
0		Crushed Shale with Silty Fine Sand Trace roots, brown, moist, some wood pieces					
1				1		40	
2							
3		Crushed Shale Trace silt (yellow), purple	58.8				
4							
5				2		35	
6							
7		Ice from 2.2 to 2.4 m					
8				3		35	

Excavated By: Northwind Industries Ltd. Northing: 7577752.822 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 561832.182 Elevation (m.a.s.l.): 59.632
 Date of Excavation: 15/09/06



Project No: 1256-0601 **Log of Test Pit: 01-TP06-16**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	59.8				
0		Crushed Shale with Silty Fine Sand					
1		Trace roots, trace wood, brown, moist, trace wood pieces		1		50	
2							
3			58.8				
4		Crushed Shale					
5		Purple, wet, trace wood debris		2		45	
6							
7							
8			57.4	3		40	
9		End of Test Pit					Sample analysed for F2-F4

Excavated By: Northwind Industries Ltd. Northing: 7577752.526

Method of Excavation: Backhoe

Date of Excavation: 15/09/06

Easting: 561837.815

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 59.803



Project No: 1256-0601 **Log of Test Pit: 01-TP06-17**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.2				
0		Asphalt	61.1				
1		Crushed Shale					
2		Trace silty sand, purple to grey, moist		1		45	
3							
4							
5				2		40	
6							
7							
8							
9			58.5	4		40	
9		End of Test Pit					Sample analysed for F2-F4

Excavated By: Northwind Industries Ltd. Northing: 7577744.905

Method of Excavation: Backhoe

Date of Excavation: 15/09/06

Easting: 561857.790

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 61.162

Project No: 1256-0601 **Log of Test Pit: 01-TP06-18**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 01

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.0				
0		Crushed Shale, Some Silty Sand Brown, moist,					
1		Slight hydrocarbon odour and trace of black staining from 0 to 0.6 m		1		50	Sample analysed for F2-F4, metals
2							
3							
4				2		40	Sample analysed for F2-F4
5							
6							
6			59.0	3		15	
7		End of Test Pit					
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577746.479

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561812.144

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 60.994

Project No: 1256-0601 **Log of Test Pit: 01-TP06-19**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 01

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	60.3				
0		Crushed Shale Grey to purple, moist					
1		Slight hydrocarbon odour		1		25	Sample analysed for F2-F4
2							
3		No hydrocarbon odour		2		5	
4							
5							
6							
6			58.3	3		15	
7		End of Test Pit					
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577696.085

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561809.181

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 60.311



Project No: 1256-0601 **Log of Test Pit: 01-TP06-20**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	60.5				Sample analysed for F2-F4
0		Crushed Shale Fine, purple with some yellow, moist	60.4				
1		Crushed Shale Grey, moist		1		10	
2							
3							
4				2		5	
5							
6							
7				3		15	
8		Trace of sulfur-iron staining below 2.3 m	58.0	4		25	
9		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577695.828

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561814.423

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 60.452



Project No: 1256-0601 **Log of Test Pit: 01-TP06-21**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	60.9				Sample analysed for F2-F4, PAHs
0		Crushed Shale with Silty Sand Fine, yellow, moist, strong hydrocarbon odour		1		20	
1			60.5				
2		Crushed Shale Fine to medium, grey and purple, moist, strong hydrocarbon odour		2		400	
3							
4							
5				3		480	
6							
7		Moderate to slight hydrocarbon odour below 2.0 m		4		55	
8							
9		No odour below 2.7 m	58.0	5		45	
		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577700.835

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561822.576

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 60.903

Project No: 1256-0601 **Log of Test Pit: 01-TP06-22**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 01

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE			SAMPLE				Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	60.9				Sample analysed for F2-F4
0		Crushed Shale with Silty Sand					
0		Fine, yellow, moist	60.5	1		35	
1		Crushed Shale					
1		Fine to medium, grey and purple, moist		2		25	
2							
3							
4							
5				3		70	
6							
7							
8							
9			58.0	4		10	
10		Peat	57.9	5		25	
10		Some roots and rootlets, black, moist					
10		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577700.527

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561830.341

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 60.884

Project No: 1256-0601 **Log of Test Pit: 01-TP06-23**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 01

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE			SAMPLE				Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.0				Sample analysed for F2-F4
0		Asphalt	60.9				
1		Crushed Shale					
1		Fine, some fine sand, purple/grey/brown, moist		1		25	
2		Crushed Shale grey, moist	60.4				
3							
4							
5				2		10	
6							
7							
8				3		15	
9							
10			58.0	4		15	
10		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577717.864

Method of Excavation: Backhoe

Date of Excavation: 16/09/06

Easting: 561811.816

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 61.026

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.1				
0		Asphalt	61.0				
0		Crushed Gravel	60.9				
0		Trace fine sand, grey, moist	60.8				
1		Asphalt					0
1		Crushed Shale		1			
1		Greyish-purple, moist, slight hydrocarbon odour					
1							
2				2		15	15
2							
2							
2							
3				3		15	15
3							
3							
3							
4				4		30	30
4		Trace of ice, no hydrocarbon odour below 3.2 m	57.7				
4							
4							
5		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577724.079

Method of Excavation: Backhoe

Date of Excavation: 17/09/06

Easting: 561811.145

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 61.141

Sample analysed for F2-F4

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.4				
0		Asphalt	61.2				
0		Crushed Shale					
0		Some fine sand grey-brown, moist					
1				1		25	25
1							
1							
1							
2				2		20	20
2							
2							
2							
3				3		10	10
3							
3							
3							
4				4		15	15
4							
4							
4							
5		End of Test Pit	58.2				

Excavated By: Northwind Industries Ltd. Northing: 7577732.172

Method of Excavation: Backhoe

Date of Excavation: 17/09/06

Easting: 561810.698

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 61.367

Sample analysed for F2-F4



Project No: 1256-0601 **Log of Test Pit: 01-TP06-26**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	60.3				
0.1		Crushed Shale (fine) and Medium Sand purple, moist, trace silt, yellow below 0.1 m	60.0				
1		Crushed Shale Some medium to coarse sand, grey, moist					
2							
3							
4							
5							
6							
7							
8			57.9				
8.1		Peat Some rootlets, trace roots, black, moist, well decayed organic matter	57.7				
9		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577693.89
 Method of Excavation: Backhoe Easting: 561819.238
 Date of Excavation: 17/09/06

Hole Size: 1.5 X 3.0 m
 Elevation (m.a.s.l.): 60.271



Project No: 1256-0601 **Log of Test Pit: 01-TP06-27**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.3				
0.1		Asphalt	61.2				
1		Crushed Shale Trace of silty sand, brown, moist		1		0	
2							
3							
4							
5				2		0	
6							
7		Purple below 2.0 m					
7.1			59.0	3		0	
8		End of Test Pit					Sample analysed for F2-F4
9							

Excavated By: Northwind Industries Ltd. Northing: 7577742.643
 Method of Excavation: Backhoe Easting: 561809.293
 Date of Excavation: 17/09/06

Hole Size: 1.5 X 3.0 m
 Elevation (m.a.s.l.): 61.258



Project No: 1256-0601 **Log of Test Pit: 01-TP06-28**
 Project: Inuvik Airport Phase II/III ESA Site ID: 01
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	61.3				Staining at surface
0.5		Gravel (sorted) Fine, some coarse sand, dry, strong hydrocarbon odour		1		0	
1.5		Black at 0.4 m		2		220	Sample analysed for F1, BTEX, F2-F4, PAHs, metals
2.5		Fine to coarse, purple below 0.5 m		3		60	Sample analysed for F1, BTEX, F2-F4
3.0		End of Test Pit	60.4				End of test pit due to underground services in the area

Excavated By: Northwind Industries Ltd. Northing: 7577744.639 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 561794.976 Elevation (m.a.s.l.): 61.302
 Date of Excavation: 17/09/06



Project No: 1256-0601 **Borehole Log: 02-MW06-01**
 Project: Inuvik Airport Phase II/III ESA Site ID: 02
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				Well Compilation Details	Remarks
Depth (m)	Symbol	Description	Elev.		
0		Ground Surface	52.2		
0.5		Crushed Shale Crushed angular gravel with some sand, trace cobbles, purple, dry			
3.5		Peat Peat, roots and rootlets, black, moist	51.2 51.1		
4.5		Crushed Shale Crushed angular fine gravel, coated with sandy silt, brown, dry to moist			
8.5		Sandy Silt Trace gravel, brown black patches, wet	49.6		
9.0		End of Borehole	49.0		

Drilled By: Northwind Industries Ltd. Hole Diameter: 250 mm Well Diameter: 50 mm
 Drill Method: Solid Stem Auger Ground Elevation: 52.269 TOC Elevation: 52.219
 Drill Date: 21/09/06 Northing: 7577250.429 Easting: 561104.336 Sheet: 1 of 1

Project No: 1256-0601

Borehole Log: 02-MW06-02

Project: Inuvik Airport Phase II/III ESA

Site ID: 02

Client: Transport Canada

Logged By: JP

Location: Inuvik, NWT

Checked By: JP

SUBSURFACE PROFILE				Well Completion Details	Remarks
Depth (m)	Symbol	Description	Elev.		
0		Ground Surface	52.2		
0 to 1		Sand and Gravel Medium to coarse sand and gravel, some crushed shale, brown, dry, very strong hydrocarbon like odour		Flush Mnt Concrete Cuttings Bentonite Solid Pipe	
5		Peat Black, dry	50.8		
5		Silty Fine Sand Trace gravel, trace clay, grey, moist	50.7		
9		End of Borehole	49.4	Sand Screen Cap	

Drilled By: Northwind Industries Ltd. Hole Diameter: 250 mm

Well Diameter: 50 mm

Drill Method: Solid Stem Auger Ground Elevation: 52.224

TOC Elevation: 52.224

Drill Date: 21/09/06

Northing: 7577244.8740 Easting: 561054.455

Sheet: 1 of 1

Project No: 1256-0601

Log of Test Pit: 02-TP06-01

Project: Inuvik Airport Phase II/III ESA

Site ID: 02

Client: Transport Canada

Logged By: JP

Location: Inuvik, NWT

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.6				
0 to 1		Fine Gravel, Some Fine Sand trace of grey crushed shale, brown, dry	51.2	1		65	
2		Crushed Shale Purple, dry, moderate hydrocarbon odour		2		15	
4		Peat Some roots and rootlets, trace fine sand, black, moist, moderate hydrocarbon odour	50.4				
4			50.2	3		2500	
5		Silty Fine Sand Brown-grey, moist, trace of organic oxidation, moderate		4		120	
6							
7		Wet below 2.0 m and slight hydrocarbon odour		5		85	
8		Silty Clay Trace fine gravel, brown, wet	49.2				
8			49.0	6		70	
9		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577230.995

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561022.464

Elevation (m.a.s.l.): 51.572

Date of Excavation: 17/09/06

Sample analysed for F2-F4

Project No: 1256-0601 **Log of Test Pit: 02-TP06-02**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.4				Sample analysed for F1, BTEX, F2-F4
0.5		Fine Gravel, Some Fine Sand trace grey crushed shale, brown, dry		1		50	
2		Crushed Shale Purple, dry	50.8	2		520	
5		Peat Some roots and rootlets, trace fine sand, black, dry	49.9 49.8	3 4		>100% LEL 590	Sample analysed for F1, BTEX, F2-F4
7		Silt, Some Clay Trace sand, trace roots, grey-brown, moist					
8		Silt, Some Clay Grey, moist, mixed horizons with fine orange/brown sand, moist		5		25	Sample analysed for BTEX
11		Wet with some fine sand below 3.1 m					
12		End of Test Pit	47.8	6		65	

Excavated By: Northwind Industries Ltd. Northing: 7577237.607

Method of Excavation: Backhoe

Date of Excavation: 17/09/06

Easting: 561014.676

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 51.402

Project No: 1256-0601 **Log of Test Pit: 02-TP06-03**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.9				Sample analysed for F1, BTEX, F2-F4
0.5		Medium to Coarse Sand and Gravel Brown, dry, trace debris (aluminum sheet), slight hydrocarbon odour	51.6 51.5	1 2		75 30	
2		Silty Sand Trace gravel, trace roots, dark grey to black, moist, slight hydrocarbon odour		3		45	Sample analysed for F2-F4
4		Coarse Sand, Some Crushed Shale Grey-purple, moist					
5		Peat Some roots and rootlets, trace sand, black, dry, slight hydrocarbon odour	50.3 50.2	4		0	
6				5		25	
7		Silty Fine Sand Trace gravel, trace sand (brown-orange), grey, moist Wet below 2.3 m					
10				6		70	
11		End of Test Pit	48.5				

Excavated By: Northwind Industries Ltd. Northing: 7577251.14

Method of Excavation: Backhoe

Date of Excavation: 17/09/06

Easting: 561017.367

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 51.91



Project No: 1256-0601 **Log of Test Pit: 02-TP06-04**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	50.7				Sample analysed for F1, BTEX, F2-F4
0		Crushed Shale, Some coarse sand Purple, dry					
1		Tar present from surface to 1.0 m		1		110	
2							
3							
4							Sample analysed for F2-F4, PAHs, metals
5							
6							
6		Silty Clay, Some Sand Dark grey, wet	48.9	2		40	Sample analysed for F2-F4, PAHs, metals
6			48.8				
6		Silty Sand, Some Clay Some roots, brownish-grey, frozen patches	48.6	3		0	
7		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577284.26

Method of Excavation: Backhoe

Date of Excavation: 17/09/06

Easting: 561004.828

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 50.731



Project No: 1256-0601 **Log of Test Pit: 02-TP06-05**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.1				Sample analysed for F2-F4, PAHs, metals
0		Coarse Sand and Gravel (Shale) Grey and purple, dry, some asphalt and debris (wheel rim, steel wire, metal, pipes, nails)					
1				1		80	
2							
3							
4							Sample analysed for F2-F4, PAHs, metals
5							
6							
6		Black/brown/orange below 1.7 m		2		60	Sample analysed for F2-F4, PAHs, metals
6							
6				3		45	
7							Sample analysed for F2-F4, PAHs, metals
8							
8		Peat Some root and rootlets, black, moist	49.8				
8				4		10	Sample analysed for F2-F4, PAHs, metals
9		Medium Sand Trace grey silt and gravel, orange-brown gravel, wet	49.3				
9		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577296.034

Method of Excavation: Backhoe

Date of Excavation: 18/09/06

Easting: 561041.746

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 52.081

Frozen at 2.8 m



Project No: 1256-0601 **Log of Test Pit: 02-TP06-06**
Project: Inuvik Airport Phase II/III ESA Site ID: 02
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.9				Sample analysed for F1, BTEX, F2-F4
0.5		Crushed Shale Trace coarse sand, purple to grey, dry, trace asphalt pieces		1		55	
3.0		Peat Black, roots and rootlets, moist	51.0				
4.0		Silty Fine Sand Trace medium to coarse sand and gravel, brown and grey, dry		2		20	
8.0			49.4	3		25	
9.0		Clayey Silt Trace gravel (rounded), grey, hard	49.1	4		45	
9.5		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577275.472

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561032.837

Elevation (m.a.s.l.): 51.944

Date of Excavation: 18/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-07**
Project: Inuvik Airport Phase II/III ESA Site ID: 02
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.5				Sample analysed for F1, BTEX, F2-F4, PAHs
0.5		Medium to Coarse Sand and Gravel Brown, dry, strong hydrocarbon odour		1		470	
1.0		Black and dark grey below 0.3 m		2		880	
2.0		Peat Black, dry, some roots and rootlets, trace fine sand, strong hydrocarbon odour	51.8 51.7	3		900	
3.0				4		120	Sample analysed for F1, BTEX, F2-F4, PAHs
4.0		Silty Fine Sand Grey/brown with some orange medium sand, moist, strong hydrocarbon odour					
6.0			50.7	5		160	
8.0		Silty Fine Sand Grey/brown, with some orange medium sand, wet	50.1				
10.0		Saturated, trace clay below 2.8 m	49.4	6		160	
10.5		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577255.315

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561037.6

Elevation (m.a.s.l.): 52.484

Date of Excavation: 18/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-08**
Project: Inuvik Airport Phase II/III ESA Site ID: 02
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.6				
0.5		Medium to Coarse Sand and Gravel Brown, dry, very strong hydrocarbon odour		1		>100% LEL	
1		Black/dark grey below 0.5m		2		3100	Sample analysed for F1, BTEX, F2-F4, lead
2		Some purple crushed shale below 0.7 m					
3				3		>100% LEL	
4			51.2				
5		Peat Some roots and rootlets, trace fine sand, black, dry	51.1	4		>100% LEL	
6		Silty Fine to Medium Sand Trace gravel with some clay, grey, moist		5		>100% LEL	Sample analysed for F1, BTEX, F2-F4, PAHs
7		Some ice crystals and wet below 2.2 m					
8			50.1	6		580	Sample analysed for F1, BTEX, F2-F4
9		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577238.428

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561043.364

Elevation (m.a.s.l.): 52.568

Date of Excavation: 18/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-09**
Project: Inuvik Airport Phase II/III ESA Site ID: 02
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.7				
0.5		Fine Sand, Some Crushed Shale Trace silt, grey, dry to moist, trace asphalt, some black staining, strong hydrocarbon odour	52.2	1		6400	Sample analysed for F1, BTEX, F2-F4
1							Water coming in at 0.5m
2		Crushed Shale Dark grey and brown, wet, strong hydrocarbon odour	51.6	2		3000	
3		Peat Black, some roots and rootlets, moist, strong hydrocarbon odour		3		>100% LEL	Sample analysed for PAHs
4		Silty Fine Sand Some organic matter, olive grey, moist, strong hydrocarbon odour	50.9				
5							
6		Silty Sand Trace clay, grey and brown, traces of pink and orange, wet		4		2750	Sample analysed for F1, BTEX, F2-F4, lead
7							
8			50.1				
9		Silty fine Sand Orange, wet, moderate hydrocarbon odour	49.9	5		560	Sample analysed for F1, BTEX, F2-F4
10		End of Test Pit					Frozen at 2.8
11							

Excavated By: Northwind Industries Ltd. Northing: 7577244.477

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561064.673

Elevation (m.a.s.l.): 52.655

Date of Excavation: 18/09/06

Project No: 1256-0601 **Log of Test Pit: 02-TP06-10**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.8				Sample analysed for F1, BTEX, F2-F4
0.5		Fine to Medium Sand, Some Silt and Gravel Trace roots, brown, dry, slight hydrocarbon odour		1		60	
1.0			52.4				
1.5		Peat Some roots and rootlets, black, moist	52.3				
2.0				2		100	
2.5		Fine Sand Trace silt, trace gravel, brown with patches of orange, moist, stiff, slight hydrocarbon odour	52.0				
3.0							
3.5		Shale Bedrock, purple					
4.0			51.4				
5.0		End of Test Pit					

Excavated By: Northwind Industries Ltd., Northing: 7577259.839

Method of Excavation: Backhoe

Date of Excavation: 18/09/06

Easting: 561060.628

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 52.806

Project No: 1256-0601 **Log of Test Pit: 02-TP06-11**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.6				Sample analysed for F1, BTEX, F2-F4
0.5		Gravel Grey, dry to moist, poorly sorted angular gravel (crushed shale), slight hydrocarbon odour		1		85	
1.0			52.1				
1.5		Peat Some rootlets, trace organic matter, black, moist					
2.0			51.9	2		110	
2.5		Fine to Medium Sand Trace silt, trace gravel, brown/orange/greenish grey, moist					
3.0							
3.5				3		85	
4.0		Shale possible bedrock, purple					
5.0			51.0				
6.0							
7.0							
8.0			50.1				
9.0		End of Test Pit					

Excavated By: Northwind Industries Ltd., Northing: 7577279.462

Method of Excavation: Backhoe

Date of Excavation: 18/09/06

Easting: 561056.457

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 52.625



Project No: 1256-0601 **Log of Test Pit: 02-TP06-12**
 Project: Inuvik Airport Phase II/III ESA Site ID: 02
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	53.2				Sample analysed for F1, BTEX, F2-F4
0.5		Crushed Shale, Some Fine to Medium Sand Grey brown, dry		1		0	
1.5		End of Test Pit	52.8				
2							Bedrock at 0.4m
3							
4							
5							
6							
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577265.134

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561080.778

Elevation (m.a.s.l.): 53.191

Date of Excavation: 18/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-13**
 Project: Inuvik Airport Phase II/III ESA Site ID: 02
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	53.1				Sample analysed for F1, BTEX, F2-F4
0.5		Silty Sand, Some Gravel Some roots and rootlets, brown, dry		1		55	
1.5		End of Test Pit	52.5				
2		Sandy Silt Trace of clay, grey brown with orange patches, moist, hard	52.1				Sample analysed for F1, BTEX, F2-F4
3		Peat Some roots, trace organic matter, black, moist	51.8	2		50	
4		Sandy Silt Trace clay, grey/brown, moist	51.3	3		35	
5							Refusal at 1.8 at inferred bedrock
6		End of Test Pit					
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577286.307

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561077.025

Elevation (m.a.s.l.): 53.061

Date of Excavation: 18/09/06

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	53.0				Sample analysed for F1, BTEX, F2-F4
0		Crushed Shale, Some Fine to Medium Sand	52.8	1		50	
1		Brownish yellow, dry, strong hydrocarbon odour		2		85	
2		Crushed Shale	52.5	3		90	
2		Trace fine medium sand, purple, moist, strong hydrocarbon odour	52.2				
3		Silty Sand	52.1	4		0	
3		Trace clay, brown and grey, moist		5		25	
4		Peat					
4		Some roots, trace organic matter, black, moist	51.5				
5		Silty Sand					
5		Trace clay, trace gravel, orange and brown, wet	51.2				End of Test Pit
6		Shale					
6		Bedrock, grey					
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577249.91

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561080.648

Elevation (m.a.s.l.): 52.951

Date of Excavation: 18/09/06

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.6				Sampled for F1, F2-F4, BTEX
0		Crushed Shale					
1		Crushed angular gravel with some sand, trace cobbles, purple, dry					
2				1		45	
3			51.6				
3		Peat	51.5				
4		Peat, roots, black, moist					
4		Crushed Shale					
5		Crushed angular fine gravel, coated with sandy silt, brown, dry to moist		2		55	
6							
7							End of Test Pit
8				3		30	
9			49.9				
9		Sandy Silt					
10		Trace gravel, brown and black patches, wet	49.5	4		20	
11							
12							
13							

Excavated By: Northwind Industries Ltd. Northing: 7577250.461

Hole Size: 1.5 X 3 m

Method of Excavation: Backhoe

Easting: 561107.747

Elevation (m.a.s.l.): 52.6250

Date of Excavation: 19/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-16**
 Project: Inuvik Airport Phase II/III ESA Site ID: 02
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	53.6				Sampled for F1, F2-F4, BTEX, PAHs, metal
0		Silty Fine Sand Some fine angular gravel, moist, dark black staining at surface, hydrocarbon odour	53.5	1		25	
1		Shale Olive grey to purple shale, assumed bedrock	53.1				
2		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577271.892

Hole Size: 1.5 X 3 m

Method of Excavation: Backhoe

Easting: 561104.442

Elevation (m.a.s.l.): 53.647

Date of Excavation: 19/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-17**
 Project: Inuvik Airport Phase II/III ESA Site ID: 02
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	53.4				Dark brown to black staining at surface Sample analysed for F1, BTEX, F2-F4
0		Fine to Medium Sand Some gravel, trace silt, brown, dry, moderate hydrocarbon odour, staining	53.2	1		0	
1		Shale Bedrock, purplish grey	53.0				
2		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577271.485

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561114.651

Elevation (m.a.s.l.): 53.399

Date of Excavation: 19/09/06



Project No: 1256-0601 **Log of Test Pit: 02-TP06-18**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 02

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	52.7				Sample analysed for F1, BTEX, F2-F4
0.5		Silty Fine Sand Some gravel, some rootlets, grey brown, dry		1		5	
1.5			52.2				
2.0		Sandy Silt Some angular gravel, yellow, moist	52.0	2		10	
3.0		Sandy Silt Some gravel, brown, moist					
4.5			51.4			0	
5.0		Peat Black, some roots and rootlets, moist		4		0	
6.0		Sandy Silt Trace subangular gravel, brown, moist					
7.5			50.5				
8.0		Clayey Silt Grey, wet, conglomerate with pieces of purple shale (up to 50cm dia.)		5		45	
9.0		End of Test Pit	49.9				

Excavated By: Northwind Industries Ltd. Northing: 7577263.988

Method of Excavation: Backhoe

Date of Excavation: 19/09/06

Easting: 561130.043

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 52.671



Project No: 1256-0601

Borehole Log: 08-MW06-1

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 08

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				Well Compilation Details	Remarks
Depth (m)	Symbol	Description	Elev.		
0		Ground Surface	22.4		
0.5		Silty Sand Trace gravel, trace roots and rootlets, brownish-grey, moist to wet			
1.5			22.0		
2.0		Peat Some roots, black, moist			
2.5		Clayey Silt Trace fine sand, trace gravel, greyish-brown, moist to wet			
6.0		Very hard below 1.7 m, inferred permafrost			
8.0		End of Borehole	19.9		

Drilled By: Northwind Industries Ltd. Hole Diameter: 250 mm

Drill Method: Solid Stem Auger

Drill Date: 21/09/06

Ground Elevation: 22.359

Northing: 7579481.8

Well Diameter: 50 mm

TOC Elevation: 22.359

Sheet: 1 of 1



Project No: 1256-0601 **Log of Test Pit: 08-TP06-01**
 Project: Inuvik Airport Phase II/III ESA Site ID: 08
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	20.1				Sample analysed for F1, BTEX, F2-F4
0		Sandy Silt, Some Gravel Trace cobbles (shale), brown, wet		1		0	
1							
2							
3			19.3				
3		Peat Some roots and rootlets, black, moist		2		0	
4		Clayey Silt Grey-brown, wet					
5							
6							
7							
6		Saturated below 1.8 m		3		0	
7							
8							
8		End of Test Pit	17.7				

Excavated By: Northwind Industries Ltd. Northing: 7579467.705 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 556819.959 Elevation (m.a.s.l.): 20.126
 Date of Excavation: 20/09/06



Project No: 1256-0601 **Log of Test Pit: 08-TP06-02**
 Project: Inuvik Airport Phase II/III ESA Site ID: 08
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	19.9				Sample analysed for F1, BTEX, F2-F4
0		Sandy Silt, Some Gravel Trace cobbles (shale), brown, wet, slight hydrocarbon odour	19.6	1		0	
1				2		15	
2		Clayey Silt Grey, mixed with peat, some roots and rootlets, black, wet	19.1				
3		Clayey Silt Trace gravel, brownish-grey, moist					
4		Wet below 1.2 m		3		0	
5			18.5				
5		Medium Sand Trace gravel (rounded), grey, wet	18.3	4		0	
6		Silty Clay Grey, wet	18.0	5		0	
6							
6		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7579460.048 Hole Size: 1.5 X 3.0 m
 Method of Excavation: Backhoe Easting: 556839.602 Elevation (m.a.s.l.): 19.916
 Date of Excavation: 20/09/06

Project No: 1256-0601 **Log of Test Pit: 08-TP06-03**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 08

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	19.4				Presence of water with sheen, water sample taken and analysed for F1, BTEX, F2-F4, PAHs, metals Sample 1 analysed for F2-F4, metals
0.5		Sandy Silt, Some Gravel Trace cobbles (shale), brown, wet, some black staining		1		140	
1.5			18.9				
2.0		Peat Some roots and rootlets, black, wet	18.8	2		0	
2.5		Clayey Silt Trace gravel, trace fine sand, brownish-grey, wet					
3.5							
4.5				3		15	End of Test Pit
5.0			17.9				
5.5							

Excavated By: Northwind Industries Ltd. Northing: 7579446.449

Method of Excavation: Backhoe

Date of Excavation: 20/09/06

Easting: 556838.461

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 19.441

Project No: 1256-0601 **Log of Test Pit: 08-TP06-04**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 08

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	19.6				Sample analysed for F1, F2-F4
0.5		Sand and Gravel Yellowish brown, moist to wet		1		5	
1.0			19.3				
1.5		Sandy Silt Trace fine sand, trace gravel, grey, moist to wet		2		5	
2.0			18.9				
2.5		Peat Some roots and rootlets, black, moist					
3.0		Silty Sand Grey, moist	18.5	3		0	
3.5		Sandy Silt Grey and brown, moist		4		0	
4.0							
4.5							End of Test Pit
5.0			17.9				
5.5							
6.0		Clayey Silt Trace gravel, greyish-blue, wet					
6.5				5		10	
7.0			17.5				

Excavated By: Northwind Industries Ltd. Northing: 7579449.435

Method of Excavation: Backhoe

Date of Excavation: 20/09/06

Easting: 556828.675

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 19.607



Project No: 1256-0601 **Log of Test Pit: 08-TP06-05**
 Project: Inuvik Airport Phase II/III ESA Site ID: 08
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE			SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	
0		Ground Surface	24.1			Sample analysed for F1, F2-F4
0		Silty Sand Trace gravel, grey, dry to moist				
1				1		
2			23.3			
3		Peat Some roots and rootlets, black, moist		2		
4		Clayey Silt Brownish-grey, moist		3		
5			22.5			End of Test Pit
6						
7						
8						
9						
10						

Excavated By: Northwind Industries Ltd. Northing: 7579469.072

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 556873.987

Elevation (m.a.s.l.): 24.095

Date of Excavation: 20/09/06



Project No: 1256-0601 **Log of Test Pit: 08-TP06-06**
 Project: Inuvik Airport Phase II/III ESA Site ID: 08
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE			SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	
0		Ground Surface	24.5			Sample analysed for F1, F2-F4
0		Silty Sand Trace gravel, trace rootlets, greyish-brown, wet				
1			24.1	1		
2		Sandy Silt Trace clay, greyish-brown and brown, moist				
3				2		
4						
5			22.8			End of Test Pit
6		Silty Sand Greyish-brown, moist	22.6	3		
7						
8						
9						
10						

Excavated By: Northwind Industries Ltd. Northing: 7579483.105

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 556864.079

Elevation (m.a.s.l.): 24.524

Date of Excavation: 20/09/06

Project No: 1256-0601 **Log of Test Pit: 08-TP06-07**
Project: Inuvik Airport Phase II/III ESA Site ID: 08
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	22.7				Sample analysed for F1, F2-F4
0.5		Silty Sand Trace gravel, some roots and rootlets, brownish-grey, dry, slight hydrocarbon odour		1		150	
1.5			22.3	2		510	
2.0		Peat Some rootlets, black, moist		3		420	
2.5		Clayey Silt Trace fine sand, trace gravel, greyish-brown, moist					
5.0		Wet below 1.4 m		4		660	Sample analysed for F1, BTEX, F2-F4, PAHs
6.0		Permafrost at 1.7 m	20.9	5		10	Sample analysed for F1, F2-F4
6.5		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7579483.983

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 556828.817

Elevation (m.a.s.l.): 22.726

Date of Excavation: 20/09/06

Project No: 1256-0601 **Log of Test Pit: 09-TP06-01**
Project: Inuvik Airport Phase II/III ESA Site ID: 09
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	29.1				Sample analysed for BTEX, PAHs, VOC, PCB
0.5		Fine to Medium Sand Some peat, some rootlets, trace gravel (angular) and cobbles, dark brown, moist		1		10	
1.5			28.7				
2.0		Silty Fine Sand, Some Gravel Trace cobbles, grey, moist, debris	28.3	2		0	
2.5		Fine Sand Trace silt, trace gravel, dark brown, moist, debris					
5.0		Debris (corrugated metal sheet, airplane part, rusted crushed drums) at 0.7 m to 1.4 m	27.6	3		0	Sample analysed for F1, F2-F4, metals
5.5				4		0	
6.0		Fine Sand Trace silt, trace rootlets, brownish-grey, moist					
8.0		Wet below 2.3 m					
9.0		Partially frozen at 2.8 m	26.3	5		0	
9.5		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577276.068

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 560211.058

Elevation (m.a.s.l.): 29.101

Date of Excavation: 20/09/06

Project No: 1256-0601 **Log of Test Pit: 09-TP06-02**
Project: Inuvik Airport Phase II/III ESA Site ID: 09
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	29.2				Sample analysed for F1, F2-F4, metals
0		Silty Fine Sand Trace cobbles, trace roots, dark brown, dry, debris (chain, drums, iron/pvc pipe, wires, fuel pump, fibreglass insulation, grain bag)		1		0	
1							
2							Sample analysed for BTEX, PAHs, VOC, PCB
2							
3							
4							Sample analysed for F2-F4, PAHs, metals
4							
5							
5			27.6	2		15	Sample analysed for F2-F4, PAHs, metals
5		Peat Trace sand, some roots, black, moist	27.5				
6							
6		Fine Sand Trace silt, brownish-grey, wet	27.1	3		0	End of Test Pit
7							
7							
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577268.786

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 560215.236

Elevation (m.a.s.l.): 29.19

Date of Excavation: 20/09/06

Project No: 1256-0601 **Log of Test Pit: 10-TP06-01**
Project: Inuvik Airport Phase II/III ESA Site ID: 10
Client: Transport Canada Logged By: JP
Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.3				Sample analysed for PCB, leachable test for metals
0		Organic Matter Some sand, some roots, dark brown, dry					
1			50.9				
2							Sample analysed for F2-F4, PAHs, metals
2		Fine to Medium Sand Brown, dry, some moist patches, debris (tar, drum, lids, rusted metal, wood, tires)		1		35	
3							
4							Sample analysed for F2-F4, PAHs, metals
4			49.9				
5		Peat Some roots and rootlets, brown					
5				2		25	End of Test Pit
6		Sandy Silt Trace gravel, purplish grey, dry	49.5				
6		Shale Bedrock, purple					
7			49.1				
8							
9							

Excavated By: Northwind Industries Ltd. Northing: 7577144.693

Hole Size: 1.5 X 3.0 m

Method of Excavation: Backhoe

Easting: 561095.428

Elevation (m.a.s.l.): 51.269

Date of Excavation: 19/09/06

Project No: 1256-0601 **Log of Test Pit: 10-TP06-02**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 10

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.6				
0.5		Fine Sand Trace silt, trace gravel (angular), trace roots and rootlets, purple, dry with moist patches	51.2	1		30	Sample analysed for F1, F2-F4
2		Silty Sand Trace crushed shale, grey and patches of dark brown, dry	50.7	2		25	Sample analysed for PAHs
4		Fine Sand Trace silt, grey, dry, some ice and debris (tar, tar drums (~50), drum lids, wood, rusted metal)		3		15	Sample analysed for VOC, metals
8				4		25	Sample analysed for leachable test for metals
9			48.7	5		25	Sample analysed for BTEX, PCB
9.5		End of Test Pit					Refusal at 2.9 m

Excavated By: Northwind Industries Ltd., Northing: 7577151.082

Method of Excavation: Backhoe

Date of Excavation: 19/09/06

Easting: 561102.616

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 51.573

Project No: 1256-0601 **Log of Test Pit: 10-TP06-03**

Project: Inuvik Airport Phase II/III ESA

Client: Transport Canada

Location: Inuvik, NWT

Site ID: 10

Logged By: JP

Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.8				
0.5		Fine Sand Trace silt, trace gravel (angular), trace roots and rootlets, purple, dry with moist patches	51.4	1		20	Sample analysed for VOC
2		Silty Sand Trace crushed shale, grey and patches of dark brown, dry		2		15	Sample analysed for PCB
4		Below 1.3 m debris (drums, paper, wood, metal, tar)	50.3	3		20	Sample analysed for F1, BTEX, F2-F4, leachable test for metals
6		Fine Sand, Some Crushed Shale Trace silt, trace pebbles and cobbles, purple, dry, debris (drums, paper, wood, metal, tar)		4		15	Sample analysed for PAHs, metals
9			48.9				Refusal at 2.9m
10		End of Test Pit					

Excavated By: Northwind Industries Ltd., Northing: 7577155.481

Method of Excavation: Backhoe

Date of Excavation: 19/09/06

Easting: 561107.348

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 51.817

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	51.7				Sample analysed for F1, F2-F4, metals
0.5		Sandy Silt Some rootlets, grey, dry, hard	51.3	1		55	
2		Fine Sand, Some Crushed Shale Trace silt, trace cobbles and pebbles, purple, dry, trace tar	50.5	2		50	
6		Fine Sand, Some Crushed Shale Some silt, some cobbles, purple, dry, with debris (drums, wood)		3		40	Sample analysed for BTEX, PAHs, PCB
10		Wet below 2.8 m	48.7	4		60	Sample analysed for VOC, leachable test for metals
10		End of Test Pit					

Excavated By: Northwind Industries Ltd. Northing: 7577160.625

Method of Excavation: Backhoe

Date of Excavation: 19/09/06

Hole Size: 1.5 X 3.0 m

Elevation (m.a.s.l.): 51.658

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	44.1				Sample analysed for PAHs, VOC
0.5		Sandy Silt Trace clay, trace gravel (0.5-3cm), brownish grey with some peat horizons		1		> 100% LEL	
1.5		Peat Peat with roots and rootlets, undecayed organic matter, trace gravel (up to 3cm dia.)	43.7	2		35	
2		End of Test Pit	43.6				

Excavated By: Northwind Industries Ltd. Northing: 7577143.515

Method of Excavation: Backhoe

Date of Excavation: 22/09/06

Hole Size: 0.5 X 0.5 m

Elevation (m.a.s.l.): 44.075

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	44.9				Sample analysed for F2-F4, leachable metals
0.5		Sandy Silt Some clay, trace roots, trace gravel, brownish grey, moist		1		0	
1.5		End of Test Pit	44.4				
2							
3							
4							
5							
6							

Excavated By: Northwind Industries Ltd. Northing: 7577140.197
Method of Excavation: Backhoe Easting: 561118.899
Date of Excavation: 22/09/06

Hole Size: 0.5 X 0.5 m
Elevation (m.a.s.l.): 44.852

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	45.3				Sample analysed for F1, PAHs
0.5		Sandy Silt Trace clay, trace gravel (0.5-3cm dia.), brownish grey with some peat horizons, dry	44.9				
1.5		Peat Roots and rootlets, undecayed organic matter, trace gravel (up to 3cm dia.), dry	44.8	1		0	
2		End of Test Pit					
3							
4							
5							
6							

Excavated By: Northwind Industries Ltd. Northing: 7577138.516
Method of Excavation: Backhoe Easting: 561113.281
Date of Excavation: 22/09/06

Hole Size: 0.5 X 0.5 m
Elevation (m.a.s.l.): 45.251



Project No: 1256-0601 **Log of Test Pit: 10-TP06-08**
 Project: Inuvik Airport Phase II/III ESA Site ID: 10
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	44.0				Sample analysed for BTEX, PCBs
0		Sandy Silt Trace clay, some gravel (0.5-3cm dia.), brownish grey with some peat horizons					
1		Peat Roots and rootlets, undecayed organic matter, trace gravel (up to 3cm dia.)	43.6 43.6	1		0	
2		End of Test Pit					
3							
4							
5							
6							

Excavated By: Northwind Industries Ltd. Northing: 7577129.83 Hole Size: 0.5 X 0.5 m
 Method of Excavation: Backhoe Easting: 561109.66 Elevation (m.a.s.l.): 43.974
 Date of Excavation: 22/09/06



Project No: 1256-0601 **Log of Test Pit: 10-TP06-09**
 Project: Inuvik Airport Phase II/III ESA Site ID: 10
 Client: Transport Canada Logged By: JP
 Location: Inuvik, NWT Checked By: JP

SUBSURFACE PROFILE				SAMPLE			Remarks
Depth (m)	Symbol	Description	Depth/Elev.	Sample Number	Type	Vapour (ppm)	
0		Ground Surface	43.8				Sample analysed for F2-F4 and metals
0		Sandy Silt Trace clay, trace gravel (0.5-3cm dia.), brownish grey with some peat horizons					
1		Peat Roots and rootlets, undecayed organic matter, trace gravel (up to 3cm dia.)	43.4 43.3	1		0	
2		End of Test Pit					
3							
4							
5							
6							

Excavated By: Northwind Industries Ltd. Northing: 7577128.888 Hole Size: 0.5 X 0.5 m
 Method of Excavation: Backhoe Easting: 561103.917 Elevation (m.a.s.l.): 43.750
 Date of Excavation: 22/09/06

APPENDIX C

Laboratory Certificates of Analysis



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115766

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
FRANZENV-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/09/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A643198
Received: 2006/09/18, 8:50

Sample Matrix: Leachate
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury (Leachable)	1	2006/09/19	2006/09/19	EENV SOP-00031 V.1	EPA 243.1
ICP Metals on leachate @	1	N/A	2006/09/19	EENV SOP-00034 v1	EPA SW846 6010C

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble) @	1	N/A	2006/09/19	EENV SOP-00034 V.1	SSMA 12.2.2
Chromium, Hexavalent (soil)	1	2006/09/19	2006/09/19	EENV SOP-00067 v4	SM 3500-Cr B
Mercury in Soil by CVAA	1	N/A	2006/09/19	EENV SOP-00032 V.1	EPA SW846 7471B
Elements by ICPMS (total) - Partial	1	N/A	2006/09/19	EENV SOP-00123 v2	EPA SW 846 6020 A
ICP - Acid Extractable - Soil @	1	2006/09/19	2006/09/19	EENV SOP-00034 v1	EPA SW846 6010C
Moisture	1	N/A	2006/09/18	EENV V1-00023 v2	Carrier SSMA 51.2

(1)

Encryption Key  20 Sep 2008 12:52:53 -06:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 468-3500 Ext.223

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(F), signing the reports. SCC and CA/IAL have approved this reporting process and electronic report format.

Total cover pages: 1
Edmonton: 9331 - 48th Street T6B 2R6 Tel: (780) 468-3500 FAX: (780) 466-3332
Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone: (780) 465-1212 FAX: (780) 450-4187



Maxxam Job #: A643198
Report Date: 2006/09/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

RESULTS OF CHEMICAL ANALYSES OF LEACHATE

Maxxam ID	C80487
Sampling Date	2006/09/15
COC Number	115766
Units	SAND PACK
RDL	QC Batch

Elements				
Leachable Silver (Ag)	mg/L	<0.5	0.5	1275584
Leachable Arsenic (As)	mg/L	<0.5	0.5	1275584
Leachable Boron (B)	mg/L	<50	50	1275584
Leachable Barium (Ba)	mg/L	<10	10	1275584
Leachable Beryllium (Be)	mg/L	<0.5	0.5	1275584
Leachable Cadmium (Cd)	mg/L	<0.1	0.1	1275584
Leachable Cobalt (Co)	mg/L	<10	10	1275584
Leachable Chromium (Cr)	mg/L	<0.5	0.5	1275584
Leachable Copper (Cu)	mg/L	<10	10	1275584
Leachable Iron (Fe)	mg/L	<100	100	1275584
Leachable Nickel (Ni)	mg/L	<0.5	0.5	1275584
Leachable Lead (Pb)	mg/L	<0.5	0.5	1275584
Leachable Antimony (Sb)	mg/L	<50	50	1275584
Leachable Selenium (Se)	mg/L	<0.1	0.1	1275584
Leachable Thallium (Tl)	mg/L	<0.5	0.5	1275584
Leachable Uranium (U)	mg/L	<0.5	0.5	1275584
Leachable Vanadium (V)	mg/L	<5	5	1275584
Leachable Zinc (Zn)	mg/L	<50	50	1275584
Leachable Zirconium (Zr)	mg/L	<50	50	1275584

RDL = Reportable Detection Limit

ELEMENTS BY ATOMIC SPECTROSCOPY (LEACHATE)

Maxxam ID	C80487		
Sampling Date	2006/09/15		
COC Number	115766		
	Units	SAND PACK	RDL QC Batch

Elements				
Leachable Mercury (Hg)	ug/L	<0.05	0.05	1275814
RDL = Reportable Detection Limit				

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID	C80487		
Sampling Date	2006/09/15		
COC Number	115766		
	Units	SAND PACK	RDL QC Batch

Elements				
Soluble (Hot water) Boron (B)	mg/kg	<0.1	0.1	1275410
Mercury (Hg)	mg/kg	<0.05	0.05	1275740
Metals				
Soluble (5:1) Hex. Chromium (Cr 6+)	mg/kg	<0.3	0.3	1275131
Physical Properties				
Moisture	%	0.9	0.3	1274281
RDL = Reportable Detection Limit				



Maxxam Job #: A643198
Report Date: 2006/09/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		C80487		
Sampling Date		2006/09/15		
COC Number		115766		
	Units	SAND PACK	RDL	QC Batch

Elements				
Total Aluminum (Al)	mg/kg	1260	10	1275154
Total Antimony (Sb)	mg/kg	<2	2	1275154
Total Arsenic (As)	mg/kg	2	1	1275593
Total Barium (Ba)	mg/kg	25.5	0.2	1275154
Total Beryllium (Be)	mg/kg	<0.1	0.1	1275154
Total Bismuth (Bi)	mg/kg	<10	10	1275154
Total Cadmium (Cd)	mg/kg	<0.2	0.2	1275154
Total Calcium (Ca)	mg/kg	368000	20	1275154
Total Chromium (Cr)	mg/kg	2	1	1275154
Total Cobalt (Co)	mg/kg	1.3	0.4	1275154
Total Copper (Cu)	mg/kg	3	2	1275154
Total Iron (Fe)	mg/kg	1970	10	1275154
Total Lead (Pb)	mg/kg	<10	10	1275154
Total Lithium (Li)	mg/kg	1.6	0.4	1275154
Total Magnesium (Mg)	mg/kg	14600	10	1275154
Total Manganese (Mn)	mg/kg	67.0	0.4	1275154
Total Molybdenum (Mo)	mg/kg	2.5	0.5	1275593
Total Nickel (Ni)	mg/kg	7	4	1275154
Total Phosphorus (P)	mg/kg	559	4	1275154
Total Potassium (K)	mg/kg	249	20	1275154
Total Selenium (Se)	mg/kg	<0.5	0.5	1275593
Total Silver (Ag)	mg/kg	<1	1	1275154
Total Sodium (Na)	mg/kg	98	10	1275154
Total Strontium (Sr)	mg/kg	160	0.4	1275154
Total Sulphur (S)	mg/kg	707	40	1275154
Total Thallium (Tl)	mg/kg	<1	1	1275593
Total Tin (Sn)	mg/kg	5	2	1275154
Total Titanium (Ti)	mg/kg	12.1	0.8	1275154
Total Uranium (U)	mg/kg	3.8	0.2	1275593
Total Vanadium (V)	mg/kg	6	2	1275154
Total Zinc (Zn)	mg/kg	10	2	1275154
Total Zirconium (Zr)	mg/kg	<1	1	1275154

RDL = Reportable Detection Limit



Maxxam Job #: A643198
Report Date: 2006/09/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

General Comments

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: EA643198

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1274281 MD1	BLANK	Moisture	2006/09/18	<0.3		%	20
	RPD [C80487-01]	Moisture	2006/09/18	NC			
1275131 AL2	Calibration Check	Soluble (5:1) Hex. Chromium (Cr 6+)	2006/09/19		102	%	75 - 125
	MATRIX SPIKE						
	[C80487-01]	Soluble (5:1) Hex. Chromium (Cr 6+)	2006/09/19		99	%	75 - 125
	RPD [C80487-01]	Soluble (5:1) Hex. Chromium (Cr 6+)	2006/09/19	<0.3		mg/kg	35
1275154 MC3	Calibration Check	Total Aluminum (Al)	2006/09/19		103	%	80 - 120
		Total Antimony (Sb)	2006/09/19		102	%	80 - 120
		Total Barium (Ba)	2006/09/19		99	%	80 - 120
		Total Beryllium (Be)	2006/09/19		100	%	80 - 120
		Total Bismuth (Bi)	2006/09/19		99	%	80 - 120
		Total Cadmium (Cd)	2006/09/19		102	%	80 - 120
		Total Calcium (Ca)	2006/09/19		95	%	80 - 120
		Total Chromium (Cr)	2006/09/19		100	%	80 - 120
		Total Cobalt (Co)	2006/09/19		101	%	80 - 120
		Total Copper (Cu)	2006/09/19		101	%	80 - 120
		Total Iron (Fe)	2006/09/19		99	%	80 - 120
		Total Lead (Pb)	2006/09/19		100	%	80 - 120
		Total Lithium (Li)	2006/09/19		101	%	80 - 120
		Total Magnesium (Mg)	2006/09/19		103	%	80 - 120
		Total Manganese (Mn)	2006/09/19		102	%	80 - 120
		Total Nickel (Ni)	2006/09/19		102	%	80 - 120
		Total Phosphorus (P)	2006/09/19		101	%	80 - 120
		Total Potassium (K)	2006/09/19		101	%	80 - 120
		Total Silver (Ag)	2006/09/19		102	%	80 - 120
		Total Sodium (Na)	2006/09/19		102	%	80 - 120
		Total Strontium (Sr)	2006/09/19		100	%	80 - 120
		Total Tin (Sn)	2006/09/19		99	%	80 - 120
		Total Titanium (Ti)	2006/09/19		99	%	80 - 120
		Total Vanadium (V)	2006/09/19		101	%	80 - 120
		Total Zinc (Zn)	2006/09/19		96	%	80 - 120
	MATRIX SPIKE						
		Total Antimony (Sb)	2006/09/19		92	%	75 - 125
		Total Barium (Ba)	2006/09/19		94	%	75 - 125
		Total Beryllium (Be)	2006/09/19		102	%	75 - 125
		Total Cadmium (Cd)	2006/09/19		106	%	75 - 125
		Total Chromium (Cr)	2006/09/19		99	%	75 - 125
		Total Cobalt (Co)	2006/09/19		95	%	75 - 125
		Total Copper (Cu)	2006/09/19		103	%	75 - 125
		Total Lead (Pb)	2006/09/19		95	%	75 - 125
		Total Lithium (Li)	2006/09/19		103	%	75 - 125
		Total Manganese (Mn)	2006/09/19		112	%	75 - 125
		Total Nickel (Ni)	2006/09/19		97	%	75 - 125
		Total Sodium (Na)	2006/09/19		118	%	75 - 125
		Total Strontium (Sr)	2006/09/19		97	%	75 - 125
		Total Titanium (Ti)	2006/09/19		105	%	75 - 125
		Total Vanadium (V)	2006/09/19		106	%	75 - 125
		Total Zinc (Zn)	2006/09/19		94	%	75 - 125
	SPIKE						
		Total Antimony (Sb)	2006/09/19		104	%	N/A
		Total Barium (Ba)	2006/09/19		101	%	N/A
		Total Beryllium (Be)	2006/09/19		108	%	N/A
		Total Cadmium (Cd)	2006/09/19		104	%	N/A
		Total Chromium (Cr)	2006/09/19		100	%	N/A
		Total Cobalt (Co)	2006/09/19		101	%	N/A
		Total Copper (Cu)	2006/09/19		103	%	N/A

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643198

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275154 MC3	SPIKE	Total Lead (Pb)	2006/09/19		101	%	N/A
		Total Lithium (Li)	2006/09/19		101	%	N/A
		Total Manganese (Mn)	2006/09/19		103	%	N/A
		Total Nickel (Ni)	2006/09/19		104	%	N/A
		Total Sodium (Na)	2006/09/19		108	%	N/A
		Total Strontium (Sr)	2006/09/19		99	%	N/A
		Total Titanium (Ti)	2006/09/19		99	%	N/A
		Total Vanadium (V)	2006/09/19		100	%	N/A
		Total Zinc (Zn)	2006/09/19		102	%	N/A
	BLANK						
		Total Aluminum (Al)	2006/09/19	<10		mg/kg	
		Total Antimony (Sb)	2006/09/19	<2		mg/kg	
		Total Barium (Ba)	2006/09/19	<0.2		mg/kg	
		Total Beryllium (Be)	2006/09/19	<0.1		mg/kg	
		Total Bismuth (Bi)	2006/09/19	<10		mg/kg	
		Total Cadmium (Cd)	2006/09/19	<0.2		mg/kg	
		Total Calcium (Ca)	2006/09/19	<20		mg/kg	
		Total Chromium (Cr)	2006/09/19	<1		mg/kg	
		Total Cobalt (Co)	2006/09/19	<0.4		mg/kg	
		Total Copper (Cu)	2006/09/19	<2		mg/kg	
		Total Iron (Fe)	2006/09/19	<10		mg/kg	
		Total Lead (Pb)	2006/09/19	<10		mg/kg	
		Total Lithium (Li)	2006/09/19	<0.4		mg/kg	
		Total Magnesium (Mg)	2006/09/19	<10		mg/kg	
		Total Manganese (Mn)	2006/09/19	<0.4		mg/kg	
		Total Nickel (Ni)	2006/09/19	<4		mg/kg	
		Total Phosphorus (P)	2006/09/19	<4		mg/kg	
		Total Potassium (K)	2006/09/19	<20		mg/kg	
		Total Silver (Ag)	2006/09/19	<1		mg/kg	
		Total Sodium (Na)	2006/09/19	<10		mg/kg	
		Total Strontium (Sr)	2006/09/19	<0.4		mg/kg	
		Total Sulphur (S)	2006/09/19	<40		mg/kg	
		Total Tin (Sn)	2006/09/19	<2		mg/kg	
		Total Titanium (Ti)	2006/09/19	<0.8		mg/kg	
		Total Vanadium (V)	2006/09/19	<2		mg/kg	
		Total Zinc (Zn)	2006/09/19	<2		mg/kg	
	RPD						
		Total Zirconium (Zr)	2006/09/19	<1		mg/kg	
		Total Aluminum (Al)	2006/09/19	15.7		%	35
		Total Antimony (Sb)	2006/09/19	NC		%	35
		Total Barium (Ba)	2006/09/19	11.3		%	35
		Total Beryllium (Be)	2006/09/19	3.1		%	35
		Total Bismuth (Bi)	2006/09/19	NC		%	35
		Total Cadmium (Cd)	2006/09/19	NC		%	35
		Total Calcium (Ca)	2006/09/19	11.3		%	35
		Total Chromium (Cr)	2006/09/19	11.8		%	35
		Total Cobalt (Co)	2006/09/19	4.5		%	35
		Total Copper (Cu)	2006/09/19	1		%	35
		Total Iron (Fe)	2006/09/19	6.2		%	35
		Total Lead (Pb)	2006/09/19	NC		%	35
		Total Lithium (Li)	2006/09/19	10.4		%	35
		Total Magnesium (Mg)	2006/09/19	1.3		%	35
		Total Manganese (Mn)	2006/09/19	1.1		%	35
		Total Nickel (Ni)	2006/09/19	2.8		%	35
		Total Phosphorus (P)	2006/09/19	11.5		%	35
		Total Potassium (K)	2006/09/19	18.7		%	35
		Total Silver (Ag)	2006/09/19	NC		%	35
		Total Sodium (Na)	2006/09/19	8.8		%	35

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA643198

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275154 MC3	RPD	Total Strontium (Sr)	2006/09/19	3.6	%	35	
		Total Sulphur (S)	2006/09/19	NC	%	35	
		Total Tin (Sn)	2006/09/19	NC	%	35	
		Total Titanium (Ti)	2006/09/19	1.9	%	35	
		Total Vanadium (V)	2006/09/19	13.5	%	35	
		Total Zinc (Zn)	2006/09/19	3.7	%	35	
		Total Zirconium (Zr)	2006/09/19	NC	%	35	
		Soluble (Hot water) Boron (B)	2006/09/19		102	%	N/A
		Soluble (Hot water) Boron (B)	2006/09/19		98	%	80 - 120
		Soluble (Hot water) Boron (B)	2006/09/19		106	%	85 - 115
1275410 MC3	MATRIX SPIKE	Soluble (Hot water) Boron (B)	2006/09/19	<0.1	mg/kg		
		Soluble (Hot water) Boron (B)	2006/09/19	NC	%	35	
		Leachable Silver (Ag)	2006/09/19		103	%	80 - 120
		Leachable Arsenic (As)	2006/09/19		101	%	80 - 120
		Leachable Boron (B)	2006/09/19		102	%	80 - 120
		Leachable Barium (Ba)	2006/09/19		99	%	80 - 120
		Leachable Beryllium (Be)	2006/09/19		100	%	80 - 120
		Leachable Cadmium (Cd)	2006/09/19		104	%	80 - 120
		Leachable Cobalt (Co)	2006/09/19		101	%	80 - 120
		Leachable Chromium (Cr)	2006/09/19		101	%	80 - 120
1275584 MC3	RPD	Leachable Copper (Cu)	2006/09/19		100	%	80 - 120
		Leachable Iron (Fe)	2006/09/19		98	%	80 - 120
		Leachable Nickel (Ni)	2006/09/19		104	%	80 - 120
		Leachable Lead (Pb)	2006/09/19		100	%	80 - 120
		Leachable Antimony (Sb)	2006/09/19		102	%	80 - 120
		Leachable Selenium (Se)	2006/09/19		101	%	80 - 120
		Leachable Thallium (Tl)	2006/09/19		99	%	80 - 120
		Leachable Uranium (U)	2006/09/19		99	%	80 - 120
		Leachable Vanadium (V)	2006/09/19		102	%	80 - 120
		Leachable Zinc (Zn)	2006/09/19		103	%	80 - 120
	MATRIX SPIKE	Leachable Zirconium (Zr)	2006/09/19		97	%	80 - 120
		Leachable Arsenic (As)	2006/09/19		103	%	75 - 125
		Leachable Beryllium (Be)	2006/09/19		90	%	75 - 125
		Leachable Cadmium (Cd)	2006/09/19		103	%	75 - 125
		Leachable Chromium (Cr)	2006/09/19		86	%	75 - 125
		Leachable Nickel (Ni)	2006/09/19		85	%	75 - 125
		Leachable Lead (Pb)	2006/09/19		87	%	75 - 125
		Leachable Selenium (Se)	2006/09/19		117	%	75 - 125
		Leachable Thallium (Tl)	2006/09/19		79	%	75 - 125
		Leachable Silver (Ag)	2006/09/19	<0.5	mg/L		
	BLANK	Leachable Arsenic (As)	2006/09/19	<0.5	mg/L		
		Leachable Boron (B)	2006/09/19	<50	mg/L		
		Leachable Barium (Ba)	2006/09/19	<10	mg/L		
		Leachable Beryllium (Be)	2006/09/19	<0.5	mg/L		
		Leachable Cadmium (Cd)	2006/09/19	<0.1	mg/L		
		Leachable Cobalt (Co)	2006/09/19	<10	mg/L		
		Leachable Chromium (Cr)	2006/09/19	<0.5	mg/L		
		Leachable Copper (Cu)	2006/09/19	<10	mg/L		
		Leachable Iron (Fe)	2006/09/19	<100	mg/L		
		Leachable Nickel (Ni)	2006/09/19	<0.5	mg/L		
	BLANK	Leachable Lead (Pb)	2006/09/19	<0.5	mg/L		
		Leachable Antimony (Sb)	2006/09/19	<50	mg/L		
		Leachable Selenium (Se)	2006/09/19	<0.1	mg/L		
		Leachable Thallium (Tl)	2006/09/19	<0.5	mg/L		
		Leachable Uranium (U)	2006/09/19	<0.5	mg/L		
		Leachable Vanadium (V)	2006/09/19	<5	mg/L		

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA643198

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275584 MC3	BLANK	Leachable Zinc (Zn)	2006/09/19	<50		mg/L	
		Leachable Zirconium (Zr)	2006/09/19	<50		mg/L	
		Leachable Silver (Ag)	2006/09/19	NC		%	35
		Leachable Arsenic (As)	2006/09/19	NC		%	35
		Leachable Boron (B)	2006/09/19	NC		%	35
		Leachable Barium (Ba)	2006/09/19	NC		%	35
		Leachable Beryllium (Be)	2006/09/19	NC		%	35
		Leachable Cadmium (Cd)	2006/09/19	NC		%	35
		Leachable Cobalt (Co)	2006/09/19	NC		%	35
		Leachable Chromium (Cr)	2006/09/19	NC		%	35
	RPD	Leachable Copper (Cu)	2006/09/19	NC		%	35
		Leachable Iron (Fe)	2006/09/19	NC		%	35
		Leachable Nickel (Ni)	2006/09/19	NC		%	35
		Leachable Lead (Pb)	2006/09/19	NC		%	35
		Leachable Antimony (Sb)	2006/09/19	NC		%	35
		Leachable Selenium (Se)	2006/09/19	NC		%	35
		Leachable Thallium (Tl)	2006/09/19	NC		%	35
		Leachable Uranium (U)	2006/09/19	NC		%	35
		Leachable Vanadium (V)	2006/09/19	NC		%	35
		Leachable Zinc (Zn)	2006/09/19	NC		%	35
1275593 AC4	Calibration Check	Leachable Zirconium (Zr)	2006/09/19	NC		%	35
		Total Arsenic (As)	2006/09/19		102	%	80 - 120
		Total Molybdenum (Mo)	2006/09/19		103	%	80 - 120
		Total Selenium (Se)	2006/09/19		98	%	80 - 120
		Total Thallium (Tl)	2006/09/19		97	%	80 - 120
		Total Uranium (U)	2006/09/19		97	%	80 - 120
		Total Arsenic (As)	2006/09/19		92	%	80 - 120
		Total Selenium (Se)	2006/09/19		95	%	80 - 120
		Total Thallium (Tl)	2006/09/19		95	%	80 - 120
		Total Uranium (U)	2006/09/19		13.4	%	35
	MATRIX SPIKE	Total Arsenic (As)	2006/09/19	<1	mg/kg		
		Total Molybdenum (Mo)	2006/09/19	<0.5	mg/kg		
		Total Selenium (Se)	2006/09/19	<0.5	mg/kg		
		Total Thallium (Tl)	2006/09/19	<1	mg/kg		
		Total Uranium (U)	2006/09/19	<0.2	mg/kg		
		Total Arsenic (As)	2006/09/19	13.4	%		35
		Total Molybdenum (Mo)	2006/09/19	NC	%		35
		Total Selenium (Se)	2006/09/19	NC	%		35
		Total Thallium (Tl)	2006/09/19	NC	%		35
		Total Uranium (U)	2006/09/19	13.4	%		35
1275740 YY1	Calibration Check	Mercury (Hg)	2006/09/19		103	%	85 - 115
		QC STANDARD	2006/09/19		106	%	N/A
		BLANK	2006/09/19	<0.05	mg/kg		
		RPD	2006/09/19	NC		%	35
		Leachable Mercury (Hg)	2006/09/19		105	%	85 - 115
		MATRIX SPIKE	2006/09/19		94	%	85 - 115
		LEACHATE BLAN	2006/09/19	<0.05	ug/L		
		RPD	2006/09/19	NC		%	35
		Leachable Mercury (Hg)	2006/09/19				
		Leachable Mercury (Hg)	2006/09/19				

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332
Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115767, 115768, 115769, 115770, 115772, 1157

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA

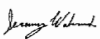
Report Date: 2006/11/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A643216
Received: 2006/09/18, 8:50

Sample Matrix: Soil
Samples Received: 24

Analysis	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
FI-BTEX Soil Cal	1	2006/09/18	2006/09/18		
CCME Hydrocarbons (F1; MeOH; HSGC)	1	2006/09/18	2006/09/19	EBNVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in soil)	15	2006/09/19	2006/09/19	EBNVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	3	2006/09/20	2006/09/20	EBNVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	3	2006/09/29	2006/10/02	EBNVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	3	2006/10/02	2006/10/02	EBNVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F4G in soil)	1	2006/09/22	2006/09/22	EBNVSOP-00121 v1	CWS PHCS Tier 1
Elements by ICP - Soils	3	N/A	2006/11/02	EBNVSOP-00034	EPA 6010C
Elements by ICP - Soils	1	N/A	2006/11/07	EBNVSOP-00034	EPA 6010C
Elements by ICPMS - Soils	3	N/A	2006/11/02	EBNVSOP-00123	EPA 6020A
Elements by ICPMS - Soils	1	N/A	2006/11/07	EBNVSOP-00123	EPA 6020A
Moisture	16	N/A	2006/09/18	EBNVW1-00023	Carter SSMA 51.2
Moisture	3	N/A	2006/09/20	EBNVW1-00023	Carter SSMA 51.2
Moisture	2	N/A	2006/09/29	EBNVW1-00023	Carter SSMA 51.2
Moisture	3	N/A	2006/10/02	EBNVW1-00023	Carter SSMA 51.2
PAH in Soil by GC/MS (Extended)	2	2006/09/19	2006/09/21	EBNVSOP-00010 v3	EPA 3510C/8270D
VOCs in Soil by P&T GC/MS (Std List)	2	N/A	2006/09/20	EBNVSOP-00003 V.3	EPA SW843 8260 B

Encryption Key  10 Nov 2006 10:21:41 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CARAL have approved this reporting process and electronic report format.

Total cover pages: 1
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Page 1 of 24



Maxxam Job #: A643216
Report Date: 2006/11/10

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: JP

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID	C80522	C80524	C80525	C80529	C80532	
Sampling Date	2006/09/15	2006/09/15	2006/09/15	2006/09/15	2006/09/15	
COC Number	115767	115767	115767	115767	115767	
Units	01-TP06-07-1	01-TP06-07-3	01-TP06-08-1	01-TP06-09-2	01-TP06-10-2	RDL QC Batch

Physical Properties						
Moisture	%	4.2	6.2	4.1	8.2	4.8 0.3 1274104

RDL = Reportable Detection Limit

Maxxam ID	C80534	C80540	C80542	C80547	C80553	
Sampling Date	2006/09/15	2006/09/15	2006/09/15	2006/09/15	2006/09/15	
COC Number	115768	115768	115768	115769	115769	
Units	01-TP06-11-1	01-TP06-12-3	01-TP06-13-1	01-TP06-14-3	01-TP06-15-3	RDL QC Batch

Physical Properties						
Moisture	%	5.8	7.4	13.7	5.6	10.1 0.3 1274104

RDL = Reportable Detection Limit

Maxxam ID	C80556	C80559	C80561	
Sampling Date	2006/09/15	2006/09/15	2006/09/15	
COC Number	115769	115769	115769	
Units	01-TP06-16-3	01-TP06-17-3	QC Batch	01-TP06-DUP1 RDL QC Batch

Physical Properties						
Moisture	%	4.9	4.1	1274104	4.9	0.3 1291437

RDL = Reportable Detection Limit

Maxxam ID	C80562	C80576	C80578	
Sampling Date	2006/09/16	2006/09/16	2006/09/16	
COC Number	115770	115770	115770	
Units	01-TP06-18-01	QC Batch	01-TP06-18-02	QC Batch 01-TP06-19-01 RDL QC Batch

Physical Properties						
Moisture	%	3.2	1276709	4.2	1290090	3.6 0.3 1276709

RDL = Reportable Detection Limit

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID	C80584	C80586	C80587		
Sampling Date	2006/09/16	2006/09/16	2006/09/16		
COC Number	115770	115770	115772		
Units 01-TP06-20-04 QC Batch 01-TP06-21-02 01-TP06-21-03 RDL QC Batch					

Physical Properties					
Moisture	%	4.6	1276709	5.3	8.3 0.3 1274104

RDL = Reportable Detection Limit

Maxxam ID	C80655	C80658	C80662		
Sampling Date	2006/09/16	2006/09/16	2006/09/16		
COC Number	115772	115772	115772		
Units 01-TP06-21-04 QC Batch 01-TP06-22-03 QC Batch 01-TP06-DUP-02 RDL QC Batch					

Physical Properties					
Moisture	%	7.8	1290090	4.8	1274104 5.8 0.3 1291437

RDL = Reportable Detection Limit

Maxxam ID	C80663	C80669			
Sampling Date	2006/09/16	2006/09/16			
COC Number	115772	115771			
Units 01-TP06-23-01 QC Batch 01-TP06-DUP-03 RDL QC Batch					

Physical Properties					
Moisture	%	3.1	1274104	7.7	0.3 1291437

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID	C80522	C80524	C80525	C80529		
Sampling Date	2006/09/15	2006/09/15	2006/09/15	2006/09/15		
COC Number	115767	115767	115767	115767		
Units 01-TP06-07-1 01-TP06-07-3 01-TP06-08-1 01-TP06-09-2 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	17	30	17	48	10 1275137
F3 (C16-C34 Hydrocarbons)	mg/kg	242	365	58	587	10 1275137
F4 (C34-C50 Hydrocarbons)	mg/kg	51	73	<10	114	10 1275137
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	1 1275137
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	71	69	68	70	1275137

RDL = Reportable Detection Limit

Maxxam ID	C80532	C80534	C80540	C80542		
Sampling Date	2006/09/15	2006/09/15	2006/09/15	2006/09/15		
COC Number	115767	115768	115768	115768		
Units 01-TP06-10-2 01-TP06-11-1 01-TP06-12-3 01-TP06-13-1 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	31	31	70	25	10 1275137
F3 (C18-C34 Hydrocarbons)	mg/kg	451	342	990	362	10 1275137
F4 (C34-C50 Hydrocarbons)	mg/kg	64	67	163	55	10 1275137
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	1 1275137
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	66	71	70	77	1275137

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C80547	C80553	C80556	C80559		
Sampling Date		2006/09/15	2006/09/15	2006/09/15	2006/09/15		
COC Number		115769	115769	115769	115769		
	Units	01-TP06-14-3	01-TP06-15-3	01-TP06-16-3	01-TP06-17-3	RDL QC Batch	

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	16	32	15	<10	10	1275137
F3 (C16-C34 Hydrocarbons)	mg/kg	137	532	94	13	10	1275137
F4 (C34-C50 Hydrocarbons)	mg/kg	62	26	31	<10	10	1275137
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	1	1275137
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	70	76	72	69		1275137

RDL = Reportable Detection Limit

Maxxam ID		C80561		C80582			
Sampling Date		2006/09/15		2006/09/16			
COC Number		115769		115770			
	Units	01-TP06-DUP1	QC Batch	01-TP06-18-01	RDL QC Batch		

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	20	1291480	<10	10	1276802	
F3 (C16-C34 Hydrocarbons)	mg/kg	338	1291480	2330	10	1276802	
F4 (C34-C50 Hydrocarbons)	mg/kg	120	1291480	1960	10	1276802	
Reached Baseline at C50	mg/kg	Yes	1291480	No	1	1276802	
OIL & GREASE							
F4SG (Heavy Hydrocarbons-SilicaGel)	mg/kg			3200	200	1280633	
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	79	1291480	81		1276802	

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C80576		C80578			
Sampling Date		2006/09/16		2006/09/16			
COC Number		115770		115770			
	Units	01-TP06-18-02	QC Batch	01-TP06-19-01	RDL QC Batch		

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	1290350	<10	10	1276802	
F3 (C16-C34 Hydrocarbons)	mg/kg	394	1290350	52	10	1276802	
F4 (C34-C50 Hydrocarbons)	mg/kg	337	1290350	38	10	1276802	
Reached Baseline at C50	mg/kg	Yes	1290350	Yes	1	1276802	
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	89	1290350	82		1276802	

RDL = Reportable Detection Limit

Maxxam ID		C80584		C80586			
Sampling Date		2006/09/16		2006/09/16			
COC Number		115770		115770			
	Units	01-TP06-20-04	QC Batch	01-TP06-21-02	RDL QC Batch		

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	13	1276802	3930	10	1290350	
F3 (C16-C34 Hydrocarbons)	mg/kg	57	1276802	1260	10	1290350	
F4 (C34-C50 Hydrocarbons)	mg/kg	23	1276802	14	10	1290350	
Reached Baseline at C50	mg/kg	Yes	1276802	Yes	1	1290350	
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	80	1276802	84		1290350	

RDL = Reportable Detection Limit



Maxxam Job #: A643216
Report Date: 2006/11/10

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
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PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C80587		C80655		
Sampling Date		2006/09/16		2006/09/16		
COC Number		115772		115772		
Units 01-TP06-21-03 QC Batch 01-TP06-21-04 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	150	1274160		10	1274160
F1 (C06-C10) - BTX	mg/kg	150	1274205		10	1274205
F2 (C10-C16 Hydrocarbons)	mg/kg	3810	1275137	2840	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	1110	1275137	1060	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	<10	1275137	18	10	1290350
Reached Baseline at C50	mg/kg	Yes	1275137	Yes	1	1290350
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	115	1274160			
O-TERPHENYL (sur.)	%	79	1275137	86		1290350

RDL = Reportable Detection Limit

Maxxam ID		C80658		C80662		
Sampling Date		2006/09/16		2006/09/16		
COC Number		115772		115772		
Units 01-TP06-22-03 QC Batch 01-TP06-DUP-02 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	11	1275137	3750	10	1291480
F3 (C16-C34 Hydrocarbons)	mg/kg	31	1275137	1260	10	1291480
F4 (C34-C50 Hydrocarbons)	mg/kg	<10	1275137	14	10	1291480
Reached Baseline at C50	mg/kg	Yes	1275137	Yes	1	1291480
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	65	1275137	83		1291480

RDL = Reportable Detection Limit



Maxxam Job #: A643216
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FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
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PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C80663		C80669		
Sampling Date		2006/09/16		2006/09/16		
COC Number		115772		115771		
Units 01-TP06-23-01 QC Batch 01-TP06-DUP-03 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	17	1275137	2770	10	1291480
F3 (C16-C34 Hydrocarbons)	mg/kg	123	1275137	919	10	1291480
F4 (C34-C50 Hydrocarbons)	mg/kg	207	1275137	<10	10	1291480
Reached Baseline at C50	mg/kg	Yes	1275137	Yes	1	1291480
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	73	1275137	79		1291480

RDL = Reportable Detection Limit



Maxxam Job #: A843216
Report Date: 2006/11/10

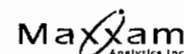
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Site Reference:
Sampler Initials: JP

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C80525	C80586		
Sampling Date	2006/09/15	2006/09/16		
COC Number	115767	115770		
Units	01-TP06-08-1	01-TP06-21-02	RDL	QC Batch

Polycyclic Aromatics					
Naphthalene	mg/kg	0.11	0.22	0.05	1275926
2-Methylnaphthalene	mg/kg	0.09	0.11	0.05	1275926
Acenaphthylene	mg/kg	<0.05	<0.05	0.05	1275926
Acenaphthene	mg/kg	0.39	<0.05	0.05	1275926
Fluorene	mg/kg	0.17	0.12	0.05	1275926
Phenanthrene	mg/kg	0.20	<0.05	0.05	1275926
Anthracene	mg/kg	0.18	<0.05	0.05	1275926
Fluoranthene	mg/kg	1.1	<0.05	0.05	1275926
Pyrene	mg/kg	0.75	<0.05	0.05	1275926
Benzo(a)anthracene	mg/kg	0.14	<0.05	0.05	1275926
Chrysene	mg/kg	0.14	<0.05	0.05	1275926
Benzo(b,k)fluoranthene	mg/kg	0.06	<0.05	0.05	1275926
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	0.05	1275926
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.05	1275926
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	0.05	1275926
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	0.05	1275926
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	0.05	1275926
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	118	119		1275926
D12-BENZO(A)PYRENE (sur.)	%	102	102		1275926
D8-ACENAPHTHYLENE (sur.)	%	109	118		1275926
TERPHENYL-D14 (sur.)	%	119	117		1275926

RDL = Reportable Detection Limit



Maxxam Job #: A843216
Report Date: 2006/11/10

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: JP

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID	C80540	C80562	C80587		
Sampling Date	2006/09/15	2006/09/16	2006/09/16		
COC Number	115768	115770	115772		
Units	01-TP06-12-3	01-TP06-18-01	01-TP06-21-03	RDL	QC Batch

Elements					
Total Aluminum (Al)	mg/kg	7350	7620	7680	10 1332906
Total Antimony (Sb)	mg/kg	<1	<1	<1	1 1332769
Total Arsenic (As)	mg/kg	9	5	3	1 1332769
Total Barium (Ba)	mg/kg	107	165	140	10 1332769
Total Beryllium (Be)	mg/kg	0.8	0.9	1.1	0.4 1332769
Total Boron (B)	mg/kg	12	8	10	2 1332906
Total Cadmium (Cd)	mg/kg	0.5	0.4	0.2	0.1 1332769
Total Calcium (Ca)	mg/kg	114000	120000	105000	50 1332906
Total Chromium (Cr)	mg/kg	21	17	15	1 1332769
Total Cobalt (Co)	mg/kg	11	13	13	1 1332769
Total Copper (Cu)	mg/kg	32	26	45	5 1332769
Total Iron (Fe)	mg/kg	18300	18800	21500	10 1332906
Total Lead (Pb)	mg/kg	39	70	13	1 1332769
Total Lithium (Li)	mg/kg	17	17	18	10 1332906
Total Magnesium (Mg)	mg/kg	44100	38400	41500	20 1332906
Total Manganese (Mn)	mg/kg	394	343	351	10 1332906
Total Molybdenum (Mo)	mg/kg	0.7	0.6	<0.4	0.4 1332769
Total Nickel (Ni)	mg/kg	22	24	24	1 1332769
Total Phosphorus (P)	mg/kg	680	708	436	20 1332906
Total Potassium (K)	mg/kg	1230	1060	1330	30 1332906
Total Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	0.5 1332769
Total Silver (Ag)	mg/kg	<1	<1	<1	1 1332769
Total Sodium (Na)	mg/kg	203	97	185	50 1332906
Total Strontium (Sr)	mg/kg	78	88	71	10 1332906
Total Sulphur (S)	mg/kg	972	648	3050	20 1332906
Total Thallium (Tl)	mg/kg	<0.3	<0.3	<0.3	0.3 1332769
Total Tin (Sn)	mg/kg	<1	<1	<1	1 1332769
Total Uranium (U)	mg/kg	<1	<1	<1	1 1332769
Total Vanadium (V)	mg/kg	14	14	14	1 1332769
Total Zinc (Zn)	mg/kg	90	162	57	10 1332769

RDL = Reportable Detection Limit

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID	C80569		
Sampling Date	2006/09/16		
COC Number	115771		
Units	01-TP06-DUP-03	RDL	QC Batch

Elements				
Total Aluminum (Al)	mg/kg	8700	10	1338469
Total Antimony (Sb)	mg/kg	<1	1	1339329
Total Arsenic (As)	mg/kg	3	1	1339329
Total Barium (Ba)	mg/kg	93	10	1339329
Total Beryllium (Be)	mg/kg	0.8	0.4	1339329
Total Boron (B)	mg/kg	13	2	1338469
Total Cadmium (Cd)	mg/kg	0.2	0.1	1339329
Total Calcium (Ca)	mg/kg	113000	50	1338469
Total Chromium (Cr)	mg/kg	10	1	1339329
Total Cobalt (Co)	mg/kg	9	1	1339329
Total Copper (Cu)	mg/kg	32	5	1339329
Total Iron (Fe)	mg/kg	21300	10	1338469
Total Lead (Pb)	mg/kg	9	1	1339329
Total Lithium (Li)	mg/kg	18	10	1338469
Total Magnesium (Mg)	mg/kg	46000	20	1338469
Total Manganese (Mn)	mg/kg	386	10	1338469
Total Molybdenum (Mo)	mg/kg	<0.4	0.4	1339329
Total Nickel (Ni)	mg/kg	17	1	1339329
Total Phosphorus (P)	mg/kg	539	20	1338469
Total Potassium (K)	mg/kg	1620	30	1338469
Total Selenium (Se)	mg/kg	<0.5	0.5	1339329
Total Silver (Ag)	mg/kg	<1	1	1339329
Total Sodium (Na)	mg/kg	153	50	1338469
Total Strontium (Sr)	mg/kg	76	10	1338469
Total Sulphur (S)	mg/kg	2320	20	1338469
Total Thallium (Tl)	mg/kg	<0.3	0.3	1339329
Total Tin (Sn)	mg/kg	<1	1	1339329
Total Uranium (U)	mg/kg	<1	1	1339329
Total Vanadium (V)	mg/kg	10	1	1339329
Total Zinc (Zn)	mg/kg	42	10	1339329

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C80525	C80567		
Sampling Date	2006/09/15	2006/09/16		
COC Number	115787	115772		
Units	01-TP06-08-1	01-TP06-21-03	RDL	QC Batch

Volatiles				
Benzene	mg/kg	<0.005	<0.005	0.005 1275070
Bromodichloromethane	mg/kg	<0.03	<0.03	0.03 1275070
Bromofom	mg/kg	<0.05	<0.05	0.05 1275070
Bromomethane	mg/kg	<0.02	<0.02	0.02 1275070
Carbon tetrachloride	mg/kg	<0.02	<0.02	0.02 1275070
Chlorobenzene	mg/kg	<0.02	<0.02	0.02 1275070
Chlorodibromomethane	mg/kg	<0.02	<0.02	0.02 1275070
Chloroethane	mg/kg	<0.02	<0.02	0.02 1275070
Chloroform	mg/kg	<0.02	<0.02	0.02 1275070
Chloromethane	mg/kg	<0.03	<0.03	0.03 1275070
1,2-dibromoethane	mg/kg	<0.02	<0.02	0.02 1275070
1,2-dichlorobenzene	mg/kg	<0.02	<0.02	0.02 1275070
1,3-dichlorobenzene	mg/kg	<0.02	<0.02	0.02 1275070
1,4-dichlorobenzene	mg/kg	<0.02	<0.02	0.02 1275070
1,1-dichloroethane	mg/kg	<0.02	<0.02	0.02 1275070
1,2-dichloroethane	mg/kg	<0.02	<0.02	0.02 1275070
1,1-dichloroethene	mg/kg	<0.02	<0.02	0.02 1275070
cis-1,2-dichloroethene	mg/kg	<0.02	<0.02	0.02 1275070
trans-1,2-dichloroethene	mg/kg	<0.02	<0.02	0.02 1275070
Dichloromethane	mg/kg	<0.1	<0.1	0.1 1275070
1,2-dichloropropane	mg/kg	<0.02	<0.02	0.02 1275070
cis-1,3-dichloropropene	mg/kg	<0.02	<0.02	0.02 1275070
trans-1,3-dichloropropene	mg/kg	<0.02	<0.02	0.02 1275070
Ethylbenzene	mg/kg	<0.01	<0.01	0.01 1275070
Styrene	mg/kg	<0.02	<0.02	0.02 1275070
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	0.1 1275070
1,1,2,2-tetrachloroethane	mg/kg	<0.1	0.8	0.1 1275070
Tetrachloroethene	mg/kg	<0.02	<0.02	0.02 1275070
Toluene	mg/kg	<0.02	<0.02	0.02 1275070
1,1,1-trichloroethane	mg/kg	<0.02	<0.02	0.02 1275070
1,1,2-trichloroethane	mg/kg	<0.02	<0.02	0.02 1275070
Trichloroethene	mg/kg	<0.02	<0.02	0.02 1275070
Trichlorofluoromethane	mg/kg	<0.02	<0.02	0.02 1275070

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C805625	C805687		
Sampling Date		2006/09/15	2006/09/16		
COC Number		115767	115772		
	Units	01-TP06-08-1	01-TP06-21-03	RDL	QC Batch
Vinyl chloride	mg/kg	<0.02	<0.02	0.02	1275070
Xylenes (Total)	mg/kg	<0.04	<0.04	0.04	1275070
m & p-Xylene	mg/kg	<0.04	<0.04	0.04	1275070
o-Xylene	mg/kg	<0.02	<0.02	0.02	1275070
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	95	88		1275070
D10-ETHYLBENZENE (sur.)	%	79	91		1275070
D4-1,2-DICHLOROETHANE (sur.)	%	116	115		1275070
D8-TOLUENE (sur.)	%	104	98		1275070
RDL = Reportable Detection Limit					

PETROLEUM HYDROCARBONS (CCME) Comments

Sample C80562-01 CCME Hydrocarbons (F2-F4 in soil): DUPLICATES DO NOT MATCH DUE TO SAMPLE NON-HOMOGENEITY; DATA CONFIRMED VIA REANALYSIS

Sample C80566-01 CCME Hydrocarbons (F2-F4 in soil): MATRIX SPIKE OUTSIDE ACCEPTANCE SPECIFICATIONS DUE TO MATRIX INTERFERENCE

Sample C80562-01 CCME Hydrocarbons (F4G in soil): Duplicate exceeds acceptance criteria for oil and grease due to sample non homogeneity.

VOLATILE ORGANICS BY GC-MS (SOIL) Comments

Sample C80567-01 VOCs in Soil by P&T GC/MS (Std List): Matrix spike outside acceptance criteria for vinyl chloride due to matrix interference.

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1274104 MD1	BLANK	Moisture	2006/09/18	<0.3	%		
	RPD	Moisture	2006/09/18	4.6	%		
1274160 KO	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/19		93	%	60 - 130
		F1 (C06-C10)	2006/09/19		83	%	60 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/19		89	%	60 - 130
		F1 (C06-C10)	2006/09/19		104	%	60 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/19		91	%	60 - 130
		F1 (C06-C10)	2006/09/19	<10	mg/kg		
	RPD	F1 (C06-C10)	2006/09/19	0.6	%		50
1275070 LM4	MATRIX SPIKE [C80587-01]	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		91	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20		104	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20		108	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20		95	%	60 - 140
		Benzene	2006/09/20		86	%	60 - 140
		Bromodichloromethane	2006/09/20		91	%	60 - 140
		Bromochloromethane	2006/09/20		119	%	60 - 140
		Bromomethane	2006/09/20		88	%	60 - 140
		Carbon tetrachloride	2006/09/20		101	%	60 - 140
		Chlorobenzene	2006/09/20		91	%	60 - 140
		Chlorodibromomethane	2006/09/20		97	%	60 - 140
		Chloroethane	2006/09/20		82	%	60 - 140
		Chloroform	2006/09/20		93	%	60 - 140
		Chloromethane	2006/09/20		85	%	60 - 140
		1,2-dibromoethane	2006/09/20		96	%	60 - 140
		1,2-dichlorobenzene	2006/09/20		100	%	60 - 140
		1,3-dichlorobenzene	2006/09/20		97	%	60 - 140
		1,4-dichlorobenzene	2006/09/20		93	%	60 - 140
		1,1-dichloroethane	2006/09/20		88	%	60 - 140
		1,2-dichloroethane	2006/09/20		96	%	60 - 140
		1,1-dichloroethane	2006/09/20		87	%	60 - 140
		cis-1,2-dichloroethane	2006/09/20		92	%	60 - 140
		trans-1,2-dichloroethane	2006/09/20		89	%	60 - 140
		Dichloromethane	2006/09/20		80	%	60 - 140
		1,2-dichloropropane	2006/09/20		85	%	60 - 140
		cis-1,3-dichloropropene	2006/09/20		97	%	60 - 140
		trans-1,3-dichloropropene	2006/09/20		100	%	60 - 140
		Ethylbenzene	2006/09/20		93	%	60 - 140
		Styrene	2006/09/20		95	%	60 - 140
		1,1,1,2-tetrachloroethane	2006/09/20		97	%	60 - 140
		1,1,2,2-tetrachloroethane	2006/09/20		89	%	60 - 140
		Tetrachloroethane	2006/09/20		99	%	60 - 140
		Toluene	2006/09/20		83	%	60 - 140
		1,1,1-trichloroethane	2006/09/20		102	%	60 - 140
		1,1,2-trichloroethane	2006/09/20		98	%	60 - 140
		Trichloroethane	2006/09/20		97	%	60 - 140
		Trichlorofluoromethane	2006/09/20		88	%	60 - 140
		Vinyl chloride	2006/09/20		52 (1)	%	60 - 140
		m & p-Xylene	2006/09/20		91	%	60 - 140
		o-Xylene	2006/09/20		92	%	60 - 140
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		93	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20		74	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20		115	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20		99	%	60 - 140
		Benzene	2006/09/20		85	%	60 - 140

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275070 LM4	SPIKE	Bromodichloromethane	2006/09/20		96	%	60 - 140
		Bromochloromethane	2006/09/20		113	%	60 - 140
		Bromomethane	2006/09/20		108	%	60 - 140
		Carbon tetrachloride	2006/09/20		101	%	60 - 140
		Chlorobenzene	2006/09/20		88	%	60 - 140
		Chlorodibromomethane	2006/09/20		98	%	60 - 140
		Chloroethane	2006/09/20		92	%	60 - 140
		Chloroform	2006/09/20		106	%	60 - 140
		Chloromethane	2006/09/20		68	%	60 - 140
		1,2-dibromoethane	2006/09/20		90	%	60 - 140
		1,2-dichlorobenzene	2006/09/20		86	%	60 - 140
		1,3-dichlorobenzene	2006/09/20		83	%	60 - 140
		1,4-dichlorobenzene	2006/09/20		92	%	60 - 140
		1,1-dichloroethane	2006/09/20		95	%	60 - 140
		1,2-dichloroethane	2006/09/20		101	%	60 - 140
		1,1-dichloroethane	2006/09/20		91	%	60 - 140
		cis-1,2-dichloroethane	2006/09/20		93	%	60 - 140
		trans-1,2-dichloroethane	2006/09/20		92	%	60 - 140
		Dichloromethane	2006/09/20		92	%	60 - 140
		1,2-dichloropropane	2006/09/20		86	%	60 - 140
		cis-1,3-dichloropropene	2006/09/20		89	%	60 - 140
		trans-1,3-dichloropropene	2006/09/20		96	%	60 - 140
		Ethylbenzene	2006/09/20		79	%	60 - 140
		Styrene	2006/09/20		77	%	60 - 140
		1,1,1,2-tetrachloroethane	2006/09/20		97	%	60 - 140
		1,1,2,2-tetrachloroethane	2006/09/20		98	%	60 - 140
		Tetrachloroethane	2006/09/20		86	%	60 - 140
		Toluene	2006/09/20		84	%	60 - 140
		1,1,1-trichloroethane	2006/09/20		104	%	60 - 140
		1,1,2-trichloroethane	2006/09/20		89	%	60 - 140
		Trichloroethane	2006/09/20		90	%	60 - 140
		Trichlorofluoromethane	2006/09/20		97	%	60 - 140
		Vinyl chloride	2006/09/20		64	%	60 - 140
		m & p-Xylene	2006/09/20		86	%	60 - 140
		o-Xylene	2006/09/20		87	%	60 - 140
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		95	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20		78	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20		115	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20		104	%	60 - 140
		Benzene	2006/09/20	<0.005		mg/kg	
		Bromodichloromethane	2006/09/20	<0.03		mg/kg	
		Bromochloromethane	2006/09/20	<0.05		mg/kg	
		Bromomethane	2006/09/20	<0.02		mg/kg	
		Carbon tetrachloride	2006/09/20	<0.02		mg/kg	
		Chlorobenzene	2006/09/20	<0.02		mg/kg	
		Chlorodibromomethane	2006/09/20	<0.02		mg/kg	
		Chloroethane	2006/09/20	<0.02		mg/kg	
		Chloroform	2006/09/20	<0.02		mg/kg	
		Chloromethane	2006/09/20	<0.03		mg/kg	
		1,2-dibromoethane	2006/09/20	<0.02		mg/kg	
		1,2-dichlorobenzene	2006/09/20	<0.02		mg/kg	
		1,3-dichlorobenzene	2006/09/20	<0.02		mg/kg	
		1,4-dichlorobenzene	2006/09/20	<0.02		mg/kg	
		1,1-dichloroethane	2006/09/20	<0.02		mg/kg	
		1,2-dichloroethane	2006/09/20	<0.02		mg/kg	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA643216

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275070 LM4	BLANK	1,1-dichloroethane	2006/09/20	<0.02		mg/kg	
		cis-1,2-dichloroethane	2006/09/20	<0.02		mg/kg	
		trans-1,2-dichloroethane	2006/09/20	<0.02		mg/kg	
		Dichloromethane	2006/09/20	<0.1		mg/kg	
		1,2-dichloropropane	2006/09/20	<0.02		mg/kg	
		cis-1,3-dichloropropene	2006/09/20	<0.02		mg/kg	
		trans-1,3-dichloropropene	2006/09/20	<0.02		mg/kg	
		Ethylbenzene	2006/09/20	<0.01		mg/kg	
		Styrene	2006/09/20	<0.02		mg/kg	
		1,1,1,2-tetrachloroethane	2006/09/20	<0.1		mg/kg	
		1,1,2,2-tetrachloroethane	2006/09/20	<0.1		mg/kg	
		Tetrachloroethene	2006/09/20	<0.02		mg/kg	
		Toluene	2006/09/20	<0.02		mg/kg	
		1,1,1-trichloroethane	2006/09/20	<0.02		mg/kg	
		1,1,2-trichloroethane	2006/09/20	<0.02		mg/kg	
		Trichloroethene	2006/09/20	<0.02		mg/kg	
		Trichlorofluoromethane	2006/09/20	<0.02		mg/kg	
		Vinyl chloride	2006/09/20	<0.02		mg/kg	
		Xylenes (Total)	2006/09/20	<0.04		mg/kg	
		m & p-Xylene	2006/09/20	<0.04		mg/kg	
		o-Xylene	2006/09/20	<0.02		mg/kg	
	RPD [C80525-01]	Benzene	2006/09/20	NC		%	50
		Bromodichloromethane	2006/09/20	NC		%	50
		Bromofom	2006/09/20	NC		%	50
		Bromomethane	2006/09/20	NC		%	50
		Carbon tetrachloride	2006/09/20	NC		%	50
		Chlorobenzene	2006/09/20	NC		%	50
		Chlorodibromomethane	2006/09/20	NC		%	50
		Chloroethane	2006/09/20	NC		%	50
		Chloroform	2006/09/20	NC		%	50
		Chloromethane	2006/09/20	NC		%	50
		1,2-dibromoethane	2006/09/20	NC		%	50
		1,2-dichlorobenzene	2006/09/20	NC		%	50
		1,3-dichlorobenzene	2006/09/20	NC		%	50
		1,4-dichlorobenzene	2006/09/20	NC		%	50
		1,1-dichloroethane	2006/09/20	NC		%	50
		1,2-dichloroethane	2006/09/20	NC		%	50
		1,1-dichloroethene	2006/09/20	NC		%	50
		cis-1,2-dichloroethene	2006/09/20	NC		%	50
		trans-1,2-dichloroethene	2006/09/20	NC		%	50
		Dichloromethane	2006/09/20	NC		%	50
		1,2-dichloropropane	2006/09/20	NC		%	50
		cis-1,3-dichloropropene	2006/09/20	NC		%	50
		trans-1,3-dichloropropene	2006/09/20	NC		%	50
		Ethylbenzene	2006/09/20	NC		%	50
		Styrene	2006/09/20	NC		%	50
		1,1,1,2-tetrachloroethane	2006/09/20	NC		%	50
		1,1,2,2-tetrachloroethane	2006/09/20	NC		%	50
		Tetrachloroethene	2006/09/20	NC		%	50
		Toluene	2006/09/20	NC		%	50
		1,1,1-trichloroethane	2006/09/20	NC		%	50
		1,1,2-trichloroethane	2006/09/20	NC		%	50
		Trichloroethene	2006/09/20	NC		%	50
		Trichlorofluoromethane	2006/09/20	NC		%	50
		Vinyl chloride	2006/09/20	NC		%	50

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA643216

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275070 LM4	RPD [C80525-01]	Xylenes (Total)	2006/09/20	NC		%	50
		m & p-Xylene	2006/09/20	NC		%	50
		o-Xylene	2006/09/20	NC		%	50
1275137 AN1	MATRIX SPIKE [C80522-01]	O-TERPHENYL (sur.)	2006/09/19		103	%	30 - 130
		F2 (C10-C18 Hydrocarbons)	2006/09/19		126	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/19		128	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/09/19		117	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2006/09/19		75	%	30 - 130
		F2 (C10-C18 Hydrocarbons)	2006/09/19		95	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/09/19		88	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/09/19		90	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2006/09/19		71	%	30 - 130
		F2 (C10-C18 Hydrocarbons)	2006/09/19	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/09/19	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/09/19	<10		mg/kg	
	RPD	Reached Baseline at C50	2006/09/19	YES, RDL=1		mg/kg	
		F2 (C10-C18 Hydrocarbons)	2006/09/19	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/09/19	43.0		%	50
		F4 (C34-C50 Hydrocarbons)	2006/09/19	NC		%	50
	MATRIX SPIKE	Reached Baseline at C50	2006/09/19	NC		%	50
		D10-ANTHRACENE (sur.)	2006/09/21		122	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/21		111	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/21		114	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/21		127	%	30 - 130
		Naphthalene	2006/09/21		95	%	30 - 130
		2-Methylnaphthalene	2006/09/21		96	%	30 - 130
		Acenaphthylene	2006/09/21		104	%	30 - 130
		Acenaphthene	2006/09/21		94	%	30 - 130
		Fluorene	2006/09/21		96	%	30 - 130
		Phenanthrene	2006/09/21		88	%	30 - 130
		Anthracene	2006/09/21		98	%	30 - 130
		Fluoranthene	2006/09/21		102	%	30 - 130
		Pyrene	2006/09/21		100	%	30 - 130
		Benzo(a)anthracene	2006/09/21		106	%	30 - 130
		Chrysene	2006/09/21		104	%	30 - 130
		Benzo(b,j)fluoranthene	2006/09/21		93	%	30 - 130
		Benzo(k)fluoranthene	2006/09/21		95	%	30 - 130
		Benzo(a)pyrene	2006/09/21		94	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/09/21		103	%	30 - 130
		Dibenz(a,h)anthracene	2006/09/21		128	%	30 - 130
		Benzo(g,h,i)perylene	2006/09/21		91	%	30 - 130
	SPIKE	D10-ANTHRACENE (sur.)	2006/09/21		116	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/21		103	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/21		105	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/21		112	%	30 - 130
		Naphthalene	2006/09/21		99	%	30 - 130
		2-Methylnaphthalene	2006/09/21		96	%	30 - 130
		Acenaphthylene	2006/09/21		97	%	30 - 130
		Acenaphthene	2006/09/21		95	%	30 - 130
		Fluorene	2006/09/21		94	%	30 - 130
		Phenanthrene	2006/09/21		98	%	30 - 130
		Anthracene	2006/09/21		97	%	30 - 130
		Fluoranthene	2006/09/21		96	%	30 - 130
		Pyrene	2006/09/21		97	%	30 - 130

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Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
Num Init			yyyy/mm/dd				
1275826 AK3	SPIKE	Benzo(a)anthracene	2008/09/21	97	%	%	30 - 130
		Chrysene	2008/09/21	94	%	%	30 - 130
		Benzo(b&j)fluoranthene	2008/09/21	90	%	%	30 - 130
		Benzo(k)fluoranthene	2008/09/21	92	%	%	30 - 130
		Benzo(a)pyrene	2008/09/21	91	%	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2008/09/21	99	%	%	30 - 130
		Dibenz(a,h)anthracene	2008/09/21	125	%	%	30 - 130
		Benzo(g,h,i)perylene	2008/09/21	100	%	%	30 - 130
	BLANK	D10-ANTHRACENE (sur.)	2008/09/21	64	%	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2008/09/21	49	%	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2008/09/21	51	%	%	30 - 130
		TERPHENYL-D14 (sur.)	2008/09/21	55	%	%	30 - 130
		Naphthalene	2008/09/21	<0.05		mg/kg	
		2-Methylnaphthalene	2008/09/21	<0.05		mg/kg	
		Acenaphthylene	2008/09/21	<0.05		mg/kg	
		Acenaphthene	2008/09/21	<0.05		mg/kg	
		Fluorene	2008/09/21	<0.05		mg/kg	
		Phenanthrene	2008/09/21	<0.05		mg/kg	
		Anthracene	2008/09/21	<0.05		mg/kg	
		Fluoranthene	2008/09/21	<0.05		mg/kg	
		Pyrene	2008/09/21	<0.05		mg/kg	
		Benzo(a)anthracene	2008/09/21	<0.05		mg/kg	
		Chrysene	2008/09/21	<0.05		mg/kg	
		Benzo(b&j)fluoranthene	2008/09/21	<0.05		mg/kg	
		Benzo(k)fluoranthene	2008/09/21	<0.05		mg/kg	
		Benzo(a)pyrene	2008/09/21	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2008/09/21	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2008/09/21	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2008/09/21	<0.05		mg/kg	
	RPD	Naphthalene	2008/09/21	NC		%	50
		2-Methylnaphthalene	2008/09/21	NC		%	50
		Acenaphthylene	2008/09/21	NC		%	50
		Acenaphthene	2008/09/21	NC		%	50
		Fluorene	2008/09/21	NC		%	50
		Phenanthrene	2008/09/21	NC		%	50
		Anthracene	2008/09/21	NC		%	50
		Fluoranthene	2008/09/21	NC		%	50
		Pyrene	2008/09/21	NC		%	50
		Benzo(a)anthracene	2008/09/21	NC		%	50
		Chrysene	2008/09/21	NC		%	50
		Benzo(b&j)fluoranthene	2008/09/21	NC		%	50
		Benzo(k)fluoranthene	2008/09/21	NC		%	50
		Benzo(a)pyrene	2008/09/21	NC		%	50
		Indeno(1,2,3-cd)pyrene	2008/09/21	NC		%	50
		Dibenz(a,h)anthracene	2008/09/21	NC		%	50
		Benzo(g,h,i)perylene	2008/09/21	NC		%	50
1276709 MD1	BLANK	Moisture	2008/09/20	<0.3		%	
	RPD	Moisture	2008/09/20	0.5		%	20
1276802 KB4	MATRIX SPIKE [C80578-01]	O-TERPHENYL (sur.)	2008/09/20	79	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/09/20	90	%	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2008/09/20	77	%	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2008/09/20	78	%	%	50 - 130
		O-TERPHENYL (sur.)	2008/09/20	61	%	%	30 - 130
	SPIKE	F2 (C10-C16 Hydrocarbons)	2008/09/20	91	%	%	80 - 120

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FRANZ ENVIRONMENTAL INC.
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Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
Num Init			yyyy/mm/dd				
1276802 KB4	SPIKE	F3 (C16-C34 Hydrocarbons)	2008/09/20	80	%	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2008/09/20	80	%	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2008/09/20	87	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/09/20	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2008/09/20	13, RDL=10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2008/09/20	<10		mg/kg	
		Reached Baseline at C50	2008/09/20	YES, RDL=1		mg/kg	
	RPD [C80562-01]	F2 (C10-C16 Hydrocarbons)	2008/09/20	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2008/09/20	57.1 (!)		%	50
		F4 (C34-C50 Hydrocarbons)	2008/09/20	54.8 (!)		%	50
		Reached Baseline at C50	2008/09/20	NC		%	50
1280633 JR1	SPIKE	F4SG (Heavy Hydrocarbons-SilicaGel)	2008/09/22	92		mg/kg	70 - 130
	BLANK	F4SG (Heavy Hydrocarbons-SilicaGel)	2008/09/22	<200		mg/kg	
	RPD [C80562-01]	F4SG (Heavy Hydrocarbons-SilicaGel)	2008/09/22	52.0 (!)		%	50
1290080 HL2	BLANK	Moisture	2008/09/29	<0.3		%	
	RPD [C80576-01]	Moisture	2008/09/29	13.3		%	20
1290350 KB4	MATRIX SPIKE [C80588-01]	O-TERPHENYL (sur.)	2008/10/02	88	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	34	%	%	N/A
		F3 (C16-C34 Hydrocarbons)	2008/10/02	79	%	%	N/A
		F4 (C34-C50 Hydrocarbons)	2008/10/02	98	%	%	N/A
	SPIKE	O-TERPHENYL (sur.)	2008/10/02	81	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	98	%	%	85 - 115
		F3 (C16-C34 Hydrocarbons)	2008/10/02	98	%	%	85 - 115
		F4 (C34-C50 Hydrocarbons)	2008/10/02	101	%	%	85 - 115
	BLANK	O-TERPHENYL (sur.)	2008/10/02	85	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2008/10/02	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2008/10/02	<10		mg/kg	
		Reached Baseline at C50	2008/10/02	YES, RDL=1		mg/kg	
	RPD [C80576-01]	F2 (C10-C16 Hydrocarbons)	2008/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2008/10/02	24.1		%	50
		F4 (C34-C50 Hydrocarbons)	2008/10/02	36.0		%	50
		Reached Baseline at C50	2008/10/02	NC		%	50
1291437 HL2	BLANK	Moisture	2008/10/02	<0.3		%	
	RPD	Moisture	2008/10/02	6.8		%	20
1291480 KB4	MATRIX SPIKE	O-TERPHENYL (sur.)	2008/10/02	83	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	104	%	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2008/10/02	107	%	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2008/10/02	115	%	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2008/10/02	78	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	95	%	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2008/10/02	97	%	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2008/10/02	101	%	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2008/10/02	87	%	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2008/10/02	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2008/10/02	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2008/10/02	<10		mg/kg	
		Reached Baseline at C50	2008/10/02	YES, RDL=1		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2008/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2008/10/02	NC		%	50
		F4 (C34-C50 Hydrocarbons)	2008/10/02	NC		%	50
		Reached Baseline at C50	2008/10/02	NC		%	50
1332769 LL2	Calibration Check	Total Antimony (Sb)	2008/11/02	105		%	80 - 120
		Total Arsenic (As)	2008/11/02	103		%	80 - 120

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Quality Assurance Report (Continued)
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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1332769 LL2	Calibration Check	Total Barium (Ba)	2006/11/02	98	%	80 - 120	
		Total Beryllium (Be)	2006/11/02	99	%	80 - 120	
		Total Cadmium (Cd)	2006/11/02	98	%	80 - 120	
		Total Chromium (Cr)	2006/11/02	99	%	80 - 120	
		Total Cobalt (Co)	2006/11/02	101	%	80 - 120	
		Total Copper (Cu)	2006/11/02	103	%	80 - 120	
		Total Lead (Pb)	2006/11/02	99	%	80 - 120	
		Total Molybdenum (Mo)	2006/11/02	98	%	80 - 120	
		Total Nickel (Ni)	2006/11/02	101	%	80 - 120	
		Total Selenium (Se)	2006/11/02	102	%	80 - 120	
		Total Silver (Ag)	2006/11/02	103	%	80 - 120	
		Total Thallium (Tl)	2006/11/02	97	%	80 - 120	
		Total Tin (Sn)	2006/11/02	100	%	80 - 120	
		Total Uranium (U)	2006/11/02	104	%	80 - 120	
		Total Vanadium (V)	2006/11/02	100	%	80 - 120	
		Total Zinc (Zn)	2006/11/02	100	%	80 - 120	
	MATRIX SPIKE	Total Arsenic (As)	2006/11/02	97	%	75 - 125	
		Total Cadmium (Cd)	2006/11/02	96	%	75 - 125	
		Total Lead (Pb)	2006/11/02	82	%	75 - 125	
		Total Selenium (Se)	2006/11/02	105	%	75 - 125	
	BLANK	Total Thallium (Tl)	2006/11/02	95	%	75 - 125	
		Total Antimony (Sb)	2006/11/02	<1	mg/kg		
		Total Arsenic (As)	2006/11/02	<1	mg/kg		
		Total Barium (Ba)	2006/11/02	<10	mg/kg		
	RPD	Total Beryllium (Be)	2006/11/02	<0.4	mg/kg		
		Total Cadmium (Cd)	2006/11/02	<0.1	mg/kg		
		Total Chromium (Cr)	2006/11/02	<1	mg/kg		
		Total Cobalt (Co)	2006/11/02	<1	mg/kg		
		Total Copper (Cu)	2006/11/02	<5	mg/kg		
		Total Lead (Pb)	2006/11/02	<1	mg/kg		
		Total Molybdenum (Mo)	2006/11/02	<0.4	mg/kg		
		Total Nickel (Ni)	2006/11/02	<1	mg/kg		
		Total Selenium (Se)	2006/11/02	<0.5	mg/kg		
		Total Silver (Ag)	2006/11/02	<1	mg/kg		
		Total Thallium (Tl)	2006/11/02	<0.3	mg/kg		
		Total Tin (Sn)	2006/11/02	<1	mg/kg		
		Total Uranium (U)	2006/11/02	<1	mg/kg		
		Total Vanadium (V)	2006/11/02	<10	mg/kg		
		Total Zinc (Zn)	2006/11/02	NC	%		35
		Total Antimony (Sb)	2006/11/02	NC	%		35
		Total Arsenic (As)	2006/11/02	9.1	%		35
		Total Barium (Ba)	2006/11/02	NC	%		35
		Total Beryllium (Be)	2006/11/02	NC	%		35
		Total Cadmium (Cd)	2006/11/02	NC	%		35
		Total Chromium (Cr)	2006/11/02	6.4	%		35
		Total Cobalt (Co)	2006/11/02	1.9	%		35
		Total Copper (Cu)	2006/11/02	NC	%		35
		Total Lead (Pb)	2006/11/02	1.9	%		35
		Total Molybdenum (Mo)	2006/11/02	NC	%		35
		Total Nickel (Ni)	2006/11/02	3.2	%		35
		Total Selenium (Se)	2006/11/02	NC	%		35
		Total Silver (Ag)	2006/11/02	NC	%		35
		Total Thallium (Tl)	2006/11/02	NC	%		35
		Total Tin (Sn)	2006/11/02	NC	%		35
		Total Uranium (U)	2006/11/02	NC	%		35

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Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1332769 LL2	RPD	Total Vanadium (V)	2006/11/02	12.9	%	35	
		Total Zinc (Zn)	2006/11/02	10.1	%	35	
1332908 MC3	Calibration Check	Total Aluminum (Al)	2006/11/02	96	%	80 - 120	
		Total Boron (B)	2006/11/02	97	%	80 - 120	
		Total Calcium (Ca)	2006/11/02	98	%	80 - 120	
		Total Iron (Fe)	2006/11/02	95	%	80 - 120	
		Total Lithium (Li)	2006/11/02	103	%	80 - 120	
		Total Magnesium (Mg)	2006/11/02	97	%	80 - 120	
		Total Manganese (Mn)	2006/11/02	94	%	80 - 120	
		Total Phosphorus (P)	2006/11/02	98	%	80 - 120	
		Total Potassium (K)	2006/11/02	101	%	80 - 120	
		Total Sodium (Na)	2006/11/02	102	%	80 - 120	
		Total Strontium (Sr)	2006/11/02	95	%	80 - 120	
		Total Aluminum (Al)	2006/11/02	100	%	75 - 125	
		Total Boron (B)	2006/11/02	104	%	80 - 120	
		Total Calcium (Ca)	2006/11/02	87	%	75 - 125	
		Total Iron (Fe)	2006/11/02	92	%	75 - 125	
		Total Lithium (Li)	2006/11/02	103	%	75 - 125	
		Total Magnesium (Mg)	2006/11/02	100	%	75 - 125	
		Total Manganese (Mn)	2006/11/02	95	%	75 - 125	
		Total Phosphorus (P)	2006/11/02	98	%	75 - 125	
		Total Potassium (K)	2006/11/02	102	%	75 - 125	
		Total Sodium (Na)	2006/11/02	108	%	75 - 125	
		Total Strontium (Sr)	2006/11/02	95	%	75 - 125	
	SPIKE	Total Aluminum (Al)	2006/11/02	<10	mg/kg		
		Total Boron (B)	2006/11/02	<2	mg/kg		
		Total Calcium (Ca)	2006/11/02	<50	mg/kg		
		Total Iron (Fe)	2006/11/02	<10	mg/kg		
		Total Lithium (Li)	2006/11/02	<10	mg/kg		
		Total Magnesium (Mg)	2006/11/02	<20	mg/kg		
		Total Manganese (Mn)	2006/11/02	<10	mg/kg		
		Total Phosphorus (P)	2006/11/02	<20	mg/kg		
		Total Potassium (K)	2006/11/02	<30	mg/kg		
		Total Sodium (Na)	2006/11/02	<50	mg/kg		
		Total Strontium (Sr)	2006/11/02	<10	mg/kg		
		Total Sulphur (S)	2006/11/02	<20	mg/kg		
	BLANK	Total Aluminum (Al)	2006/11/02	0.05	%		35
		Total Boron (B)	2006/11/02	2.2	%		35
		Total Calcium (Ca)	2006/11/02	0.3	%		35
		Total Iron (Fe)	2006/11/02	0.8	%		35
	RPD	Total Lithium (Li)	2006/11/02	NC	%		35
		Total Magnesium (Mg)	2006/11/02	0.2	%		35
		Total Manganese (Mn)	2006/11/02	0.2	%		35
		Total Phosphorus (P)	2006/11/02	1.3	%		35
		Total Potassium (K)	2006/11/02	0.1	%		35
		Total Sodium (Na)	2006/11/02	NC	%		35
		Total Strontium (Sr)	2006/11/02	0.4	%		35
		Total Sulphur (S)	2006/11/02	0.4	%		35
	MC3	Total Aluminum (Al)	2006/11/07	96	%	80 - 120	
		Total Boron (B)	2006/11/07	97	%	80 - 120	
		Total Calcium (Ca)	2006/11/07	94	%	80 - 120	
		Total Iron (Fe)	2006/11/07	94	%	80 - 120	
	Calibration Check	Total Lithium (Li)	2006/11/07	98	%	80 - 120	
		Total Magnesium (Mg)	2006/11/07	94	%	80 - 120	
		Total Manganese (Mn)	2006/11/07	97	%	80 - 120	

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Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1338469 MC3	Calibration Check	Total Phosphorus (P)	2006/11/07		102	%	80 - 120
		Total Potassium (K)	2006/11/07		97	%	80 - 120
		Total Sodium (Na)	2006/11/07		101	%	80 - 120
		Total Strontium (Sr)	2006/11/07		95	%	80 - 120
		Total Aluminum (Al)	2006/11/07		90	%	75 - 125
	SPIKE	Total Boron (B)	2006/11/07		93	%	80 - 120
		Total Calcium (Ca)	2006/11/07		87	%	75 - 125
		Total Iron (Fe)	2006/11/07		85	%	75 - 125
		Total Lithium (Li)	2006/11/07		90	%	75 - 125
		Total Magnesium (Mg)	2006/11/07		88	%	75 - 125
		Total Manganese (Mn)	2006/11/07		88	%	75 - 125
		Total Phosphorus (P)	2006/11/07		93	%	75 - 125
		Total Potassium (K)	2006/11/07		88	%	75 - 125
		Total Sodium (Na)	2006/11/07		99	%	75 - 125
		Total Strontium (Sr)	2006/11/07		88	%	75 - 125
	BLANK	Total Sulphur (S)	2006/11/07		0.00000	%	N/A
		Total Aluminum (Al)	2006/11/07	<10		mg/kg	
		Total Boron (B)	2006/11/07	<2		mg/kg	
		Total Calcium (Ca)	2006/11/07	<50		mg/kg	
		Total Iron (Fe)	2006/11/07	<10		mg/kg	
		Total Lithium (Li)	2006/11/07	<10		mg/kg	
		Total Magnesium (Mg)	2006/11/07	<20		mg/kg	
		Total Manganese (Mn)	2006/11/07	<10		mg/kg	
		Total Phosphorus (P)	2006/11/07	<20		mg/kg	
		Total Potassium (K)	2006/11/07	<30		mg/kg	
		Total Sodium (Na)	2006/11/07	<50		mg/kg	
1339329 LL2	Calibration Check	Total Strontium (Sr)	2006/11/07	<10		mg/kg	
		Total Sulphur (S)	2006/11/07	<20		mg/kg	
		Total Aluminum (Al)	2006/11/07	0.3		%	35
		Total Boron (B)	2006/11/07	NC		%	35
		Total Calcium (Ca)	2006/11/07	1		%	35
	RPD	Total Iron (Fe)	2006/11/07	0.3		%	35
		Total Lithium (Li)	2006/11/07	NC		%	35
		Total Magnesium (Mg)	2006/11/07	9.2		%	35
		Total Manganese (Mn)	2006/11/07	0.3		%	35
		Total Phosphorus (P)	2006/11/07	0.7		%	35
		Total Potassium (K)	2006/11/07	0.5		%	35
		Total Sodium (Na)	2006/11/07	NC		%	35
		Total Strontium (Sr)	2006/11/07	NC		%	35
		Total Sulphur (S)	2006/11/07	NC		%	35
		Total Antimony (Sb)	2006/11/07		107	%	80 - 120
		Total Arsenic (As)	2006/11/07		101	%	80 - 120
		Total Barium (Ba)	2006/11/07		105	%	80 - 120
		Total Beryllium (Be)	2006/11/07		105	%	80 - 120
		Total Cadmium (Cd)	2006/11/07		97	%	80 - 120
		Total Chromium (Cr)	2006/11/07		102	%	80 - 120
		Total Cobalt (Co)	2006/11/07		104	%	80 - 120
		Total Copper (Cu)	2006/11/07		105	%	80 - 120
		Total Lead (Pb)	2006/11/07		108	%	80 - 120
		Total Molybdenum (Mo)	2006/11/07		100	%	80 - 120
		Total Nickel (Ni)	2006/11/07		102	%	80 - 120
		Total Selenium (Se)	2006/11/07		103	%	80 - 120
		Total Silver (Ag)	2006/11/07		105	%	80 - 120
		Total Thallium (Tl)	2006/11/07		107	%	80 - 120
		Total Tin (Sn)	2006/11/07		100	%	80 - 120

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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643216

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1339329 LL2	Calibration Check	Total Uranium (U)	2006/11/07		106	%	80 - 120
		Total Vanadium (V)	2006/11/07		102	%	80 - 120
		Total Zinc (Zn)	2006/11/07		101	%	80 - 120
		Total Arsenic (As)	2006/11/07		102	%	75 - 125
		Total Cadmium (Cd)	2006/11/07		97	%	75 - 125
	MATRIX SPIKE	Total Lead (Pb)	2006/11/07		98	%	75 - 125
		Total Selenium (Se)	2006/11/07		109	%	75 - 125
		Total Thallium (Tl)	2006/11/07		96	%	75 - 125
		Total Antimony (Sb)	2006/11/07	<1		mg/kg	
		Total Arsenic (As)	2006/11/07	<1		mg/kg	
		Total Barium (Ba)	2006/11/07	<10		mg/kg	
		Total Beryllium (Be)	2006/11/07	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/11/07	<0.1		mg/kg	
		Total Chromium (Cr)	2006/11/07	<1		mg/kg	
		Total Cobalt (Co)	2006/11/07	<1		mg/kg	
	BLANK	Total Copper (Cu)	2006/11/07	<5		mg/kg	
		Total Lead (Pb)	2006/11/07	<1		mg/kg	
		Total Molybdenum (Mo)	2006/11/07	<0.4		mg/kg	
		Total Nickel (Ni)	2006/11/07	<1		mg/kg	
		Total Selenium (Se)	2006/11/07	<0.5		mg/kg	
		Total Silver (Ag)	2006/11/07	<1		mg/kg	
		Total Thallium (Tl)	2006/11/07	<0.3		mg/kg	
		Total Tin (Sn)	2006/11/07	<1		mg/kg	
		Total Uranium (U)	2006/11/07	<1		mg/kg	
		Total Vanadium (V)	2006/11/07	<1		mg/kg	
1339329 LL2	Calibration Check	Total Zinc (Zn)	2006/11/07	<10		mg/kg	
		Total Arsenic (Sb)	2006/11/07	NC		%	35
		Total Antimony (As)	2006/11/07	NC		%	35
		Total Barium (Ba)	2006/11/07	22.4		%	35
		Total Beryllium (Be)	2006/11/07	NC		%	35
	RPD	Total Cadmium (Cd)	2006/11/07	NC		%	35
		Total Chromium (Cr)	2006/11/07	26.1		%	35
		Total Cobalt (Co)	2006/11/07	NC		%	35
		Total Copper (Cu)	2006/11/07	NC		%	35
		Total Lead (Pb)	2006/11/07	NC		%	35
		Total Molybdenum (Mo)	2006/11/07	NC		%	35
		Total Nickel (Ni)	2006/11/07	75.2 (I)		%	35
		Total Selenium (Se)	2006/11/07	NC		%	35
		Total Silver (Ag)	2006/11/07	NC		%	35
		Total Tin (Sn)	2006/11/07	NC		%	35
		Total Uranium (U)	2006/11/07	NC		%	35
		Total Vanadium (V)	2006/11/07	32.2		%	35
		Total Zinc (Zn)	2006/11/07	NC		%	35

N/A = Not Applicable

NC = Non-calculable

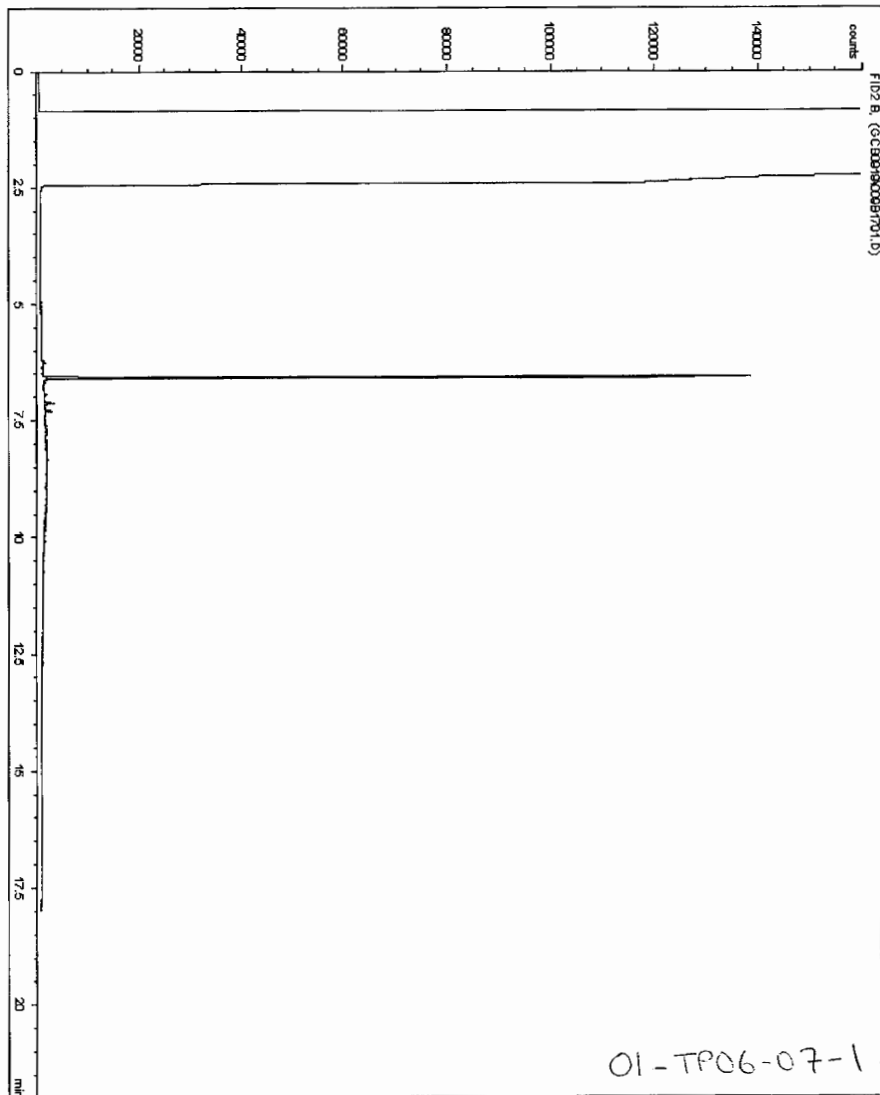
RPD = Relative Percent Difference

(1) Please note that the recovery of some compounds are outside control limits however the overall quality control for this analysis meets our acceptability criteria.

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Data File C:\HPCHEM\1\DATA\GCB0919\009B1701.D

Sample Name: C80522

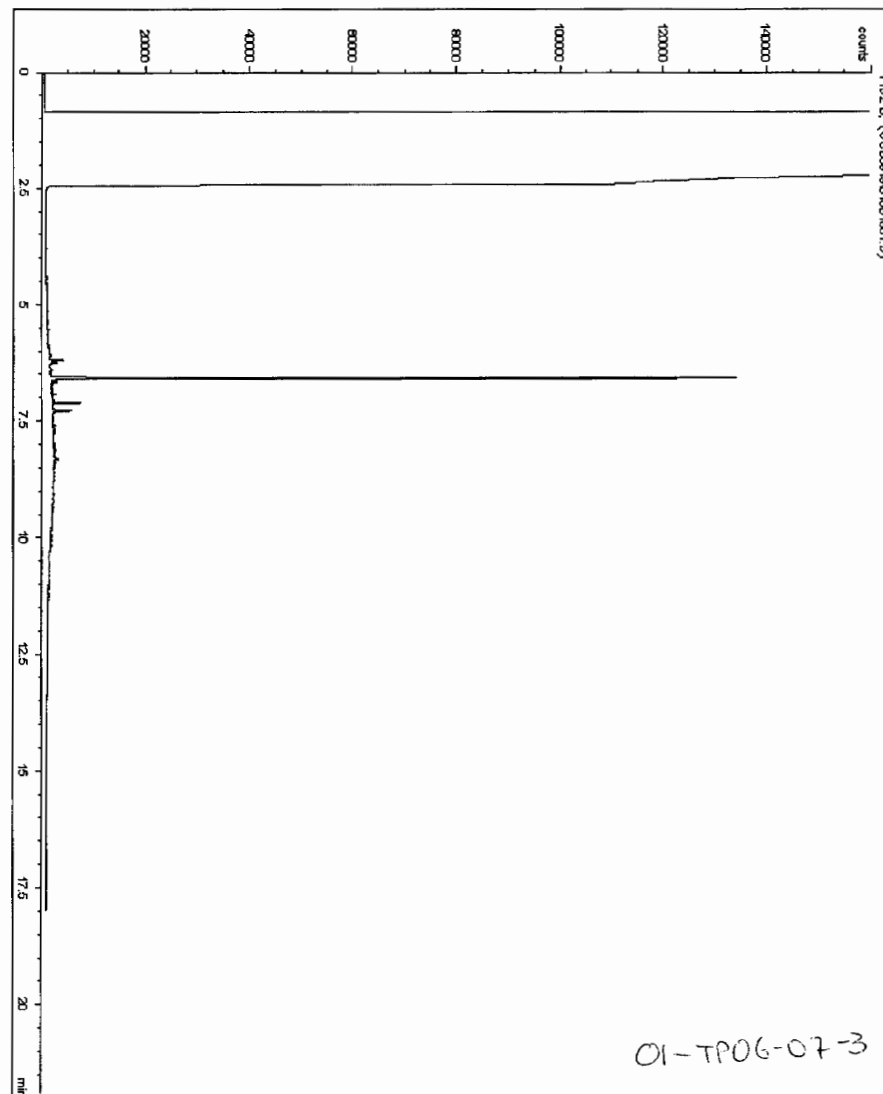


01-TP06-07-1

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\010B1801.D

Sample Name: C80524

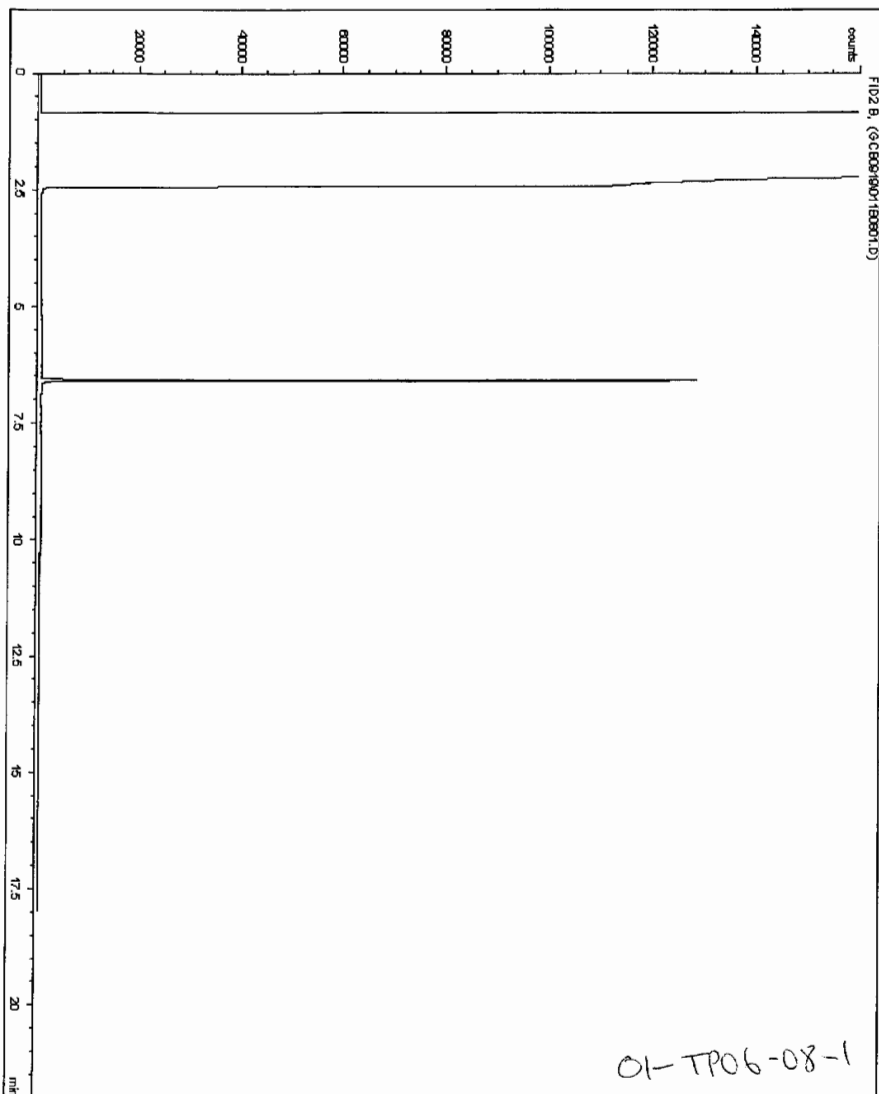


01-TP06-07-3

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\011B0801.D

Sample Name: C80525

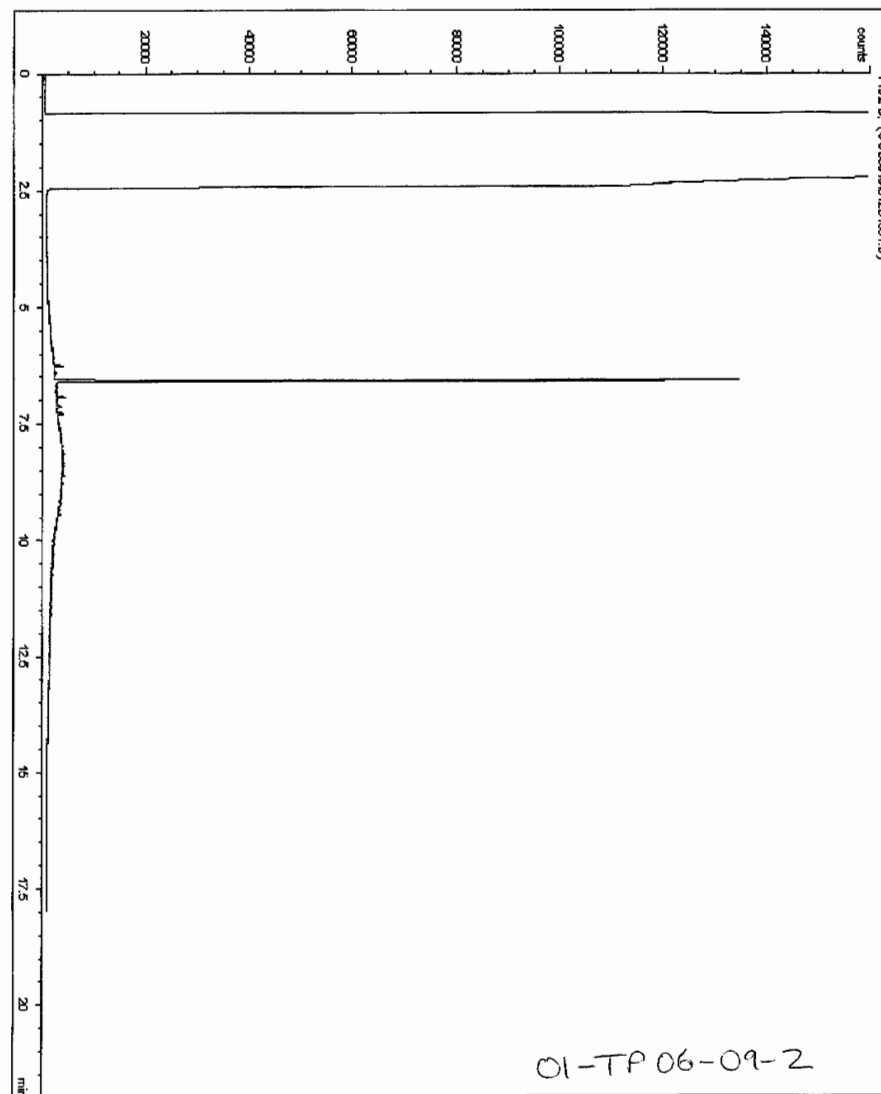


01-TP06-08-1

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\012B1901.D

Sample Name: C80529

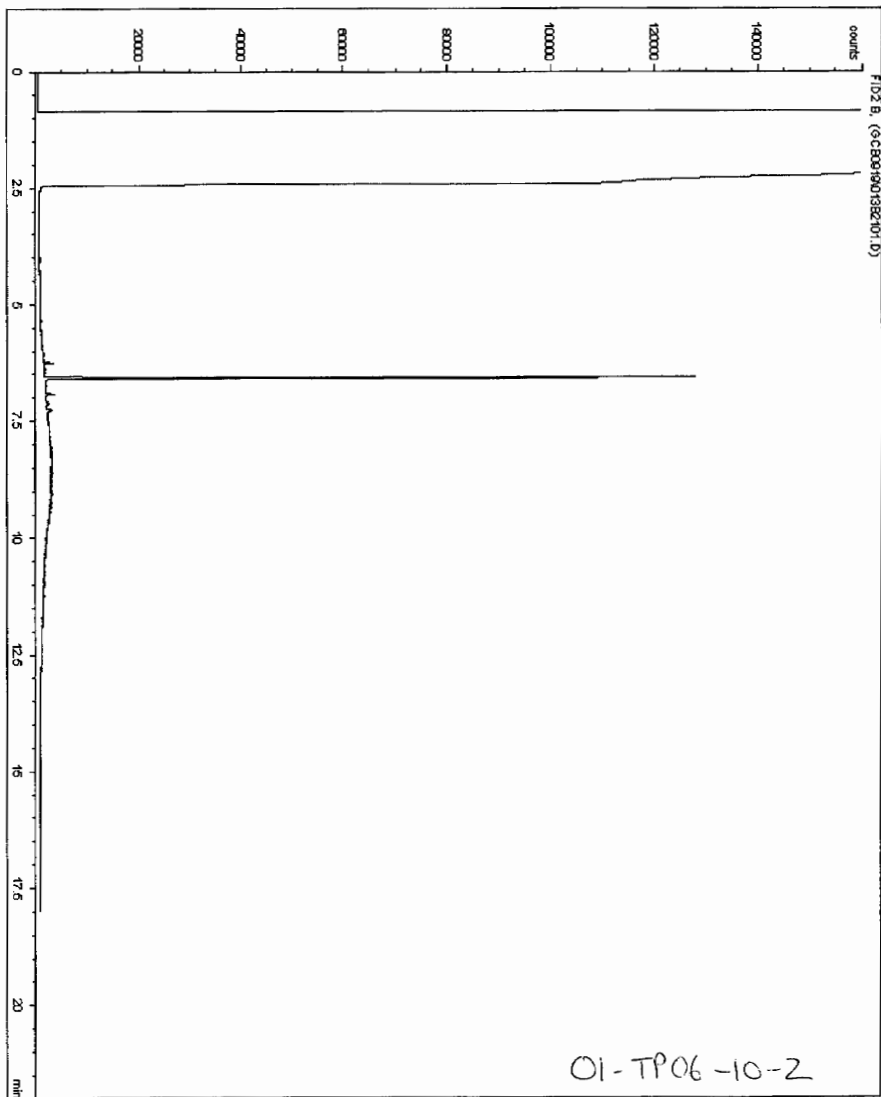


01-TP06-09-2

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\013B2101.D

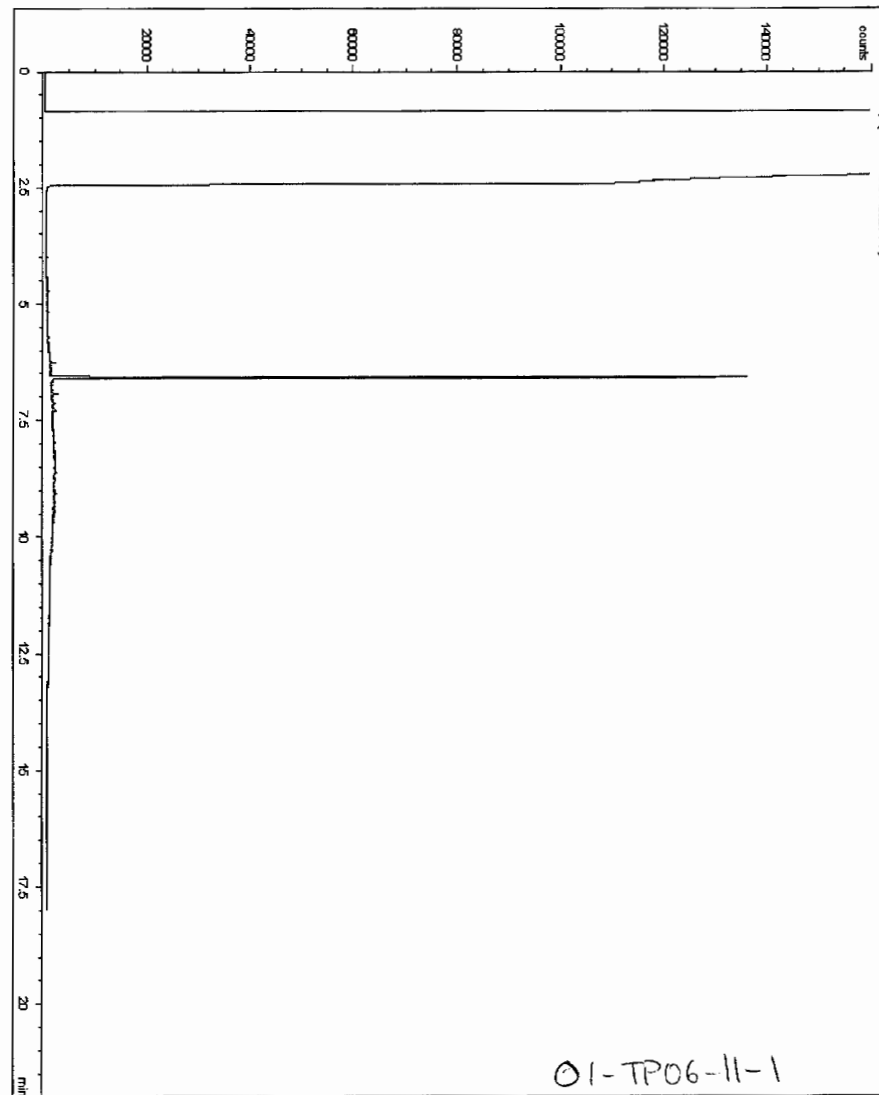
Sample Name: C80532



*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\014B2201.D

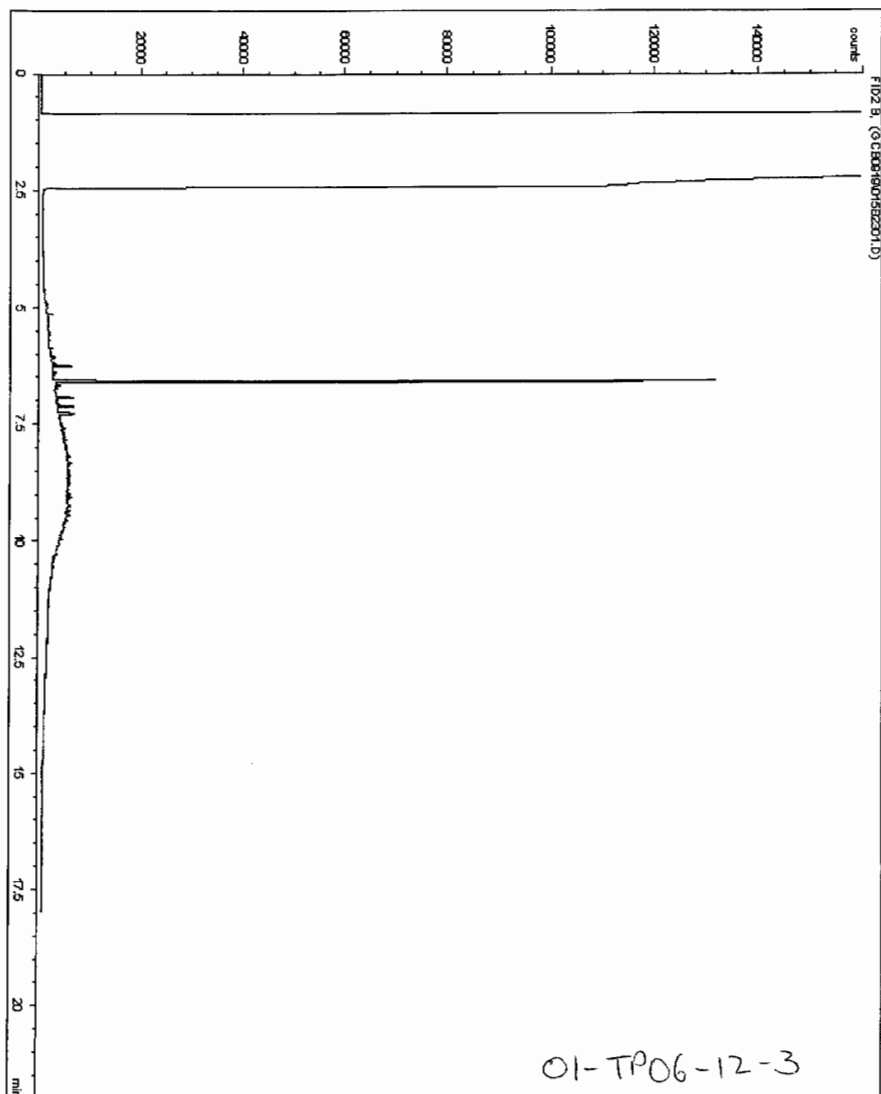
Sample Name: C80534



*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\015B2301.D

Sample Name: C80540



01-TP06-12-3

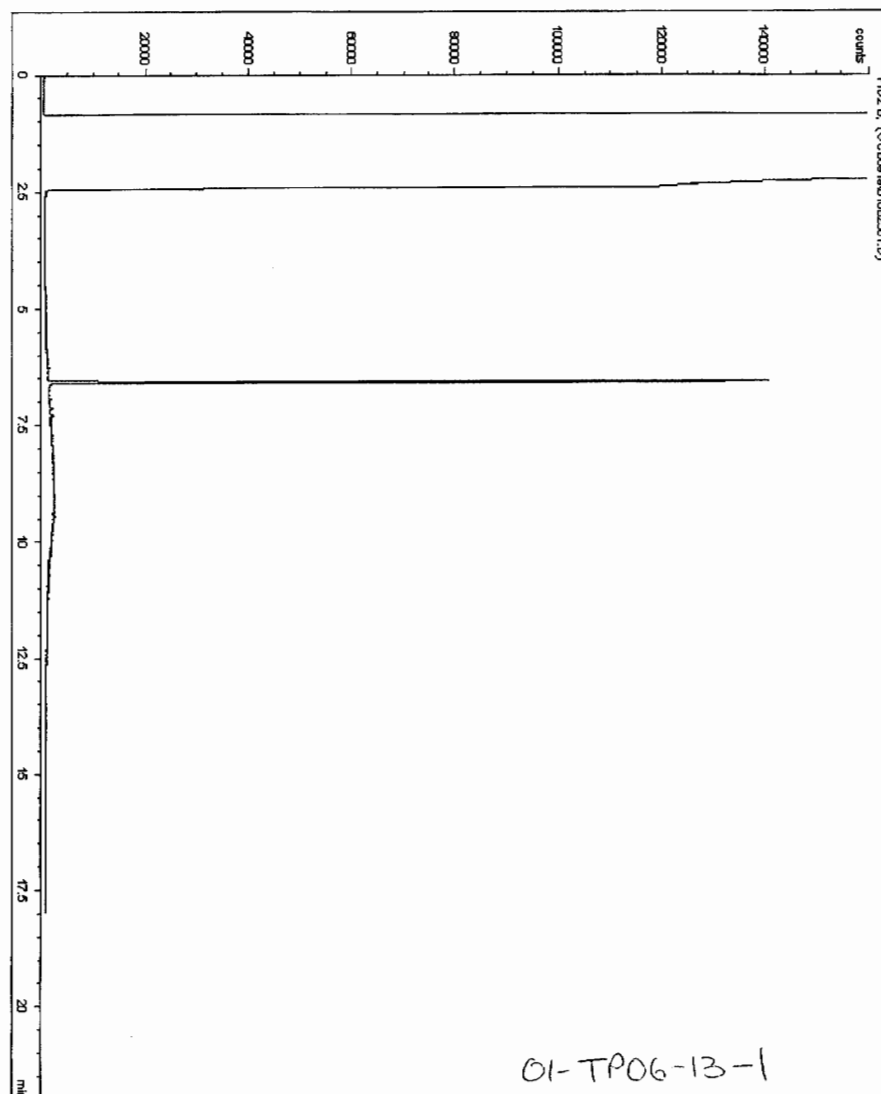
*** End of Report ***

Instrument 1 2007/01/10 3:06:02 PM AN

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Data File C:\HPCHEM\1\DATA\GCB0919\016B2501.D

Sample Name: C80542



01-TP06-13-1

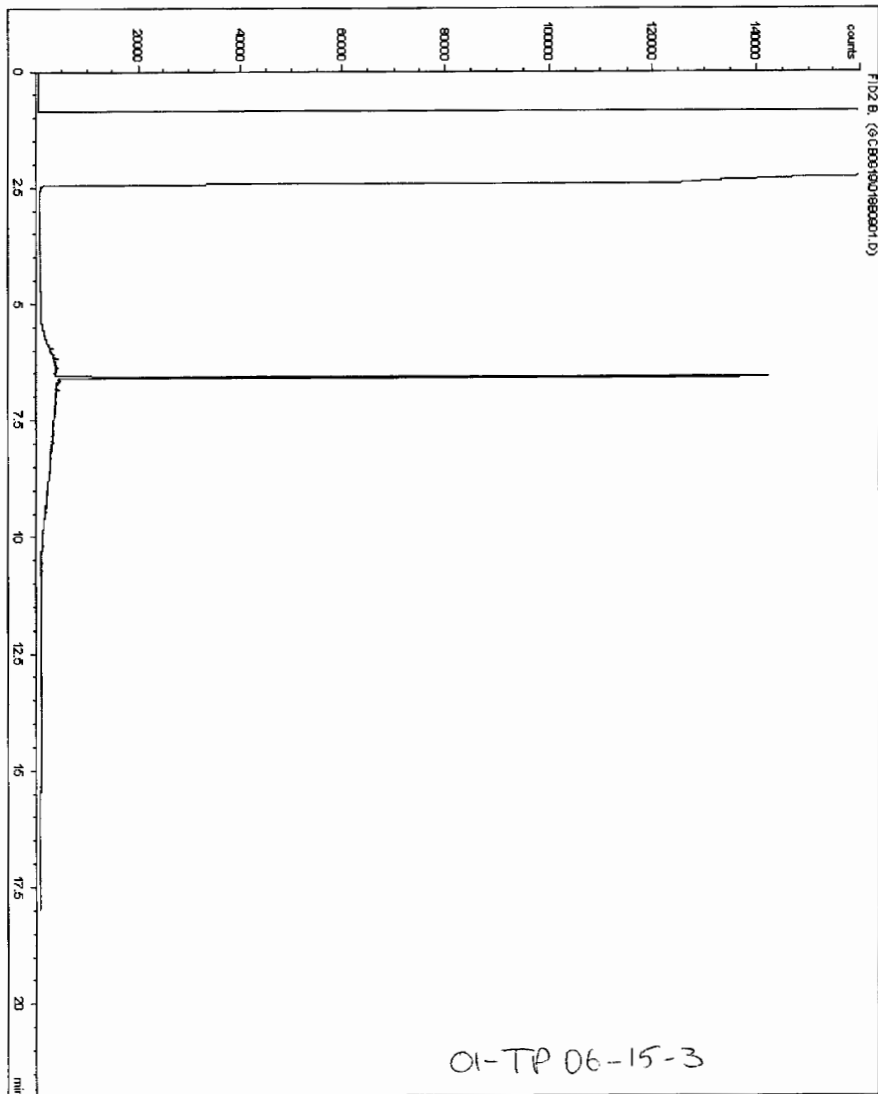
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Instrument 1 2007/01/10 3:06:07 PM AN

Page 1 of 1

Data File C:\HPCHEM\1\DATA\GCB0919\018B0901.D

Sample Name: C80553

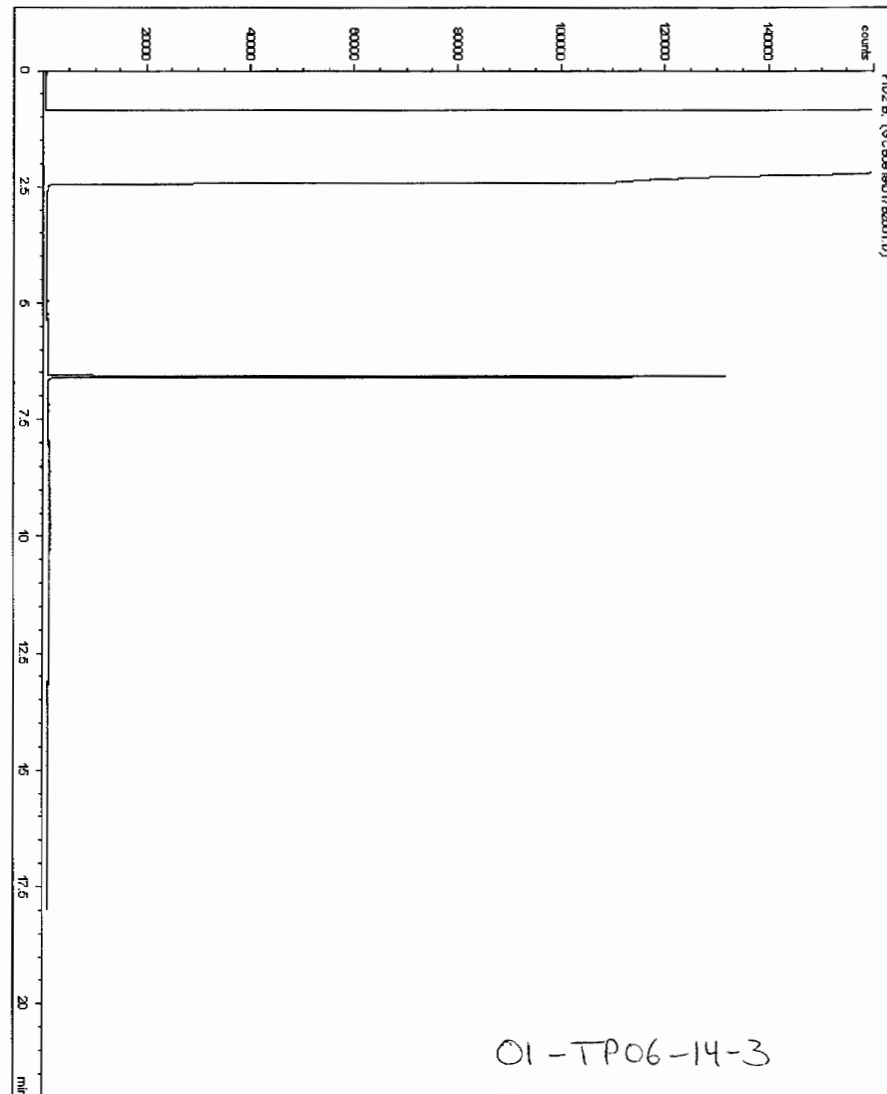


01-TP 06-15-3

*** End of Report ***

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Sample Name: C80547

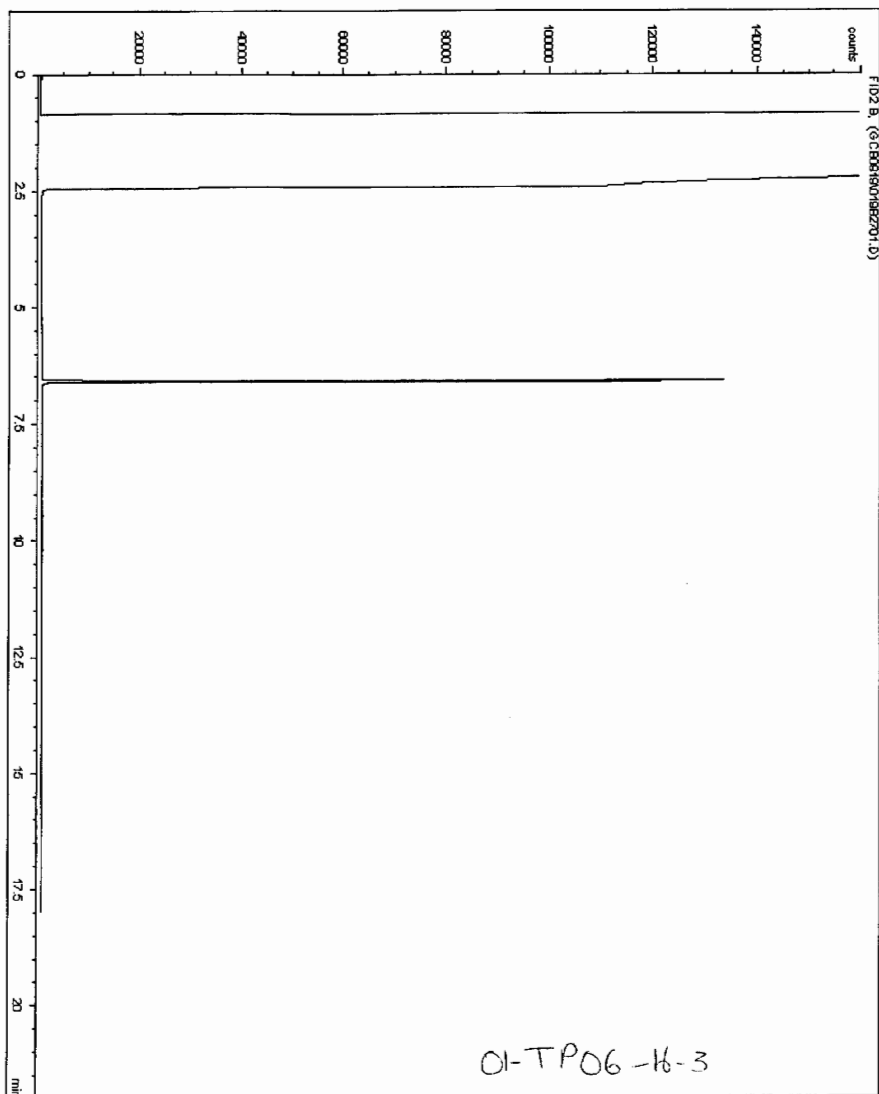


01-TP06-14-3

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0919\019B2701.D

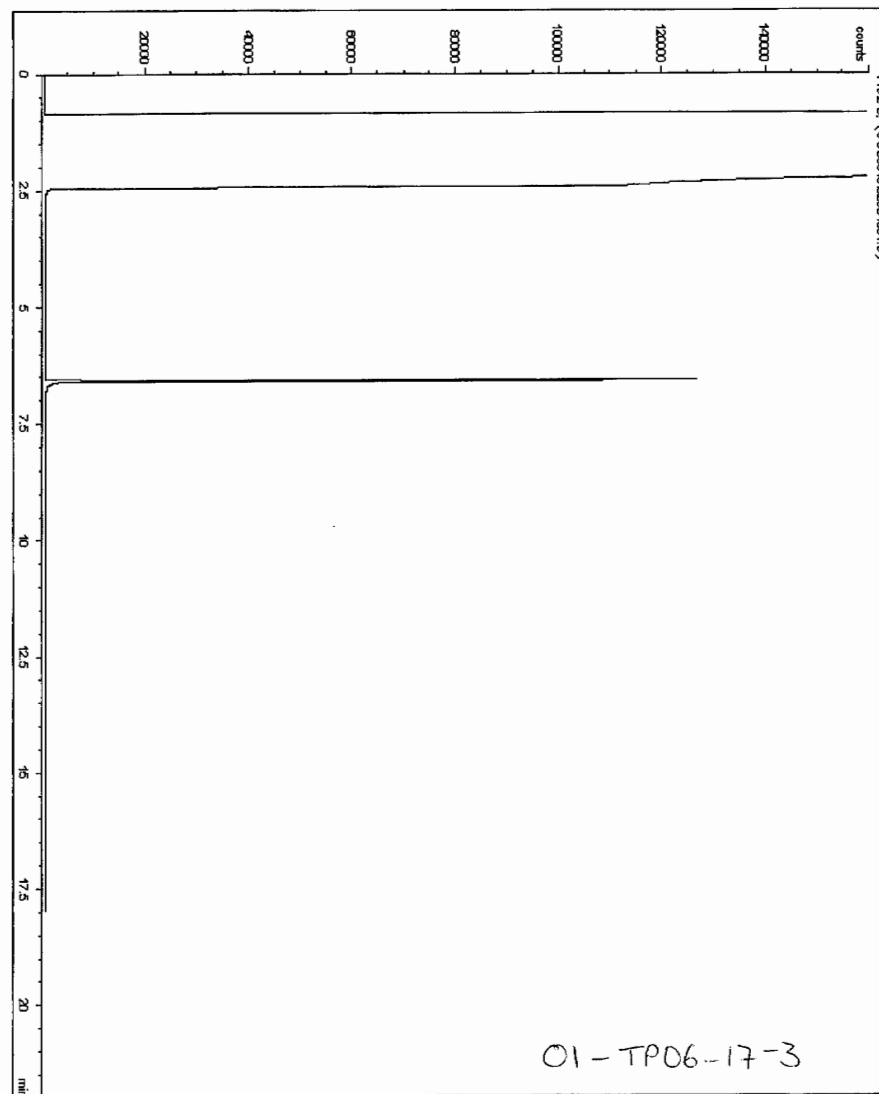
Sample Name: C80556



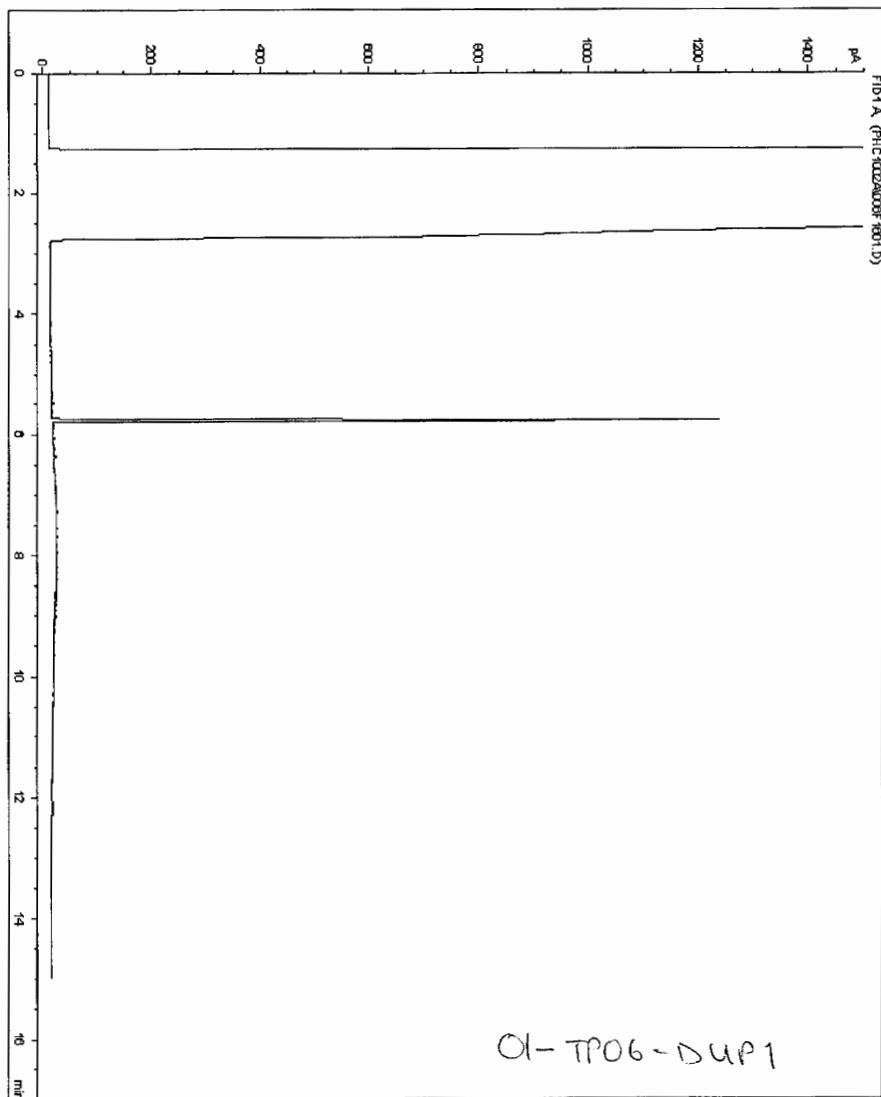
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Data File C:\HPCHEM\1\DATA\GCB0919\020B1001.D

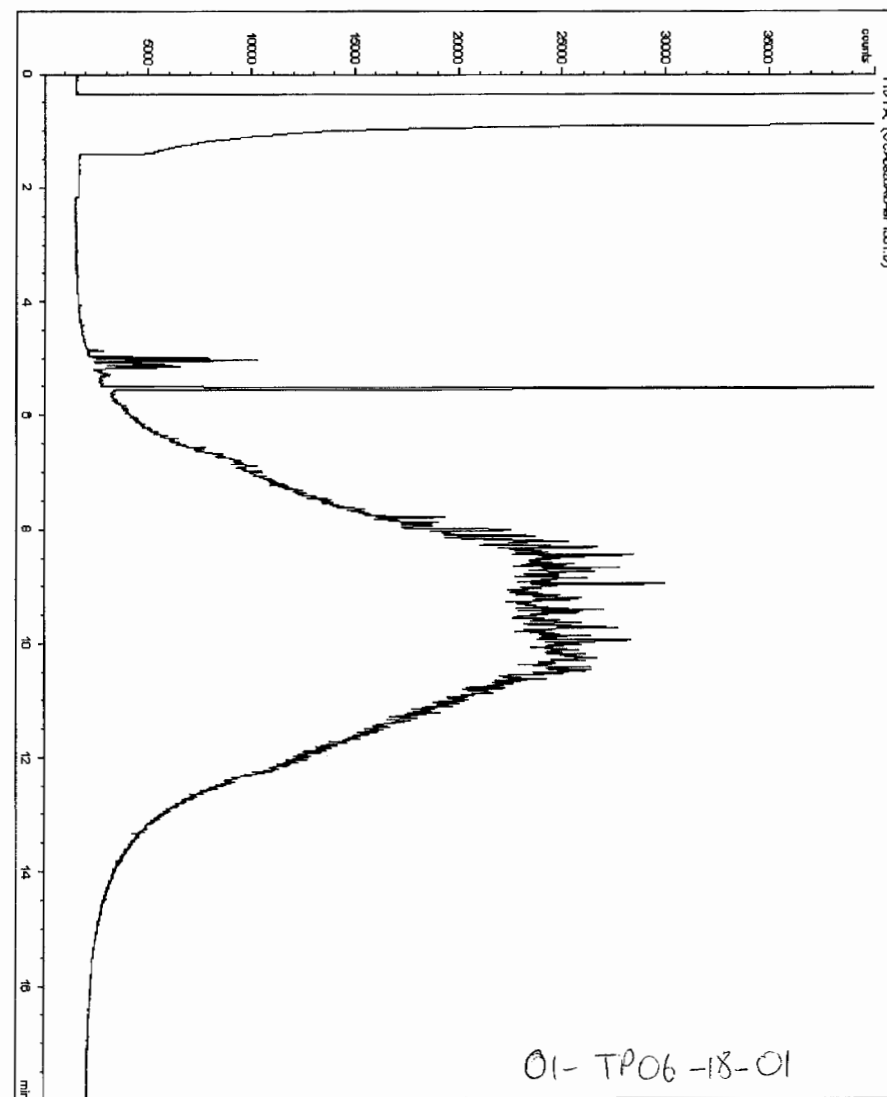
Sample Name: C80559



*** End of Report ***



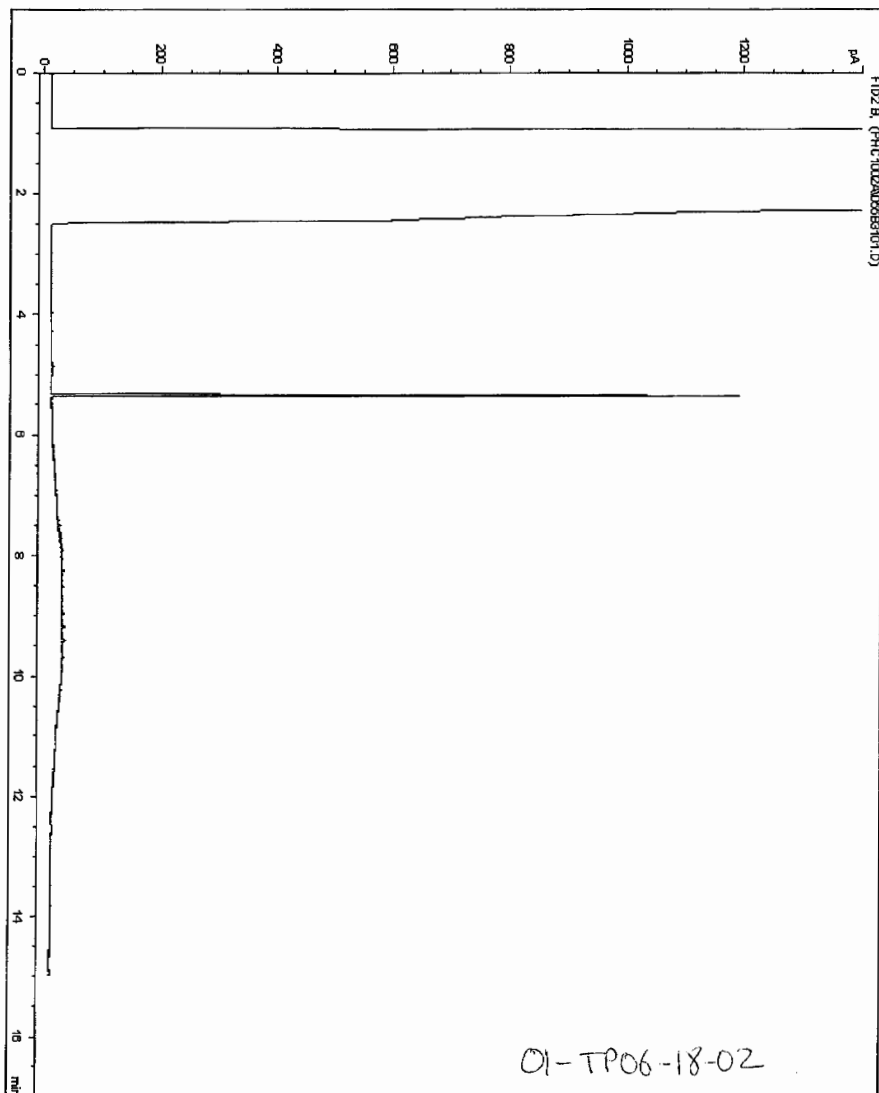
*** End of Report ***



*** End of Report ***

Data File C:\HPCHEM\1\DATA\PHC1002A\055B3101.D

Sample Name: C80576

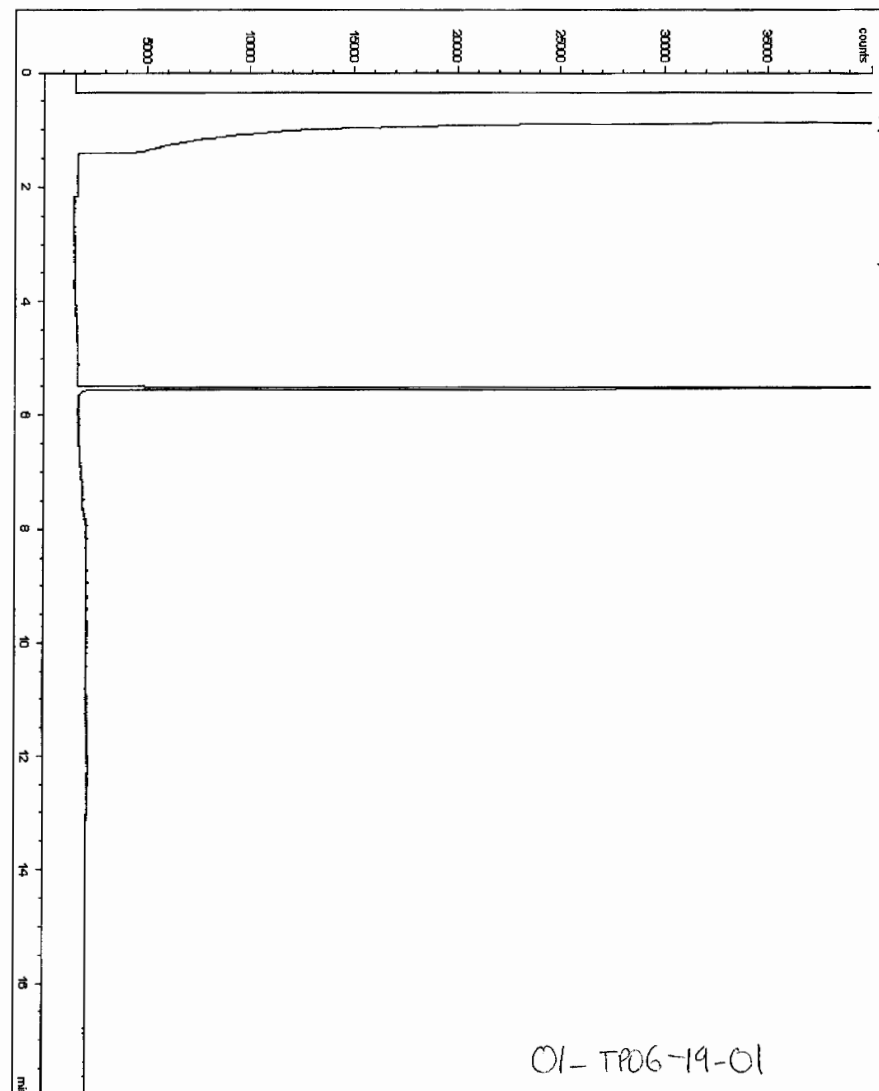


01-TP06-18-02

*** End of Report ***

Data File D:\HPCHEM\1\DATA\GCA0920A\050F1601.D

Sample Name: C80578

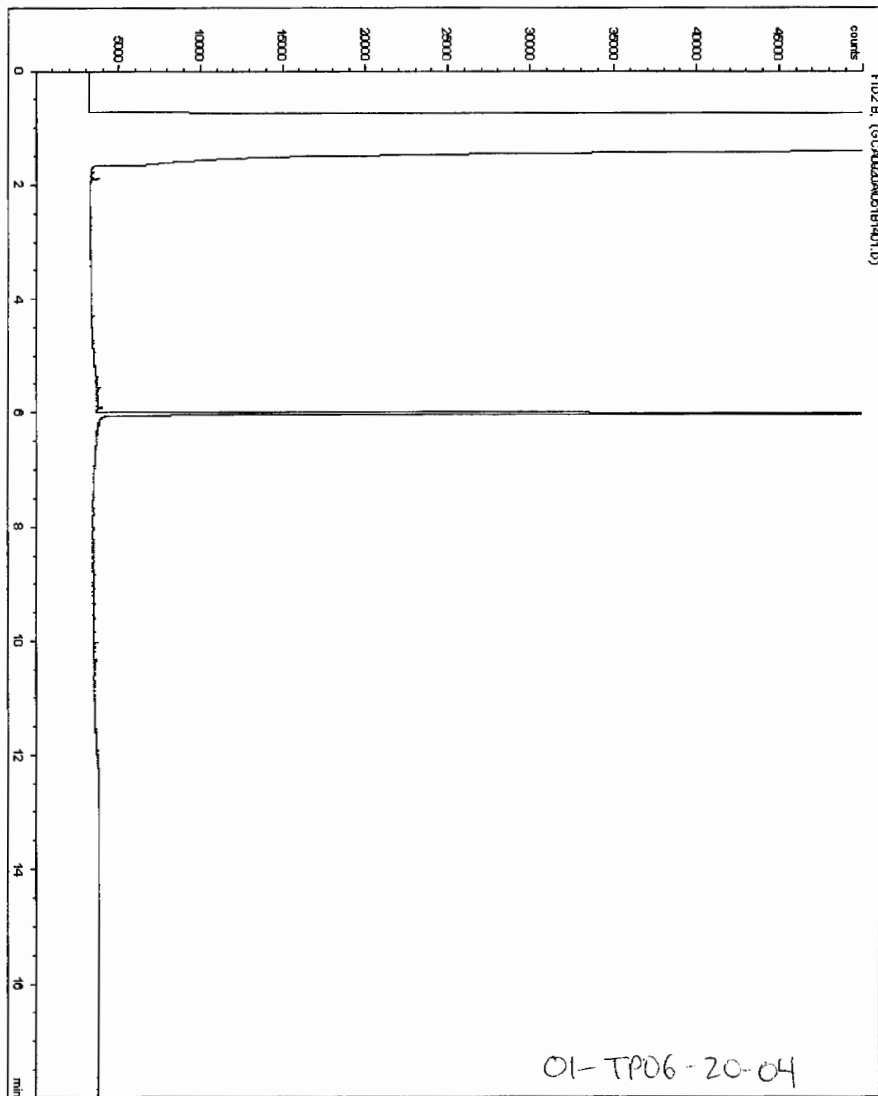


01-TP06-19-01

*** End of Report ***

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Sample Name: C80584

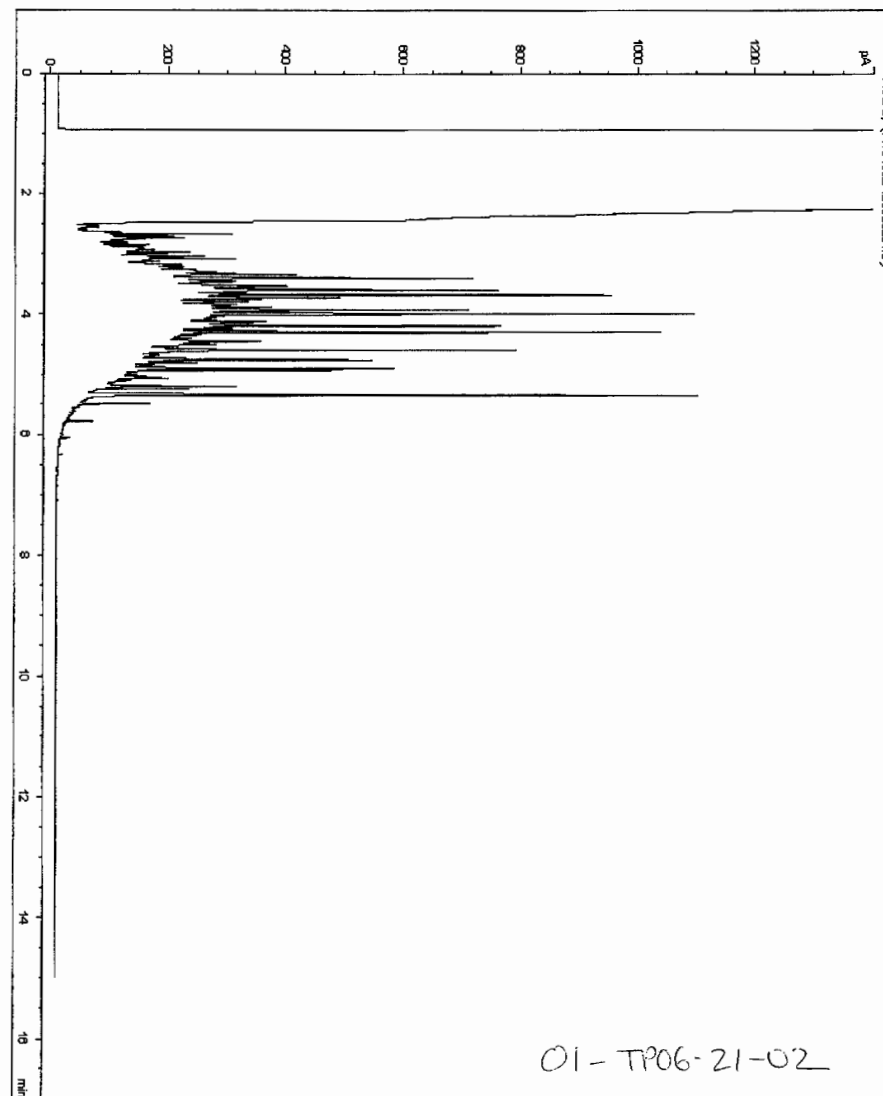


01-TP06-20-04

*** End of Report ***

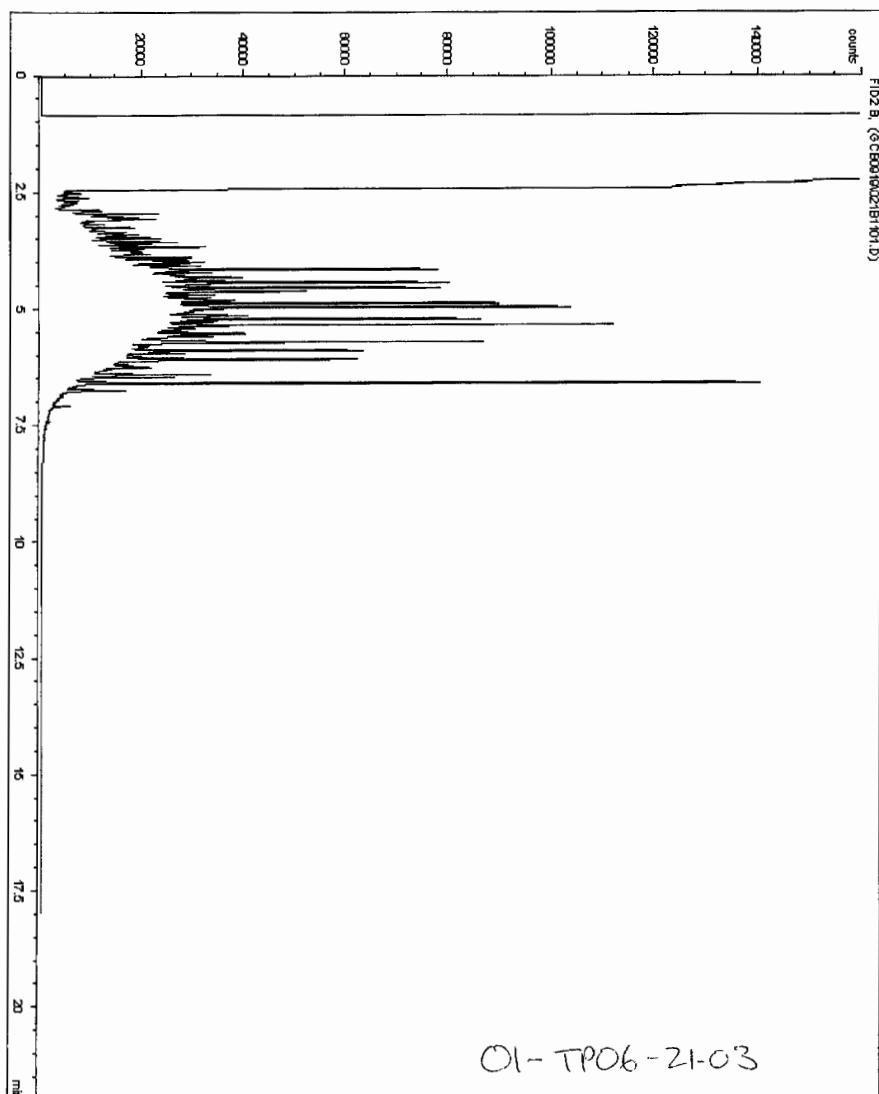
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Sample Name: C80586

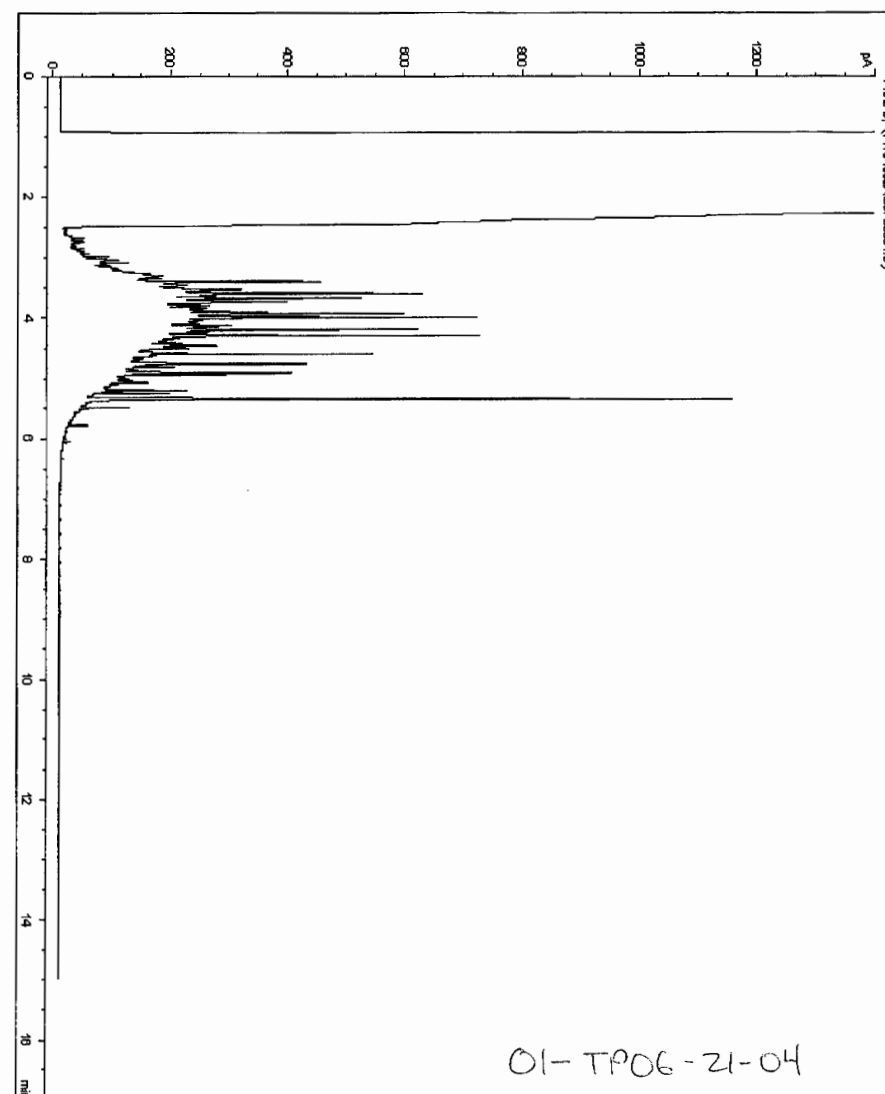


01-TP06-21-02

*** End of Report ***



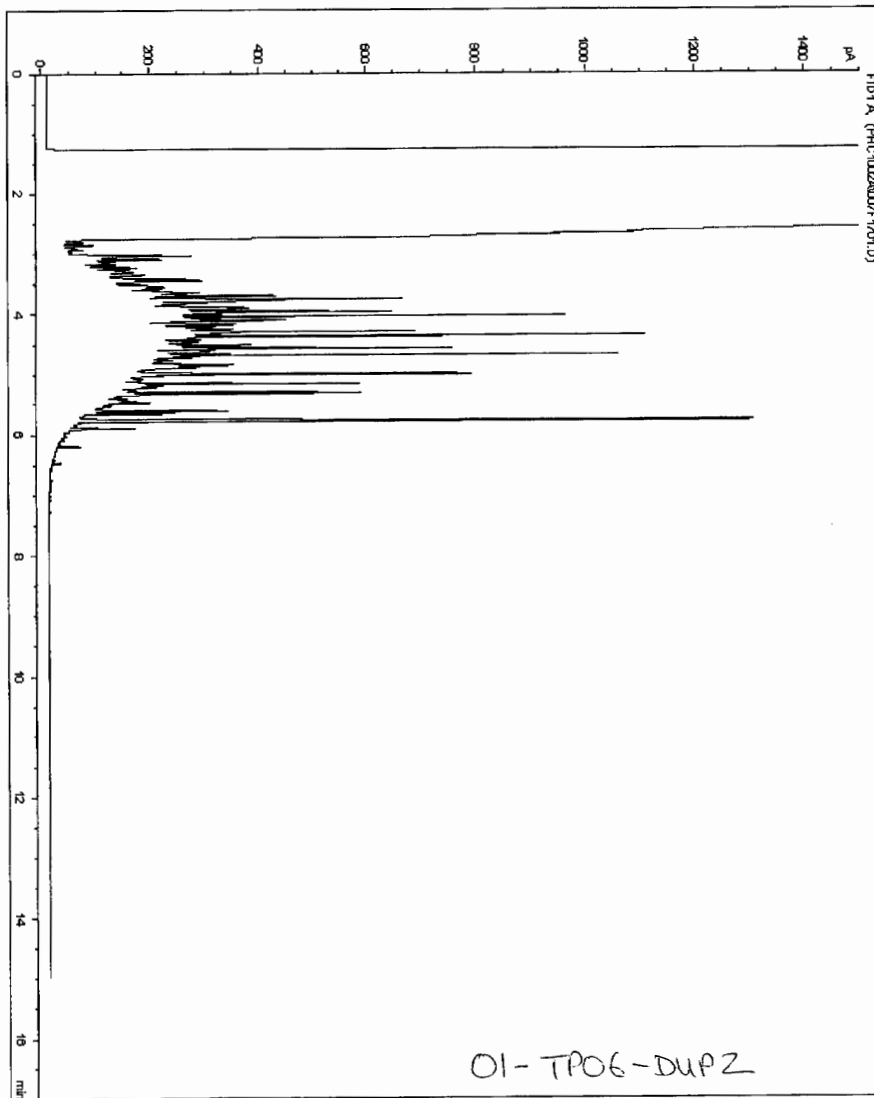
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*** End of Report ***

Data File C:\HPCHEM\1\DATA\PHC1002A\007F1701.D

Sample Name: C80662



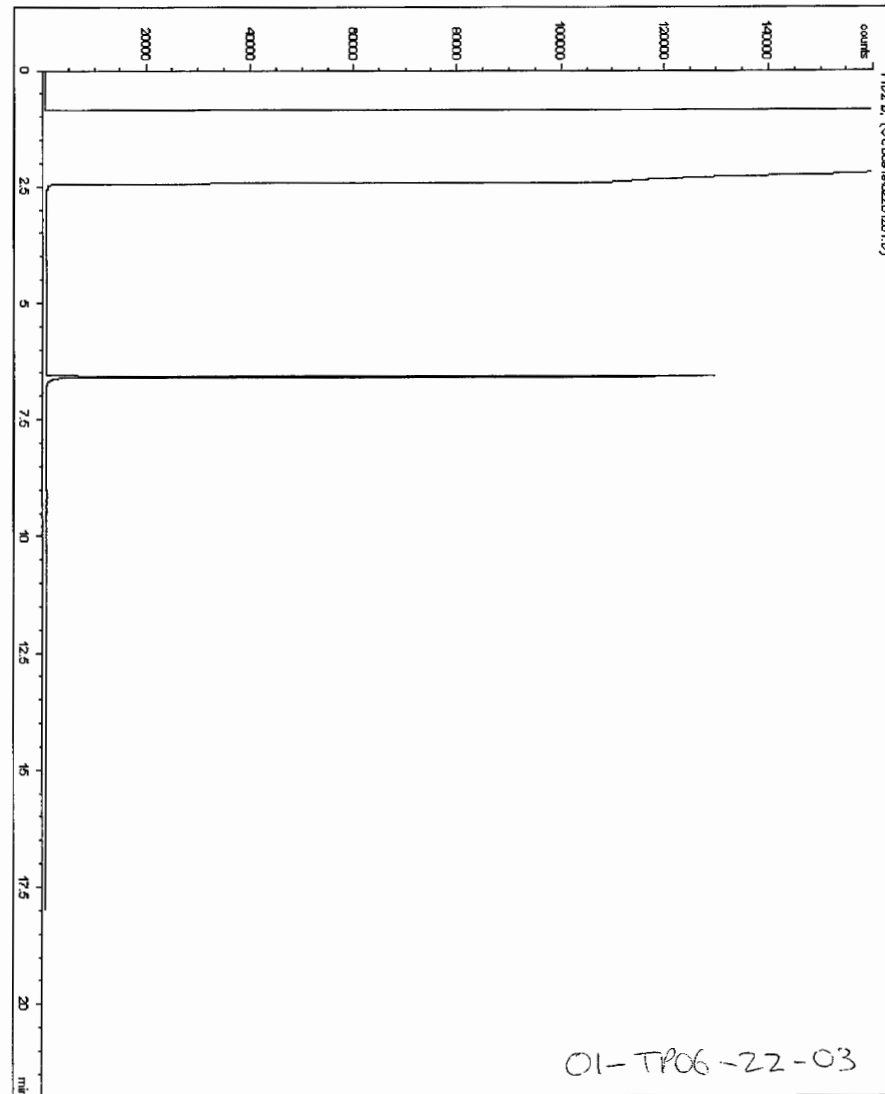
*** End of Report ***

Instrument 1 2007/01/10 2:44:55 PM KRIS

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Data File C:\HPCHEM\1\DATA\GCB0919\022B1201.D

Sample Name: C80658



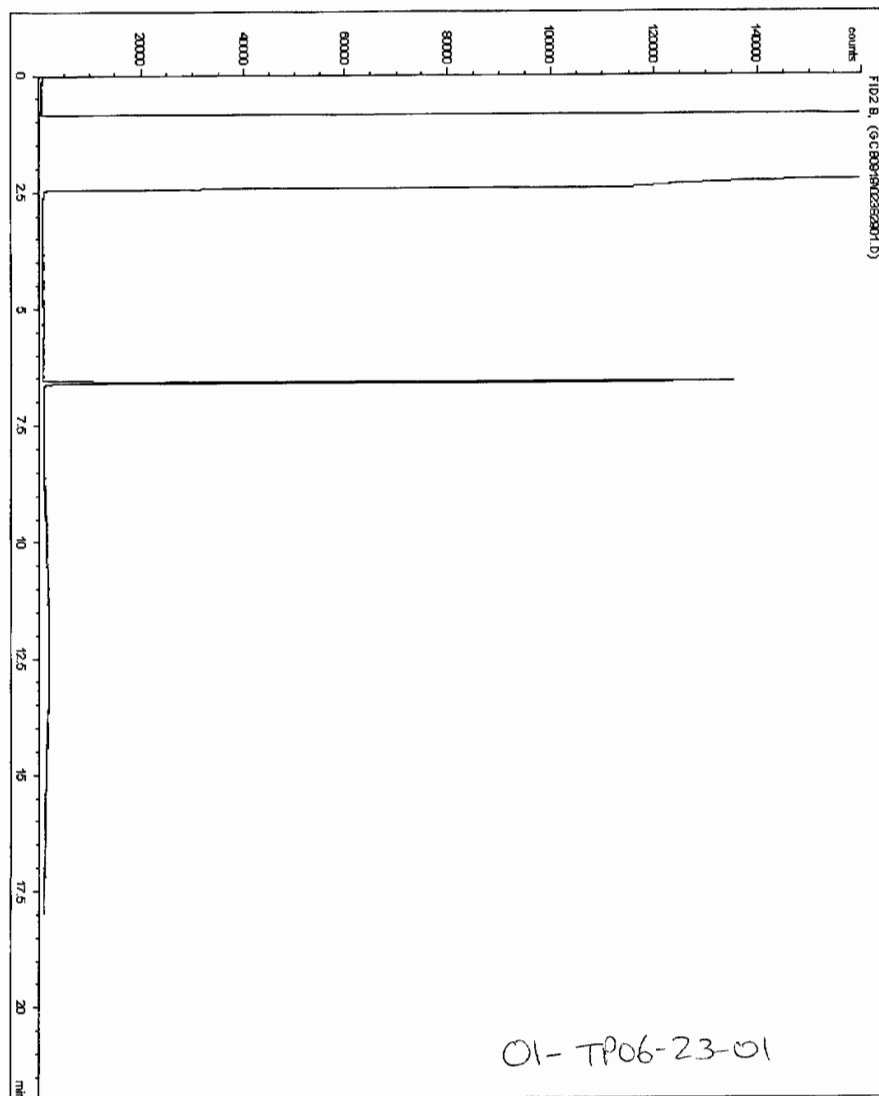
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Instrument 1 2007/01/10 3:05:39 PM AN

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Data File C:\HPCHEM\1\DATA\GCB0919\023B2901.D

Sample Name: C80663

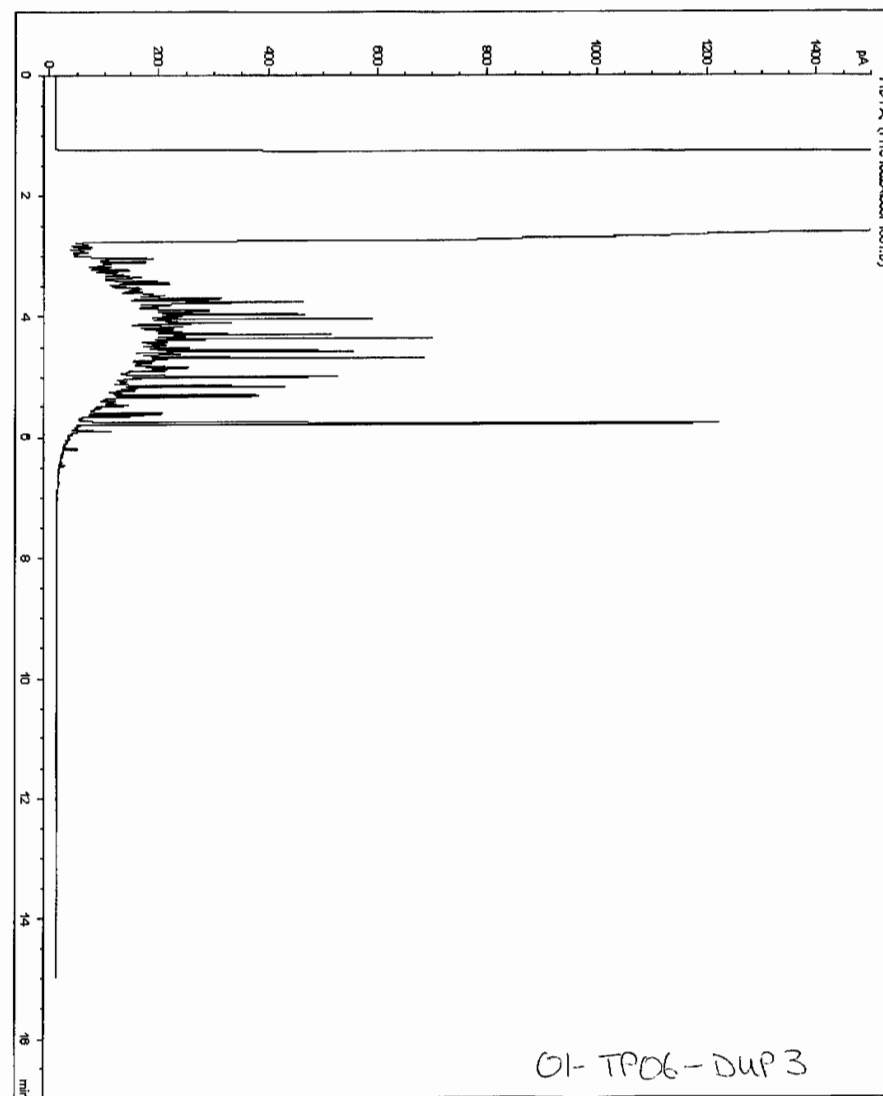


01-TP06-23-01

*** End of Report ***

Data File C:\HPCHEM\1\DATA\PHC1002A\008F1801.D

Sample Name: C80669



01-TP06-DUP3

*** End of Report ***



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115764, 115765

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA ---

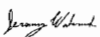
Report Date: 2006/11/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A643248
Received: 2006/09/18, 8:50

Sample Matrix: Soil
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
OCME Hydrocarbons (F2-F4 in soil)	2	2006/09/19	2006/09/19	EENVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	4	2006/09/19	2006/09/20	EENVSOP-00007 v4	CWS PHCS Tier 1
OCME Hydrocarbons (F2-F4 in soil)	1	2006/09/29	2006/10/02	EENVSOP-00007 v4	CWS PHCS Tier 1
Elements by ICP - Soils	1	N/A	2006/11/02	EENVSOP-00034 v1	EPA 6010C
Elements by ICPMS - Soils	1	N/A	2006/11/02	EENVSOP-00123 v2	EPA 6020A
Moisture	6	N/A	2006/09/20	EENVWL-00023 v2	Carter SSMA 51.2
Moisture	1	N/A	2006/10/02	EENVWL-00023 v2	Carter SSMA 51.2

Encryption Key  Jeremy Wakaruk
07 Nov 2008 09:08:05 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAHAL have approved this reporting process and electronic report format.

Total cover pages: 1
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Page 1 of 9



Maxxam Job #: A643248
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: JP

EXTENDED METALS PACKAGE ON SOIL (SOIL)

Maxxam ID	C80873		
Sampling Date	2006/09/14		
COC Number	115764		
Units	01-TP06-04-01	RDL QC Batch	

Elements				
Total Aluminum (Al)	mg/kg	6450	10	1332906
Total Antimony (Sb)	mg/kg	1	1	1332769
Total Arsenic (As)	mg/kg	5	1	1332769
Total Barium (Ba)	mg/kg	140	10	1332769
Total Beryllium (Be)	mg/kg	0.8	0.4	1332769
Total Boron (B)	mg/kg	12	2	1332906
Total Cadmium (Cd)	mg/kg	2.2	0.1	1332769
Total Calcium (Ca)	mg/kg	114000	50	1332906
Total Chromium (Cr)	mg/kg	29	1	1332769
Total Cobalt (Co)	mg/kg	12	1	1332769
Total Copper (Cu)	mg/kg	72	5	1332769
Total Iron (Fe)	mg/kg	16500	10	1332906
Total Lead (Pb)	mg/kg	156	1	1332769
Total Lithium (Li)	mg/kg	15	10	1332906
Total Magnesium (Mg)	mg/kg	45000	20	1332906
Total Manganese (Mn)	mg/kg	379	10	1332906
Total Molybdenum (Mo)	mg/kg	4.6	0.4	1332769
Total Nickel (Ni)	mg/kg	24	1	1332769
Total Phosphorus (P)	mg/kg	1150	20	1332906
Total Potassium (K)	mg/kg	1060	30	1332906
Total Selenium (Se)	mg/kg	0.6	0.5	1332769
Total Silver (Ag)	mg/kg	<1	1	1332769
Total Sodium (Na)	mg/kg	167	50	1332906
Total Strontium (Sr)	mg/kg	80	10	1332906
Total Sulphur (S)	mg/kg	901	20	1332906
Total Thallium (Tl)	mg/kg	<0.3	0.3	1332769
Total Tin (Sn)	mg/kg	4	1	1332769
Total Uranium (U)	mg/kg	<1	1	1332769
Total Vanadium (V)	mg/kg	17	1	1332769
Total Zinc (Zn)	mg/kg	151	10	1332769

RDL = Reportable Detection Limit



Maxxam Job #: A643248
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: JP

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID	C80865	C80868	C80872	C80873		
Sampling Date	2006/09/14	2006/09/14	2006/09/14	2006/09/14		
COC Number	115764	115764	115764	115764		
Units 01-TP06-01-03 01-TP06-02-03 01-TP06-03-03 01-TP06-04-01 RDL QC Batch						

Physical Properties						
Moisture	%	6.6	5.4	17.2	6.6	0.3 1275921

RDL = Reportable Detection Limit

Maxxam ID	C80874	C80877	C80881		
Sampling Date	2006/09/14	2006/09/14	2006/09/14		
COC Number	115764	115765	115765		
Units 01-TP06-04-02 QC Batch 01-TP06-05-01 01-TP06-06-02 RDL QC Batch					

Physical Properties						
Moisture	%	6.2	1291312	5.5	4.9	0.3 1275921

RDL = Reportable Detection Limit



Maxxam Job #: A643248
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: JP

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID	C80865	C80868	C80872		
Sampling Date	2006/09/14	2006/09/14	2006/09/14		
COC Number	115764	115764	115764		
Units 01-TP06-01-03 01-TP06-02-03 QC Batch 01-TP06-03-03 RDL QC Batch					

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	19	25	1275137	54	10 1275799
F3 (C16-C34 Hydrocarbons)	mg/kg	273	645	1275137	520	10 1275799
F4 (C34-C50 Hydrocarbons)	mg/kg	199	182	1275137	86	10 1275799
Reached Baseline at C50	mg/kg	Yes	Yes	1275137	Yes	1 1275799
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	64	76	1275137	83	1275799

RDL = Reportable Detection Limit

Maxxam ID	C80873	C80874		
Sampling Date	2006/09/14	2006/09/14		
COC Number	115764	115764		
Units 01-TP06-04-01 QC Batch 01-TP06-04-02 RDL QC Batch				

Ext. Pet. Hydrocarbon						
F2 (C10-C16 Hydrocarbons)	mg/kg	205	1275799	81	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	2830	1275799	1410	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	450	1275799	246	10	1290350
Reached Baseline at C50	mg/kg	No	1275799	Yes	1	1290350
Surrogate Recovery (%)						
O-TERPHENYL (sur.)	%	82	1275799	78		1290350

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C80877	C80881		
Sampling Date		2006/09/14	2006/09/14		
COC Number		115765	115765		
	Units	01-TP08-06-01	01-TP06-06-02	RDL	QC Batch

Ext. Pet. Hydrocarbon					
F2 (C10-C16 Hydrocarbons)	mg/kg	38	73	10	1275799
F3 (C16-C34 Hydrocarbons)	mg/kg	378	203	10	1275799
F4 (C34-C50 Hydrocarbons)	mg/kg	69	26	10	1275799
Reached Baseline at C50	mg/kg	Yes	Yes	1	1275799
Surrogate Recovery (%)					
O-TERPHENYL (sur.)	%	85	83		1275799

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME) Comments

Sample C80872-01 CCME Hydrocarbons (F2-F4 in soil): DUPLICATES DO NOT MATCH DUE TO SAMPLE AND DUPLICATE BEING <5X'S MDL

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: EA643248

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1275137 AN1	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/09/19	103	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/19	128	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/09/19	128	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/09/19	117	%	50 - 130	
	SPIKE	O-TERPHENYL (sur.)	2006/09/19	75	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/19	95	%	80 - 120	
		F3 (C16-C34 Hydrocarbons)	2006/09/19	88	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/09/19	90	%	80 - 120	
	BLANK	O-TERPHENYL (sur.)	2006/09/19	71	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/19	<10	mg/kg		
		F3 (C16-C34 Hydrocarbons)	2006/09/19	<10	mg/kg		
		F4 (C34-C50 Hydrocarbons)	2006/09/19	<10	mg/kg		
		Reached Baseline at C50	2006/09/19	YES, RDL=1	mg/kg		
	RPD	F2 (C10-C16 Hydrocarbons)	2006/09/19	NC	%	50	
		F3 (C16-C34 Hydrocarbons)	2006/09/19	43.0	%	50	
		F4 (C34-C50 Hydrocarbons)	2006/09/19	NC	%	50	
		Reached Baseline at C50	2006/09/19	NC	%	50	
1275799 KB4	MATRIX SPIKE [C80873-01]	O-TERPHENYL (sur.)	2006/09/20	74	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/20	88	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/09/20	87	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/09/20	75	%	50 - 130	
	SPIKE	O-TERPHENYL (sur.)	2006/09/20	82	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/20	100	%	80 - 120	
		F3 (C16-C34 Hydrocarbons)	2006/09/20	89	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/09/20	87	%	80 - 120	
	BLANK	O-TERPHENYL (sur.)	2006/09/20	88	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/20	<10	mg/kg		
		F3 (C16-C34 Hydrocarbons)	2006/09/20	<10	mg/kg		
		F4 (C34-C50 Hydrocarbons)	2006/09/20	<10	mg/kg		
		Reached Baseline at C50	2006/09/20	YES, RDL=1	mg/kg		
	RPD [C80872-01]	F2 (C10-C16 Hydrocarbons)	2006/09/20	NC	%	50	
		F3 (C16-C34 Hydrocarbons)	2006/09/20	30.9	%	50	
		F4 (C34-C50 Hydrocarbons)	2006/09/20	39.5	%	50	
		Reached Baseline at C50	2006/09/20	NC	%	50	
1275921 CN1	BLANK	Moisture	2006/09/20	<0.3	%		
1290350 KB4	RPD	Moisture	2006/09/20	4.3	%	20	
	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/02	88	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	34	%	N/A	
		F3 (C16-C34 Hydrocarbons)	2006/10/02	79	%	N/A	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	98	%	N/A	
	SPIKE	O-TERPHENYL (sur.)	2006/10/02	81	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	98	%	85 - 115	
		F3 (C16-C34 Hydrocarbons)	2006/10/02	98	%	85 - 115	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	101	%	85 - 115	
	BLANK	O-TERPHENYL (sur.)	2006/10/02	85	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	<10	mg/kg		
		F3 (C16-C34 Hydrocarbons)	2006/10/02	<10	mg/kg		
		F4 (C34-C50 Hydrocarbons)	2006/10/02	<10	mg/kg		
		Reached Baseline at C50	2006/10/02	YES, RDL=1	mg/kg		
	RPD	F2 (C10-C16 Hydrocarbons)	2006/10/02	NC	%	50	
		F3 (C16-C34 Hydrocarbons)	2006/10/02	24.1	%	50	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	36.0	%	50	
		Reached Baseline at C50	2006/10/02	NC	%	50	
1291312 HL2	BLANK	Moisture	2006/10/02	<0.3	%		

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643248

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1291312 HL2	RPD	Moisture	2006/10/02	1.2	%	20	
1332769 LL2	Calibration Check	Total Antimony (Sb)	2006/11/02	105	%	80 - 120	
		Total Arsenic (As)	2006/11/02	103	%	80 - 120	
		Total Barium (Ba)	2006/11/02	98	%	80 - 120	
		Total Beryllium (Be)	2006/11/02	99	%	80 - 120	
		Total Cadmium (Cd)	2006/11/02	98	%	80 - 120	
		Total Chromium (Cr)	2006/11/02	99	%	80 - 120	
		Total Cobalt (Co)	2006/11/02	101	%	80 - 120	
		Total Copper (Cu)	2006/11/02	103	%	80 - 120	
		Total Lead (Pb)	2006/11/02	99	%	80 - 120	
		Total Molybdenum (Mo)	2006/11/02	98	%	80 - 120	
		Total Nickel (Ni)	2006/11/02	101	%	80 - 120	
		Total Selenium (Se)	2006/11/02	102	%	80 - 120	
		Total Silver (Ag)	2006/11/02	103	%	80 - 120	
		Total Thallium (Tl)	2006/11/02	97	%	80 - 120	
		Total Tin (Sn)	2006/11/02	100	%	80 - 120	
		Total Uranium (U)	2006/11/02	104	%	80 - 120	
		Total Vanadium (V)	2006/11/02	100	%	80 - 120	
		Total Zinc (Zn)	2006/11/02	100	%	80 - 120	
	MATRIX SPIKE	Total Arsenic (As)	2006/11/02	97	%	75 - 125	
		Total Cadmium (Cd)	2006/11/02	98	%	75 - 125	
		Total Lead (Pb)	2006/11/02	82	%	75 - 125	
		Total Selenium (Se)	2006/11/02	106	%	75 - 125	
		Total Thallium (Tl)	2006/11/02	95	%	75 - 125	
	BLANK	Total Antimony (Sb)	2006/11/02	<1	mg/kg		
		Total Arsenic (As)	2006/11/02	<1	mg/kg		
		Total Barium (Ba)	2006/11/02	<10	mg/kg		
		Total Beryllium (Be)	2006/11/02	<0.4	mg/kg		
		Total Cadmium (Cd)	2006/11/02	<0.1	mg/kg		
		Total Chromium (Cr)	2006/11/02	<1	mg/kg		
		Total Cobalt (Co)	2006/11/02	<1	mg/kg		
		Total Copper (Cu)	2006/11/02	<5	mg/kg		
		Total Lead (Pb)	2006/11/02	<1	mg/kg		
		Total Molybdenum (Mo)	2006/11/02	<0.4	mg/kg		
		Total Nickel (Ni)	2006/11/02	<1	mg/kg		
		Total Selenium (Se)	2006/11/02	<0.5	mg/kg		
		Total Silver (Ag)	2006/11/02	<1	mg/kg		
		Total Thallium (Tl)	2006/11/02	<0.3	mg/kg		
		Total Tin (Sn)	2006/11/02	<1	mg/kg		
		Total Uranium (U)	2006/11/02	<1	mg/kg		
		Total Vanadium (V)	2006/11/02	<1	mg/kg		
		Total Zinc (Zn)	2006/11/02	<10	mg/kg		
	RPD	Total Antimony (Sb)	2006/11/02	NC	%	35	
		Total Arsenic (As)	2006/11/02	NC	%	35	
		Total Barium (Ba)	2006/11/02	9.1	%	35	
		Total Beryllium (Be)	2006/11/02	NC	%	35	
		Total Cadmium (Cd)	2006/11/02	NC	%	35	
		Total Chromium (Cr)	2006/11/02	6.4	%	35	
		Total Cobalt (Co)	2006/11/02	1.9	%	35	
		Total Copper (Cu)	2006/11/02	NC	%	35	
		Total Lead (Pb)	2006/11/02	1.9	%	35	
		Total Molybdenum (Mo)	2006/11/02	NC	%	35	
		Total Nickel (Ni)	2006/11/02	3.2	%	35	
		Total Selenium (Se)	2006/11/02	NC	%	35	
		Total Silver (Ag)	2006/11/02	NC	%	35	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANN PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643248

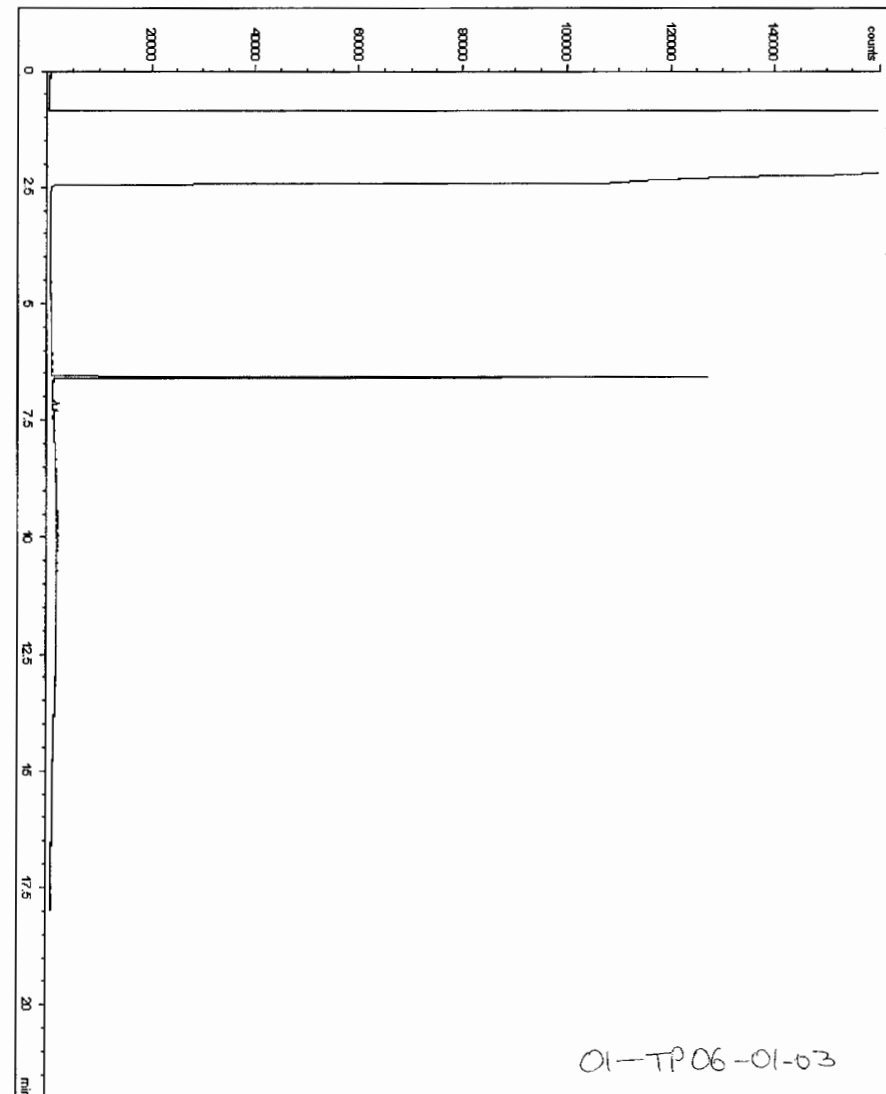
QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yy/mm/dd	Value	Recovery	Units	QC Limits
1332769 LL2	RPD	Total Thallium (Tl)	2006/11/02	NC	%		35
		Total Tin (Sn)	2006/11/02	NC	%		35
		Total Uranium (U)	2006/11/02	NC	%		35
		Total Vanadium (V)	2006/11/02	12.9	%		35
		Total Zinc (Zn)	2006/11/02	10.1	%		35
1332906 MC3	Calibration Check	Total Aluminum (Al)	2006/11/02		96	%	80 - 120
		Total Boron (B)	2006/11/02		97	%	80 - 120
		Total Calcium (Ca)	2006/11/02		98	%	80 - 120
		Total Iron (Fe)	2006/11/02		95	%	80 - 120
		Total Lithium (Li)	2006/11/02		103	%	80 - 120
	SPIKE	Total Magnesium (Mg)	2006/11/02		97	%	80 - 120
		Total Manganese (Mn)	2006/11/02		94	%	80 - 120
		Total Phosphorus (P)	2006/11/02		98	%	80 - 120
		Total Potassium (K)	2006/11/02		101	%	80 - 120
		Total Sodium (Na)	2006/11/02		102	%	80 - 120
		Total Strontium (Sr)	2006/11/02		95	%	80 - 120
		Total Aluminum (Al)	2006/11/02		100	%	75 - 125
		Total Boron (B)	2006/11/02		104	%	80 - 120
		Total Calcium (Ca)	2006/11/02		87	%	75 - 125
		Total Iron (Fe)	2006/11/02		92	%	75 - 125
1332906 MC3	BLANK	Total Lithium (Li)	2006/11/02		103	%	75 - 125
		Total Magnesium (Mg)	2006/11/02		100	%	75 - 125
		Total Manganese (Mn)	2006/11/02		95	%	75 - 125
		Total Phosphorus (P)	2006/11/02		98	%	75 - 125
		Total Potassium (K)	2006/11/02		102	%	75 - 125
	RPD	Total Sodium (Na)	2006/11/02		108	%	75 - 125
		Total Strontium (Sr)	2006/11/02		95	%	75 - 125
		Total Aluminum (Al)	2006/11/02	<10		mg/kg	
		Total Boron (B)	2006/11/02	<2		mg/kg	
		Total Calcium (Ca)	2006/11/02	<50		mg/kg	
		Total Iron (Fe)	2006/11/02	<10		mg/kg	
		Total Lithium (Li)	2006/11/02	<10		mg/kg	
		Total Magnesium (Mg)	2006/11/02	<20		mg/kg	
		Total Manganese (Mn)	2006/11/02	<10		mg/kg	
		Total Phosphorus (P)	2006/11/02	<20		mg/kg	
		Total Potassium (K)	2006/11/02	<30		mg/kg	
		Total Sodium (Na)	2006/11/02	<50		mg/kg	
		Total Strontium (Sr)	2006/11/02	<10		mg/kg	
		Total Sulphur (S)	2006/11/02	<20		mg/kg	
		Total Aluminum (Al)	2006/11/02	0.05		%	35
		Total Boron (B)	2006/11/02	2.2		%	35
		Total Calcium (Ca)	2006/11/02	0.3		%	35
		Total Iron (Fe)	2006/11/02	0.6		%	35
		Total Lithium (Li)	2006/11/02	NC		%	35
		Total Magnesium (Mg)	2006/11/02	0.2		%	35
		Total Manganese (Mn)	2006/11/02	0.2		%	35
		Total Phosphorus (P)	2006/11/02	1.3		%	35
		Total Potassium (K)	2006/11/02	0.1		%	35
		Total Sodium (Na)	2006/11/02	NC		%	35
		Total Strontium (Sr)	2006/11/02	0.4		%	35
		Total Sulphur (S)	2006/11/02	0.4		%	35

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference

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Sample Name: C80865



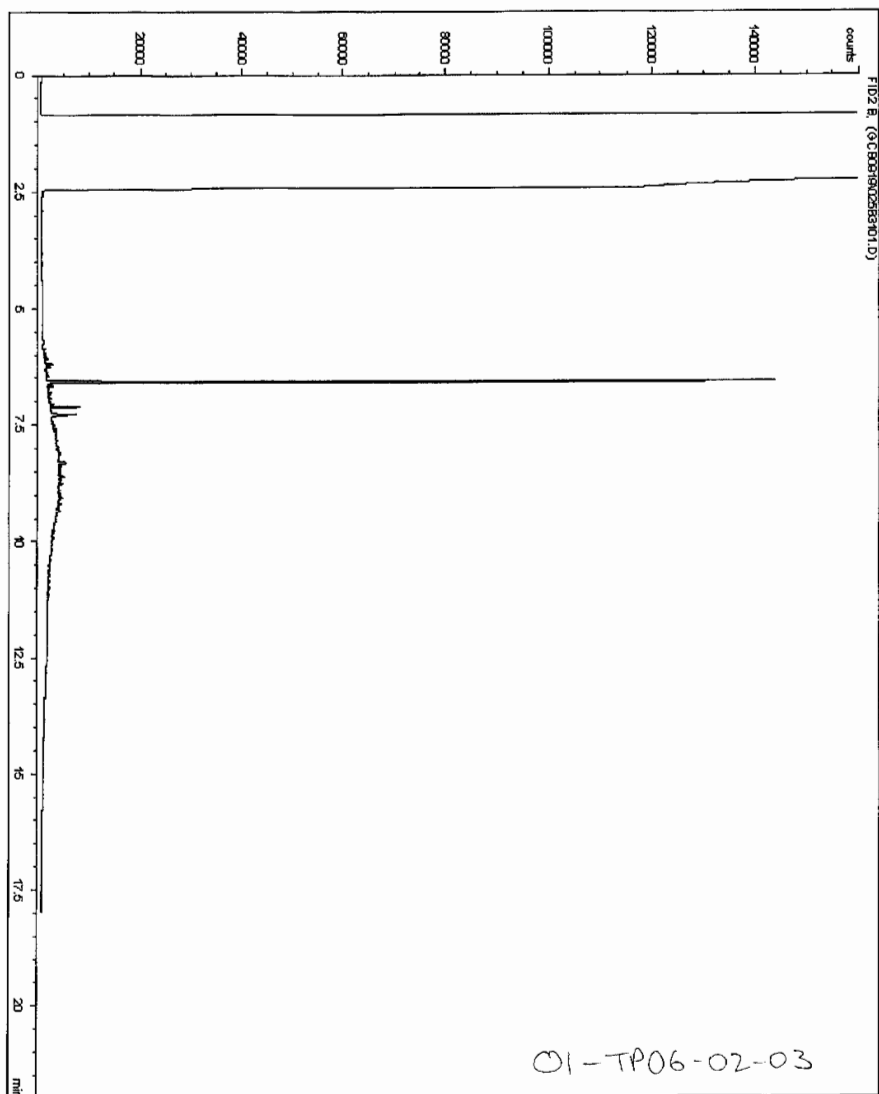
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Instrument 1 2007/01/11 9:50:26 AM AN

Page 1 of 1

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Sample Name: C80868

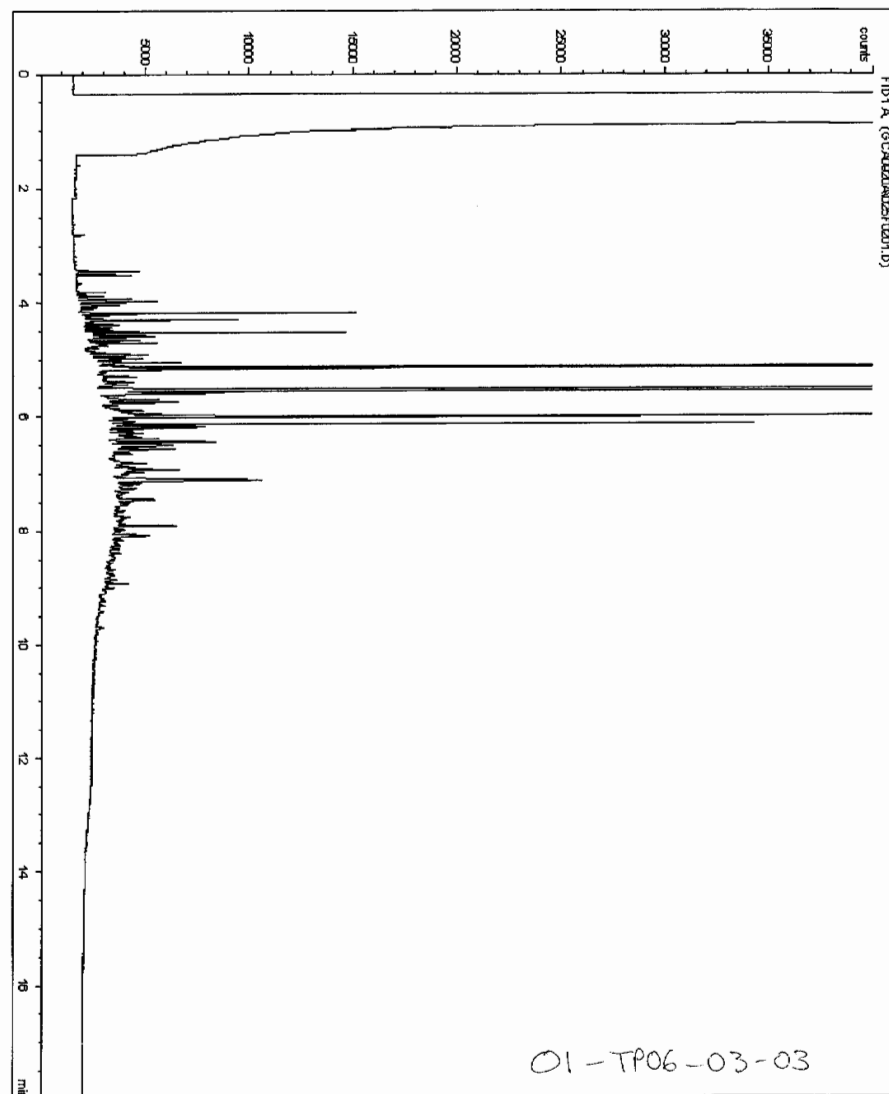


01-TP06-02-03

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Sample Name: C80872

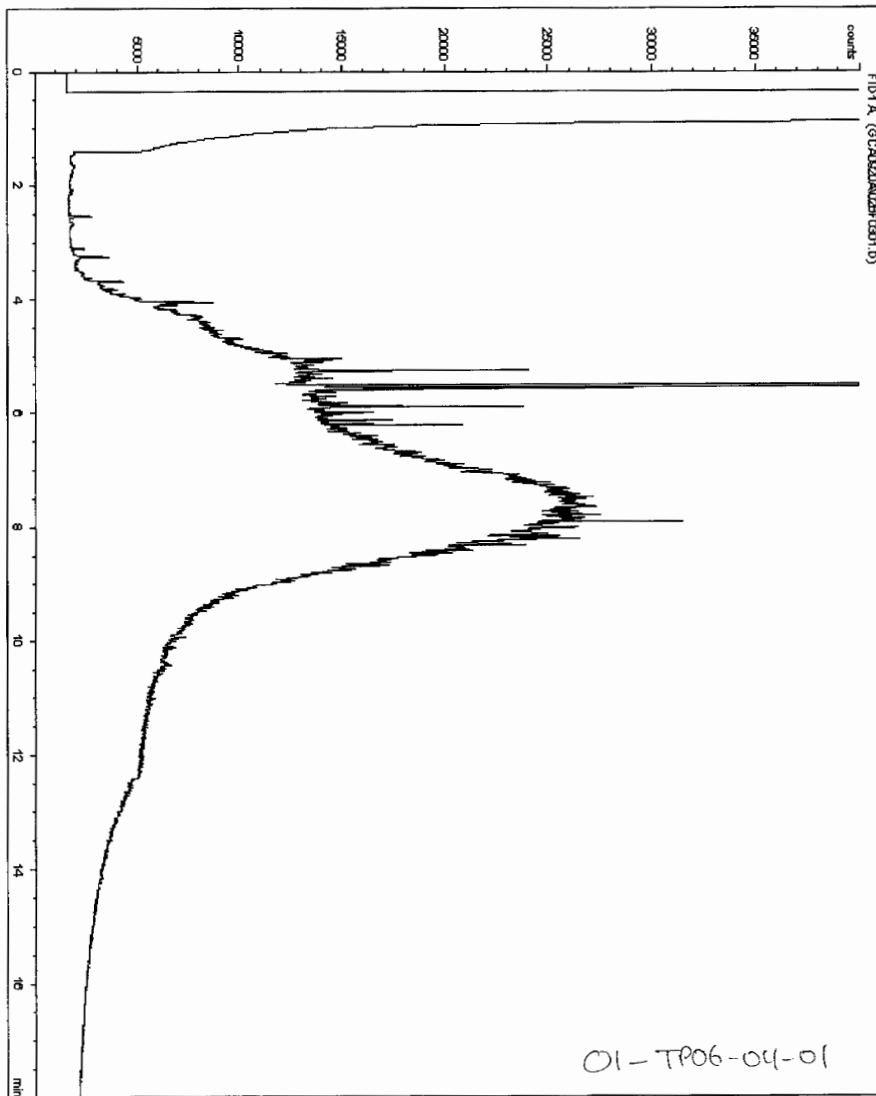


01-TP06-03-03

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Sample Name: C80873



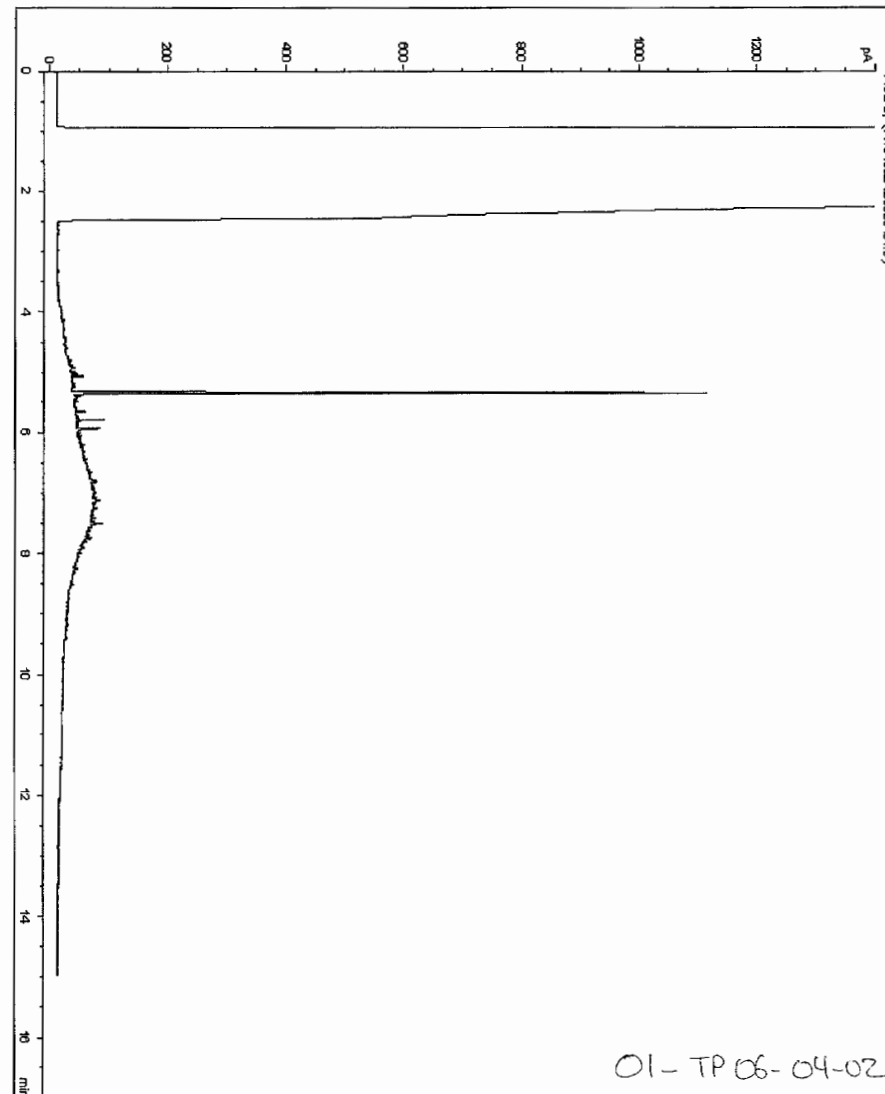
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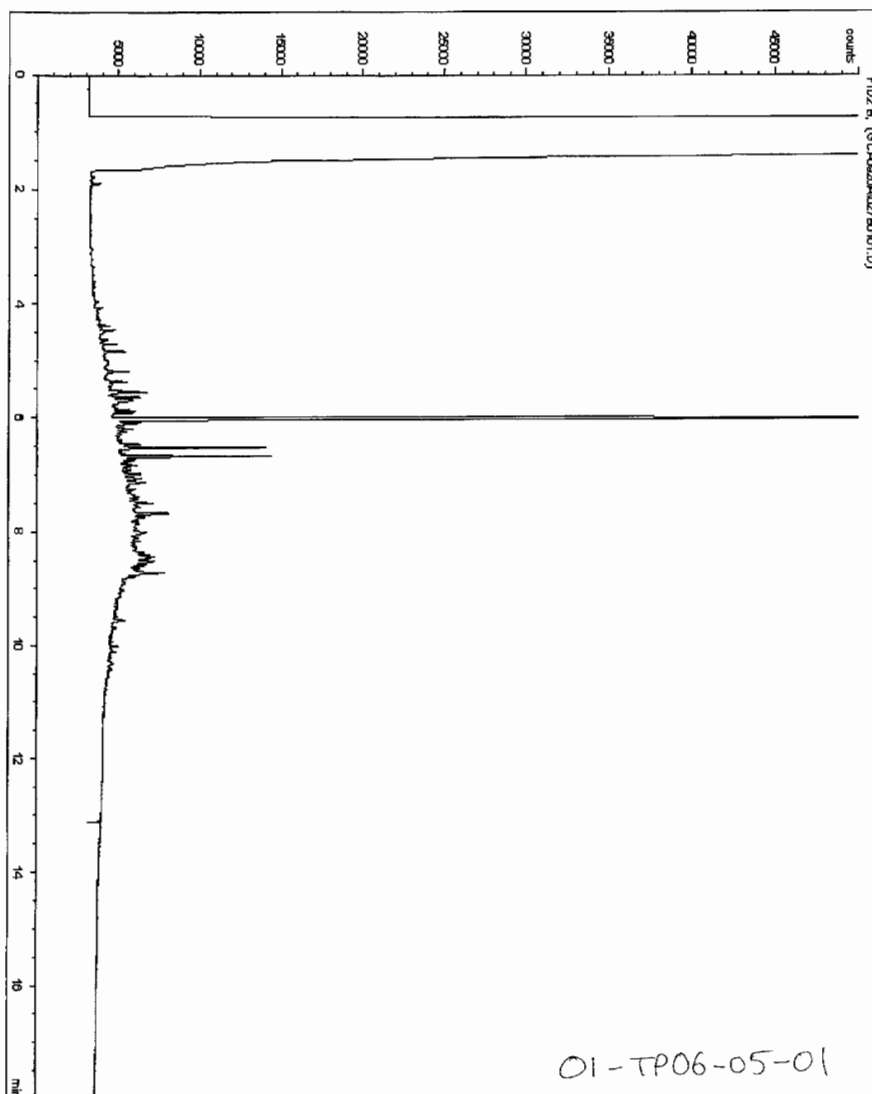
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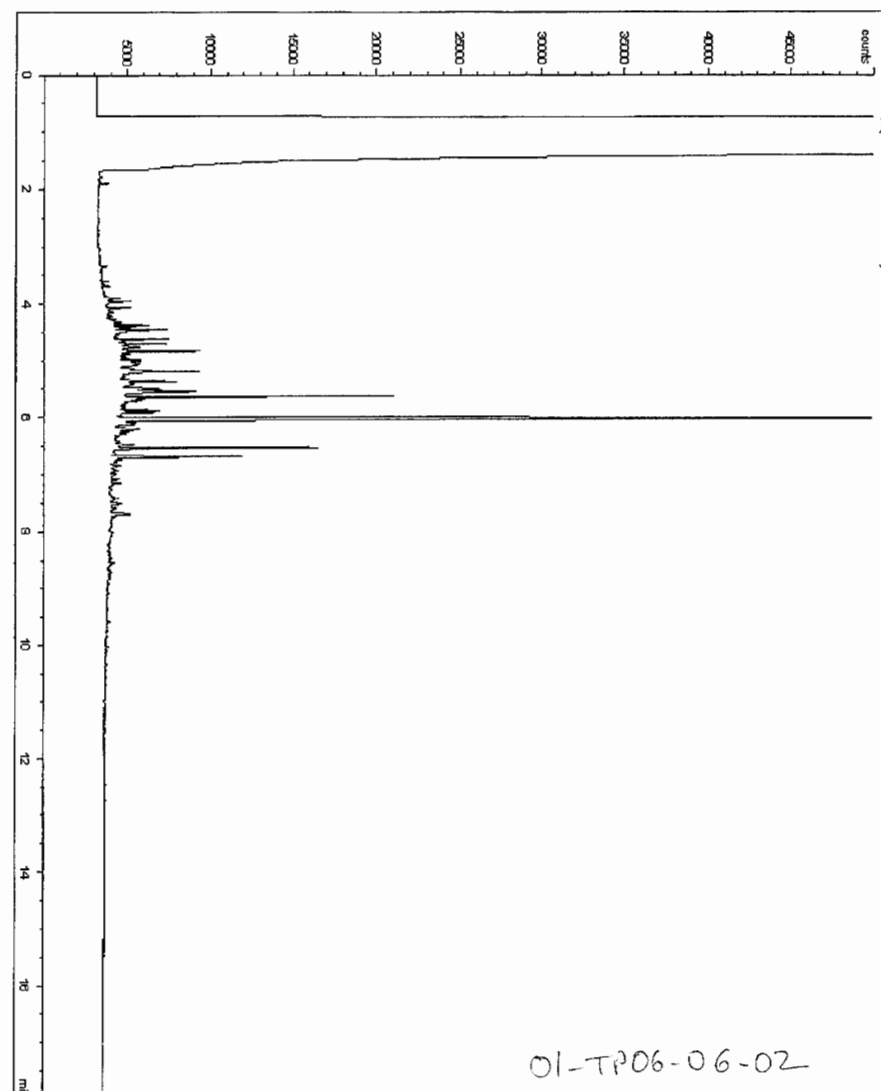
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Instrument 1 2007/01/11 10:08:19 AM KRIS

Page 1 of 1



*** End of Report ***



*** End of Report ***



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115781, 115780, 115782

Attention: **MICHAEL MUTTERSACH**
FRANZ ENVIRONMENTAL INC.
FRANZEN-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/11/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A643501
Received: 2006/09/19, 9:25

Sample Matrix: Soil
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX by HS GC/MS (MeOH extract)	1	2006/09/20	2006/09/20	EEENV SOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	4	2006/09/29	2006/09/29	EEENV SOP-00005 V.2	EPA 8260B/5021A
F1-BTEX Soil Cal	1	2006/09/20	2006/09/20		
F1-BTEX Soil Cal	4	2006/09/29	2006/09/29		
CCME Hydrocarbons (F1; MeOH; HSGC)	1	2006/09/20	2006/09/20	EEENV SOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F1; MeOH; HSGC)	4	2006/09/29	2006/10/02	EEENV SOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in soil)	7	2006/09/21	2006/09/21	EEENV SOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	2	2006/10/02	2006/10/02	EEENV SOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	2	2006/10/18	2006/10/18	EEENV SOP-00007 v4	CWS PHCS Tier 1
Elements by ICP - Soils	1	N/A	2006/11/02	EEENV SOP-30034 v1	EPA 6010C
Elements by ICPMS - Soils	1	N/A	2006/11/02	EEENV SOP-30123 v2	EPA 6020A
Moisture	7	N/A	2006/09/20	EEENV WI-00023 v2	Carter SSMA 51.2
Moisture	3	N/A	2006/09/29	EEENV WI-00023 v2	Carter SSMA 51.2
Moisture	2	N/A	2006/10/02	EEENV WI-00023 v2	Carter SSMA 51.2
PAH in Soil by GC/MS (Extended)	1	2006/09/19	2006/09/21	EEENV SOP-00010 v3	EPA 3510C/8270D
PAH in Soil by GC/MS (Extended)	1	2006/09/29	2006/10/02	EEENV SOP-00010 v3	EPA 3510C/8270D

Encryption Key  67 Nov 2006 09:11:42 47:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, B.Sc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAVAL have approved this reporting process and electronic report format.

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Maxxam Job #: A643501
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

CCMEHC MECHANICAL EXTRACTION (SOIL)

Maxxam ID		C82517		C82518	C82536		
Sampling Date		2006/09/17		2006/09/17	2006/09/17		
COC Number		115780		115780	115782		
	Units	01-TP06-28-02	QC Batch	01-TP06-28-03	02-TP06-02-02	RDL	QC Batch
Physical Properties							
Moisture	%	11.3	1276709	9.1	7.1	0.3	1290090
Ext. Pet. Hydrocarbon							
F1 (C06-C10)	mg/kg	118	1290080	61	77	10	1290080
F1 (C06-C10) - BTEX	mg/kg	118	1290328	61	77	10	1290328
F2 (C10-C16 Hydrocarbons)	mg/kg	2560	1278798	559	610	10	1312545
F3 (C16-C34 Hydrocarbons)	mg/kg	3650	1278798	6920	1460	10	1312545
F4 (C34-C50 Hydrocarbons)	mg/kg	630	1278798	1070	449	10	1312545
Reached Baseline at C50	mg/kg	Yes	1278798	Yes	Yes	1	1312545
Volatiles							
Benzene	mg/kg	<0.0050	1290079	<0.0050	<0.0050	0.0050	1290079
Toluene	mg/kg	<0.020	1290079	<0.020	<0.020	0.020	1290079
Ethylbenzene	mg/kg	<0.010	1290079	<0.010	<0.010	0.010	1290079
Xylenes (Total)	mg/kg	0.031	1290079	<0.020	0.038	0.020	1290079
m & p-Xylene	mg/kg	<0.020	1290079	<0.020	<0.020	0.020	1290079
o-Xylene	mg/kg	0.031	1290079	<0.020	0.038	0.020	1290079
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	83	1290080	84	84		1290080
O-TERPHENYL (sur.)	%	97	1278798	77	71		1312545
4-BROMOFLUOROBENZENE (sur.)	%	111	1290079	110	100		1290079
D10-ETHYLBENZENE (sur.)	%	128	1290079	129	120		1290079
D4-1,2-DICHLOROETHANE (sur.)	%	97	1290079	97	95		1290079
D8-TOLUENE (sur.)	%	101	1290079	100	102		1290079
RDL = Reportable Detection Limit							



Maxxam Job #: A643501
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

CCMEHC MECHANICAL EXTRACTION (SOIL)

Maxxam ID	C82539	C82540
Sampling Date	2006/09/17	2006/09/17
COC Number	115782	115782
Units	02-TP06-02-04	02-TP06-02-05
QC Batch		RDL

Physical Properties						
Moisture	%	20.3	1276709	15.7	0.3	1290090
Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	26	1276708	<10	10	1290080
F1 (C06-C10) - BTEX	mg/kg	21	1276559	<10	10	1290328
F2 (C10-C16 Hydrocarbons)	mg/kg	32	1278796		10	
F3 (C16-C34 Hydrocarbons)	mg/kg	68	1278798		10	
F4 (C34-C50 Hydrocarbons)	mg/kg	47	1278798		10	
Reached Baseline at C50	mg/kg	Yes	1278798		1	
Volatiles						
Benzene	mg/kg	0.074	1276705	0.024	0.0050	1290079
Toluene	mg/kg	0.14	1276705	<0.020	0.020	1290079
Ethylbenzene	mg/kg	0.33	1276705	<0.010	0.010	1290079
Xylenes (Total)	mg/kg	4.9	1276705	<0.020	0.020	1290079
m & p-Xylene	mg/kg	3.6	1276705	<0.020	0.020	1290079
o-Xylene	mg/kg	1.3	1276705	<0.020	0.020	1290079
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	87	1276706	97		1290080
O-TERPHENYL (sur.)	%	69	1278798			
4-BROMOFLUOROBENZENE (sur.)	%	99	1276705	99		1290079
D10-ETHYLBENZENE (sur.)	%	120	1276705	118		1290079
D4-1,2-DICHLOROETHANE (sur.)	%	93	1276705	89		1290079
D8-TOLUENE (sur.)	%	99	1276705	102		1290079
RDL = Reportable Detection Limit						



Maxxam Job #: A643501
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

EXTENDED METALS PACKAGE ON SOIL (SOIL)

Maxxam ID	C82517
Sampling Date	2006/09/17
COC Number	115780
Units	01-TP06-28-02
QC Batch	RDL

Elements				
Total Aluminum (Al)	mg/kg	8170	10	1332906
Total Antimony (Sb)	mg/kg	<1	1	1332769
Total Arsenic (As)	mg/kg	7	1	1332769
Total Barium (Ba)	mg/kg	204	10	1332769
Total Beryllium (Be)	mg/kg	0.9	0.4	1332769
Total Boron (B)	mg/kg	13	2	1332906
Total Cadmium (Cd)	mg/kg	1.8	0.1	1332769
Total Calcium (Ca)	mg/kg	89900	50	1332906
Total Chromium (Cr)	mg/kg	15	1	1332769
Total Cobalt (Co)	mg/kg	12	1	1332769
Total Copper (Cu)	mg/kg	36	5	1332769
Total Iron (Fe)	mg/kg	29300	10	1332906
Total Lead (Pb)	mg/kg	51	1	1332769
Total Lithium (Li)	mg/kg	17	10	1332906
Total Magnesium (Mg)	mg/kg	27300	20	1332906
Total Manganese (Mn)	mg/kg	533	10	1332906
Total Molybdenum (Mo)	mg/kg	1.1	0.4	1332769
Total Nickel (Ni)	mg/kg	26	1	1332769
Total Phosphorus (P)	mg/kg	628	20	1332906
Total Potassium (K)	mg/kg	1390	30	1332906
Total Selenium (Se)	mg/kg	<0.5	0.5	1332769
Total Silver (Ag)	mg/kg	<1	1	1332769
Total Sodium (Na)	mg/kg	90	50	1332906
Total Strontium (Sr)	mg/kg	75	10	1332906
Total Sulphur (S)	mg/kg	2030	20	1332906
Total Thallium (Tl)	mg/kg	<0.3	0.3	1332769
Total Tin (Sn)	mg/kg	4	1	1332769
Total Uranium (U)	mg/kg	<1	1	1332769
Total Vanadium (V)	mg/kg	19	1	1332769
Total Zinc (Zn)	mg/kg	111	10	1332769
RDL = Reportable Detection Limit				

PAHS SOIL CCME (SOIL)

Maxxam ID		C82517		C82543		
Sampling Date		2006/09/17		2006/09/17		
COC Number		115780		115782		
	Units	01-TP06-26-02	QC Batch	01-TP06-DUP-5	RDL	QC Batch

Polycyclic Aromatics						
Naphthalene	mg/kg	0.21	1275926	<0.05	0.05	1289491
2-Methylnaphthalene	mg/kg	1.7	1275926	<0.05	0.05	1289491
Acenaphthylene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Acenaphthene	mg/kg	0.09	1275926	<0.05	0.05	1289491
Fluorene	mg/kg	0.24	1275926	<0.05	0.05	1289491
Phenanthrene	mg/kg	0.34	1275926	0.05	0.05	1289491
Anthracene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Fluoranthene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Pyrene	mg/kg	<0.05	1275926	0.08	0.05	1289491
Benzo(a)anthracene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Chrysene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Benzo(b&j)fluoranthene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Benzo(k)fluoranthene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Benzo(a)pyrene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Dibenz(a,h)anthracene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Benzo(g,h,i)perylene	mg/kg	<0.05	1275926	<0.05	0.05	1289491
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	118	1275926	124		1289491
D12-BENZO(A)PYRENE (sur.)	%	111	1275926	115		1289491
D8-ACENAPHTHYLENE (sur.)	%	115	1275926	125		1289491
TERPHENYL-D14 (sur.)	%	114	1275926	120		1289491
RDL = Reportable Detection Limit						

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C82495		C82500		C82503		C82515		
Sampling Date		2006/09/17		2006/09/17		2006/09/17		2006/09/17		
COC Number		115781		115781		115781		115780		
	Units	01-TP06-24-03	01-TP06-25-04	01-TP06-26-03	01-TP06-27-03	RDL	QC Batch			

Physical Properties										
Moisture	%	4.5	6.4	4.0	4.4	0.3	1276709			
RDL = Reportable Detection Limit										

Maxxam ID		C82522		C82542		C82543				
Sampling Date		2006/09/17		2006/09/17		2006/09/17				
COC Number		115780		115782		115782				
	Units	02-TP06-01-04	QC Batch	01-TP06-DUP-4	01-TP06-DUP-5	RDL	QC Batch			

Physical Properties										
Moisture	%	16.6	1276709	4.8	3.5	0.3	1291437			
RDL = Reportable Detection Limit										



Maxxam Job #: A643501
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
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PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C82485	C82500	C82503	C82515		
Sampling Date		2006/09/17	2006/09/17	2006/09/17	2006/09/17		
COG Number		115781	115781	115781	115780		
	Units	01-TP06-24-03	01-TP06-25-04	01-TP06-26-03	01-TP06-27-03	RDL QC Batch	

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	15	<10	10	1278798
F3 (C16-C34 Hydrocarbons)	mg/kg	64	<10	10	<10	10	1278798
F4 (C34-C50 Hydrocarbons)	mg/kg	24	<10	51	<10	10	1278798
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	1	1278798
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	73	71	83	71		1278798

RDL = Reportable Detection Limit

Maxxam ID		C82522		C82542	C82543		
Sampling Date		2006/09/17		2006/09/17	2006/09/17		
COG Number		115780		115782	115782		
	Units	02-TP06-01-04	QC Batch	01-TP06-DUP-4	01-TP06-DUP-5	RDL QC Batch	

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	25	1278798	<10	171	10	1291480
F3 (C16-C34 Hydrocarbons)	mg/kg	24	1278798	178	8440	10	1291480
F4 (C34-C50 Hydrocarbons)	mg/kg	26	1278798	46	8680	10	1291480
Reached Baseline at C50	mg/kg	Yes	1278798	Yes	No	1	1291480
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	68	1278798	80	80		1291480

RDL = Reportable Detection Limit



Maxxam Job #: A643501
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

CCMEHC MECHANICAL EXTRACTION (SOIL) Comments

Sample C82518-01 CCME Hydrocarbons (F2-F4 in soil): SAMPLE EXTRACTED OUTSIDE METHOD-SPECIFIED HOLD TIME
Sample C82536-01 CCME Hydrocarbons (F2-F4 in soil): SAMPLE EXTRACTED OUTSIDE METHOD-SPECIFIED HOLD TIME

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: EA643501

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275926 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/09/21	122	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/09/21	111	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/09/21	114	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/09/21	127	%	30 - 130	
		Naphthalene	2006/09/21	95	%	30 - 130	
		2-Methylnaphthalene	2006/09/21	96	%	30 - 130	
		Acenaphthylene	2006/09/21	104	%	30 - 130	
		Acenaphthene	2006/09/21	94	%	30 - 130	
		Fluorene	2006/09/21	96	%	30 - 130	
		Phenanthrene	2006/09/21	88	%	30 - 130	
		Anthracene	2006/09/21	98	%	30 - 130	
		Fluoranthene	2006/09/21	102	%	30 - 130	
		Pyrene	2006/09/21	100	%	30 - 130	
		Benzo(a)anthracene	2006/09/21	108	%	30 - 130	
		Chrysene	2006/09/21	104	%	30 - 130	
		Benzo(b,j)fluoranthene	2006/09/21	93	%	30 - 130	
		Benzo(k)fluoranthene	2006/09/21	95	%	30 - 130	
		Benzo(a)pyrene	2006/09/21	94	%	30 - 130	
		Indeno(1,2,3-cd)pyrene	2006/09/21	103	%	30 - 130	
		Dibenz(a,h)anthracene	2006/09/21	128	%	30 - 130	
	SPIKE	Benzo(g,h,i)perylene	2006/09/21	91	%	30 - 130	
		D10-ANTHRACENE (sur.)	2006/09/21	118	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/09/21	103	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/09/21	105	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/09/21	112	%	30 - 130	
		Naphthalene	2006/09/21	99	%	30 - 130	
		2-Methylnaphthalene	2006/09/21	96	%	30 - 130	
		Acenaphthylene	2006/09/21	97	%	30 - 130	
		Acenaphthene	2006/09/21	96	%	30 - 130	
		Fluorene	2006/09/21	94	%	30 - 130	
		Phenanthrene	2006/09/21	98	%	30 - 130	
		Anthracene	2006/09/21	97	%	30 - 130	
		Fluoranthene	2006/09/21	96	%	30 - 130	
		Pyrene	2006/09/21	97	%	30 - 130	
		Benzo(a)anthracene	2006/09/21	97	%	30 - 130	
		Chrysene	2006/09/21	94	%	30 - 130	
		Benzo(b,j)fluoranthene	2006/09/21	90	%	30 - 130	
		Benzo(k)fluoranthene	2006/09/21	92	%	30 - 130	
		Benzo(a)pyrene	2006/09/21	91	%	30 - 130	
		Indeno(1,2,3-cd)pyrene	2006/09/21	99	%	30 - 130	
BLANK	BLANK	Dibenz(a,h)anthracene	2006/09/21	125	%	30 - 130	
		Benzo(g,h,i)perylene	2006/09/21	100	%	30 - 130	
		D10-ANTHRACENE (sur.)	2006/09/21	64	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/09/21	49	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/09/21	51	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/09/21	55	%	30 - 130	
		Naphthalene	2006/09/21	<0.05		mg/kg	
		2-Methylnaphthalene	2006/09/21	<0.05		mg/kg	
		Acenaphthylene	2006/09/21	<0.05		mg/kg	
		Acenaphthene	2006/09/21	<0.05		mg/kg	
		Fluorene	2006/09/21	<0.05		mg/kg	
		Phenanthrene	2006/09/21	<0.05		mg/kg	
		Anthracene	2006/09/21	<0.05		mg/kg	
		Fluoranthene	2006/09/21	<0.05		mg/kg	
		Pyrene	2006/09/21	<0.05		mg/kg	

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1275926 AK3	BLANK	Benzo(a)anthracene	2006/09/21	<0.05		mg/kg	
		Chrysene	2006/09/21	<0.05		mg/kg	
		Benzo(b,j)fluoranthene	2006/09/21	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/09/21	<0.05		mg/kg	
		Benzo(a)pyrene	2006/09/21	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/09/21	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/09/21	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/09/21	<0.05		mg/kg	
	RPD	Naphthalene	2006/09/21	NC		%	50
		2-Methylnaphthalene	2006/09/21	NC		%	50
		Acenaphthylene	2006/09/21	NC		%	50
		Acenaphthene	2006/09/21	NC		%	50
		Fluorene	2006/09/21	NC		%	50
		Phenanthrene	2006/09/21	NC		%	50
		Anthracene	2006/09/21	NC		%	50
		Fluoranthene	2006/09/21	NC		%	50
		Pyrene	2006/09/21	NC		%	50
		Benzo(a)anthracene	2006/09/21	NC		%	50
		Chrysene	2006/09/21	NC		%	50
		Benzo(b,j)fluoranthene	2006/09/21	NC		%	50
		Benzo(k)fluoranthene	2006/09/21	NC		%	50
		Benzo(a)pyrene	2006/09/21	NC		%	50
		Indeno(1,2,3-cd)pyrene	2006/09/21	NC		%	50
		Dibenz(a,h)anthracene	2006/09/21	NC		%	50
		Benzo(g,h,i)perylene	2006/09/21	NC		%	50
1276705 HW4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		118	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20	124		%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20	96		%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20	97		%	60 - 140
		Benzene	2006/09/20	85		%	60 - 140
		Toluene	2006/09/20	92		%	60 - 140
		Ethylbenzene	2006/09/20	99		%	60 - 140
		m & p-Xylene	2006/09/20	99		%	60 - 140
		o-Xylene	2006/09/20	98		%	60 - 140
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/20	96		%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20	113		%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20	95		%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20	98		%	60 - 140
		Benzene	2006/09/20	82		%	60 - 140
		Toluene	2006/09/20	89		%	60 - 140
		Ethylbenzene	2006/09/20	92		%	60 - 140
		m & p-Xylene	2006/09/20	90		%	60 - 140
		o-Xylene	2006/09/20	91		%	60 - 140
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/20	97		%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/20	113		%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/20	100		%	60 - 140
		D8-TOLUENE (sur.)	2006/09/20	99		%	60 - 140
		Benzene	2006/09/20	<0.0050		mg/kg	
		Toluene	2006/09/20	<0.020		mg/kg	
		Ethylbenzene	2006/09/20	<0.010		mg/kg	
		Xylenes (Total)	2006/09/20	<0.020		mg/kg	
		m & p-Xylene	2006/09/20	<0.020		mg/kg	
		o-Xylene	2006/09/20	<0.020		mg/kg	
	RPD	Benzene	2006/09/20	NC		%	50
		Toluene	2006/09/20	NC		%	50

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1276705 HW4	RPD	Ethylbenzene	2006/09/20	NC	%	50	
		Xylenes (Total)	2006/09/20	NC	%	50	
		m & p-Xylene	2006/09/20	NC	%	50	
		o-Xylene	2006/09/20	NC	%	50	
1276708 MA	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		91	%	60 - 130
		F1 (C06-C10)	2006/09/20		92	%	60 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		82	%	60 - 130
		F1 (C06-C10)	2006/09/20		90	%	60 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/20		86	%	60 - 130
		F1 (C06-C10)	2006/09/20	<10		mg/kg	
		F1 (C06-C10)	2006/09/20	9.6		%	50
1276709 MD1	BLANK	Moisture	2006/09/20	<0.3		%	
	RPD	Moisture	2006/09/20	0.5		%	20
1276798 AN1	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/09/21		75	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/21		82	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/21		60	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/09/21		71	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2006/09/21		82	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/21		102	%	60 - 120
		F3 (C16-C34 Hydrocarbons)	2006/09/21		82	%	60 - 120
		F4 (C34-C50 Hydrocarbons)	2006/09/21		84	%	60 - 120
	BLANK	O-TERPHENYL (sur.)	2006/09/21		120	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/21	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/09/21	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/09/21	<10		mg/kg	
		Reached Baseline at C50	2006/09/21	YES, RDL=1		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2006/09/21		23.0	%	50
		F3 (C16-C34 Hydrocarbons)	2006/09/21		25.9	%	50
		F4 (C34-C50 Hydrocarbons)	2006/09/21		12.8	%	50
		Reached Baseline at C50	2006/09/21		NC	%	50
1289491 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		125	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		117	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		118	%	30 - 130
		Naphthalene	2006/10/02		105	%	30 - 130
		2-Methylnaphthalene	2006/10/02		100	%	30 - 130
		Acenaphthylene	2006/10/02		102	%	30 - 130
		Acenaphthene	2006/10/02		98	%	30 - 130
		Fluorene	2006/10/02		94	%	30 - 130
		Phenanthrene	2006/10/02		101	%	30 - 130
		Anthracene	2006/10/02		97	%	30 - 130
		Fluoranthene	2006/10/02		97	%	30 - 130
		Pyrene	2006/10/02		96	%	30 - 130
		Benzo(a)anthracene	2006/10/02		96	%	30 - 130
		Chrysene	2006/10/02		98	%	30 - 130
		Benzo(b&l)fluoranthene	2006/10/02		98	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		104	%	30 - 130
		Benzo(a)pyrene	2006/10/02		103	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		102	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		122	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/02		99	%	30 - 130
	SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		122	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		103	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		118	%	30 - 130

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1289491 AK3	SPIKE	Naphthalene	2006/10/02		105	%	30 - 130
		2-Methylnaphthalene	2006/10/02		104	%	30 - 130
		Acenaphthylene	2006/10/02		105	%	30 - 130
		Acenaphthene	2006/10/02		101	%	30 - 130
		Fluorene	2006/10/02		100	%	30 - 130
		Phenanthrene	2006/10/02		104	%	30 - 130
		Anthracene	2006/10/02		101	%	30 - 130
		Fluoranthene	2006/10/02		100	%	30 - 130
		Pyrene	2006/10/02		100	%	30 - 130
		Benzo(a)anthracene	2006/10/02		99	%	30 - 130
		Chrysene	2006/10/02		99	%	30 - 130
		Benzo(b&l)fluoranthene	2006/10/02		94	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		98	%	30 - 130
		Benzo(a)pyrene	2006/10/02		96	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		107	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		124	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/02		108	%	30 - 130
	BLANK	D10-ANTHRACENE (sur.)	2006/10/02		119	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		107	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		124	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		123	%	30 - 130
		Naphthalene	2006/10/02	<0.05		mg/kg	
		2-Methylnaphthalene	2006/10/02	<0.05		mg/kg	
		Acenaphthylene	2006/10/02	<0.05		mg/kg	
		Acenaphthene	2006/10/02	<0.05		mg/kg	
		Fluorene	2006/10/02	<0.05		mg/kg	
		Phenanthrene	2006/10/02	<0.05		mg/kg	
		Anthracene	2006/10/02	<0.05		mg/kg	
		Fluoranthene	2006/10/02	<0.05		mg/kg	
		Pyrene	2006/10/02	<0.05		mg/kg	
		Benzo(a)anthracene	2006/10/02	<0.05		mg/kg	
		Chrysene	2006/10/02	<0.05		mg/kg	
		Benzo(b&l)fluoranthene	2006/10/02	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/10/02	<0.05		mg/kg	
		Benzo(a)pyrene	2006/10/02	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/10/02	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/10/02	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/10/02	<0.05		mg/kg	
	RPD	Naphthalene	2006/10/02		NC	%	50
		2-Methylnaphthalene	2006/10/02		NC	%	50
		Acenaphthylene	2006/10/02		NC	%	50
		Acenaphthene	2006/10/02		NC	%	50
		Fluorene	2006/10/02		NC	%	50
		Phenanthrene	2006/10/02		NC	%	50
		Anthracene	2006/10/02		NC	%	50
		Fluoranthene	2006/10/02		NC	%	50
		Pyrene	2006/10/02		NC	%	50
		Benzo(a)anthracene	2006/10/02		NC	%	50
		Chrysene	2006/10/02		NC	%	50
		Benzo(b&l)fluoranthene	2006/10/02		NC	%	50
		Benzo(k)fluoranthene	2006/10/02		NC	%	50
		Benzo(a)pyrene	2006/10/02		NC	%	50
		Indeno(1,2,3-cd)pyrene	2006/10/02		NC	%	50
		Dibenz(a,h)anthracene	2006/10/02		NC	%	50
		Benzo(g,h,i)perylene	2006/10/02		NC	%	50

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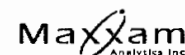


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Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch Num Inlt	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1290079 HW4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/29	95	%	80 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/29	119	%	80 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/29	88	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/29	99	%	60 - 140	
		Benzene	2006/09/29	92	%	60 - 140	
		Toluene	2006/09/29	98	%	60 - 140	
		Ethylbenzene	2006/09/29	100	%	60 - 140	
		m & p-Xylene	2006/09/29	98	%	60 - 140	
		o-Xylene	2006/09/29	98	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/29	98	%	60 - 140	
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/09/29	118	%	80 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/29	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/29	100	%	60 - 140	
		Benzene	2006/09/29	90	%	60 - 140	
		Toluene	2006/09/29	95	%	60 - 140	
		Ethylbenzene	2006/09/29	99	%	60 - 140	
		m & p-Xylene	2006/09/29	97	%	60 - 140	
		o-Xylene	2006/09/29	97	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/29	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/29	114	%	60 - 130	
	BLANK	D4-1,2-DICHLOROETHANE (sur.)	2006/09/29	85	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/29	100	%	60 - 140	
		Benzene	2006/09/29	<0.0050		mg/kg	
		Toluene	2006/09/29	<0.020		mg/kg	
		Ethylbenzene	2006/09/29	<0.010		mg/kg	
		Xylenes (Total)	2006/09/29	<0.020		mg/kg	
		m & p-Xylene	2006/09/29	<0.020		mg/kg	
		o-Xylene	2006/09/29	<0.020		mg/kg	
		Benzene	2006/09/29	NC		%	50
		Toluene	2006/09/29	NC		%	50
		Ethylbenzene	2006/09/29	NC		%	50
		Xylenes (Total)	2006/09/29	NC		%	50
	RPD	m & p-Xylene	2006/09/29	NC		%	50
		o-Xylene	2006/09/29	NC		%	50
1290080 KO	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/02	96	%	60 - 130	
		F1 (C06-C10)	2006/10/02	91	%	60 - 130	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02	72	%	50 - 130	
	SPIKE	F1 (C06-C10)	2006/10/02	88	%	N/A	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02	81	%	60 - 130	
		F1 (C06-C10)	2006/10/02	<10		mg/kg	
	BLANK	F1 (C06-C10)	2006/10/02	NC		%	50
		Moisture	2006/09/29	<0.3		%	
		RPD	2006/09/29	13.3		%	20
		Moisture	2006/10/02	<0.3		%	
		RPD	2006/10/02	6.8		%	20
1291437 HL2	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/02	83	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	104	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/10/02	107	%	50 - 130	
	SPIKE	F4 (C34-C50 Hydrocarbons)	2006/10/02	115	%	50 - 130	
		O-TERPHENYL (sur.)	2006/10/02	78	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	97	%	80 - 120	
	BLANK	F3 (C16-C34 Hydrocarbons)	2006/10/02	96	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	101	%	80 - 120	
		O-TERPHENYL (sur.)	2006/10/02	87	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	<10		mg/kg	

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Attention: MICHAEL MUTTERSBACK
Client Project #: 1256-0601 INUVIK
P.O. #:
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Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch Num Inlt	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1291480 KB4	BLANK	F3 (C16-C34 Hydrocarbons)	2006/10/02	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	<10		mg/kg	
		Reached Baseline at C50	2006/10/02	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/02	NC		%	50
	RPD	F4 (C34-C50 Hydrocarbons)	2006/10/02	NC		%	50
		Reached Baseline at C50	2006/10/02	NC		%	50
1312545 KB4	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/18	68	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/18	42	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/10/18	75	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/10/18	93	%	50 - 130	
		O-TERPHENYL (sur.)	2006/10/18	75	%	30 - 130	
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/10/18	101	%	80 - 120	
		F3 (C16-C34 Hydrocarbons)	2006/10/18	109	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/10/18	118	%	80 - 120	
		O-TERPHENYL (sur.)	2006/10/18	81	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/18	<10		mg/kg	
1332769 LL2	BLANK	F3 (C16-C34 Hydrocarbons)	2006/10/18	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/18	<10		mg/kg	
		Reached Baseline at C50	2006/10/18	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/18	10.7	%	50	
		F3 (C16-C34 Hydrocarbons)	2006/10/18	16.1	%	50	
	RPD	F4 (C34-C50 Hydrocarbons)	2006/10/18	NC		%	50
		Reached Baseline at C50	2006/10/18	NC		%	50
1332769 LL2	Calibration Check	Total Antimony (Sb)	2006/11/02	105	%	80 - 120	
		Total Arsenic (As)	2006/11/02	103	%	80 - 120	
		Total Barium (Ba)	2006/11/02	98	%	80 - 120	
		Total Beryllium (Be)	2006/11/02	99	%	80 - 120	
		Total Cadmium (Cd)	2006/11/02	98	%	80 - 120	
	MATRIX SPIKE	Total Chromium (Cr)	2006/11/02	99	%	80 - 120	
		Total Cobalt (Co)	2006/11/02	101	%	80 - 120	
		Total Copper (Cu)	2006/11/02	103	%	80 - 120	
		Total Lead (Pb)	2006/11/02	99	%	80 - 120	
		Total Molybdenum (Mo)	2006/11/02	98	%	80 - 120	
1332769 LL2	BLANK	Total Nickel (Ni)	2006/11/02	101	%	80 - 120	
		Total Selenium (Se)	2006/11/02	102	%	80 - 120	
		Total Silver (Ag)	2006/11/02	103	%	80 - 120	
		Total Thallium (Tl)	2006/11/02	97	%	80 - 120	
		Total Tin (Sn)	2006/11/02	100	%	80 - 120	
	MATRIX SPIKE	Total Uranium (U)	2006/11/02	104	%	80 - 120	
		Total Vanadium (V)	2006/11/02	100	%	80 - 120	
		Total Zinc (Zn)	2006/11/02	100	%	80 - 120	
		Total Arsenic (As)	2006/11/02	97	%	75 - 125	
		Total Cadmium (Cd)	2006/11/02	98	%	75 - 125	
1332769 LL2	BLANK	Total Lead (Pb)	2006/11/02	82	%	75 - 125	
		Total Selenium (Se)	2006/11/02	108	%	75 - 125	
		Total Thallium (Tl)	2006/11/02	95	%	75 - 125	
		Total Antimony (Sb)	2006/11/02	<1		mg/kg	
		Total Arsenic (As)	2006/11/02	<1		mg/kg	
	MATRIX SPIKE	Total Barium (Ba)	2006/11/02	<10		mg/kg	
		Total Beryllium (Be)	2006/11/02	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/11/02	<0.1		mg/kg	
		Total Chromium (Cr)	2006/11/02	<1		mg/kg	
		Total Cobalt (Co)	2006/11/02	<1		mg/kg	
		Total Copper (Cu)	2006/11/02	<5		mg/kg	

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Client Project #: 1256-0601 INUVIK
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Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1332769 LL2	BLANK	Total Lead (Pb)	2006/11/02	<1		mg/kg		
		Total Molybdenum (Mo)	2006/11/02	<0.4		mg/kg		
		Total Nickel (Ni)	2006/11/02	<1		mg/kg		
		Total Selenium (Se)	2006/11/02	<0.5		mg/kg		
		Total Silver (Ag)	2006/11/02	<1		mg/kg		
		Total Thallium (Tl)	2006/11/02	<0.3		mg/kg		
		Total Tin (Sn)	2006/11/02	<1		mg/kg		
		Total Uranium (U)	2006/11/02	<1		mg/kg		
		Total Vanadium (V)	2006/11/02	<1		mg/kg		
		Total Zinc (Zn)	2006/11/02	<10		mg/kg		
	RPD	Total Antimony (Sb)	2006/11/02	NC		%	35	
		Total Arsenic (As)	2006/11/02	NC		%	35	
		Total Barium (Ba)	2006/11/02	9.1		%	35	
		Total Beryllium (Be)	2006/11/02	NC		%	35	
		Total Cadmium (Cd)	2006/11/02	NC		%	35	
		Total Chromium (Cr)	2006/11/02	6.4		%	35	
		Total Cobalt (Co)	2006/11/02	1.9		%	35	
		Total Copper (Cu)	2006/11/02	NC		%	35	
		Total Lead (Pb)	2006/11/02	1.9		%	35	
		Total Molybdenum (Mo)	2006/11/02	NC		%	35	
		Total Nickel (Ni)	2006/11/02	3.2		%	35	
		Total Selenium (Se)	2006/11/02	NC		%	35	
		Total Silver (Ag)	2006/11/02	NC		%	35	
		Total Thallium (Tl)	2006/11/02	NC		%	35	
		Total Tin (Sn)	2006/11/02	NC		%	35	
		Total Uranium (U)	2006/11/02	NC		%	35	
		Total Vanadium (V)	2006/11/02	12.9		%	35	
		Total Zinc (Zn)	2006/11/02	10.1		%	35	
1332906 MC3	Calibration Check	Total Aluminum (Al)	2006/11/02		96	%	80 - 120	
		Total Boron (B)	2006/11/02		97	%	80 - 120	
		Total Calcium (Ca)	2006/11/02		98	%	80 - 120	
		Total Iron (Fe)	2006/11/02		95	%	80 - 120	
		Total Lithium (Li)	2006/11/02		103	%	80 - 120	
		Total Magnesium (Mg)	2006/11/02		97	%	80 - 120	
		Total Manganese (Mn)	2006/11/02		94	%	80 - 120	
		Total Phosphorus (P)	2006/11/02		98	%	80 - 120	
		Total Potassium (K)	2006/11/02		101	%	80 - 120	
		Total Sodium (Na)	2006/11/02		102	%	80 - 120	
		Total Strontium (Sr)	2006/11/02		95	%	80 - 120	
	SPIKE	Total Aluminum (Al)	2006/11/02		100	%	75 - 125	
		Total Boron (B)	2006/11/02		104	%	80 - 120	
		Total Calcium (Ca)	2006/11/02		87	%	75 - 125	
		Total Iron (Fe)	2006/11/02		92	%	75 - 125	
		Total Lithium (Li)	2006/11/02		103	%	75 - 125	
		Total Magnesium (Mg)	2006/11/02		100	%	75 - 125	
		Total Manganese (Mn)	2006/11/02		95	%	75 - 125	
		Total Phosphorus (P)	2006/11/02		98	%	75 - 125	
		Total Potassium (K)	2006/11/02		102	%	75 - 125	
		Total Sodium (Na)	2006/11/02		108	%	75 - 125	
		Total Strontium (Sr)	2006/11/02		95	%	75 - 125	
		BLANK	Total Aluminum (Al)	2006/11/02	<10		mg/kg	
			Total Boron (B)	2006/11/02	<2		mg/kg	
			Total Calcium (Ca)	2006/11/02	<50		mg/kg	
			Total Iron (Fe)	2006/11/02	<10		mg/kg	
			Total Lithium (Li)	2006/11/02	<10		mg/kg	

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Quality Assurance Report (Continued)
Maxxam Job Number: EA643501

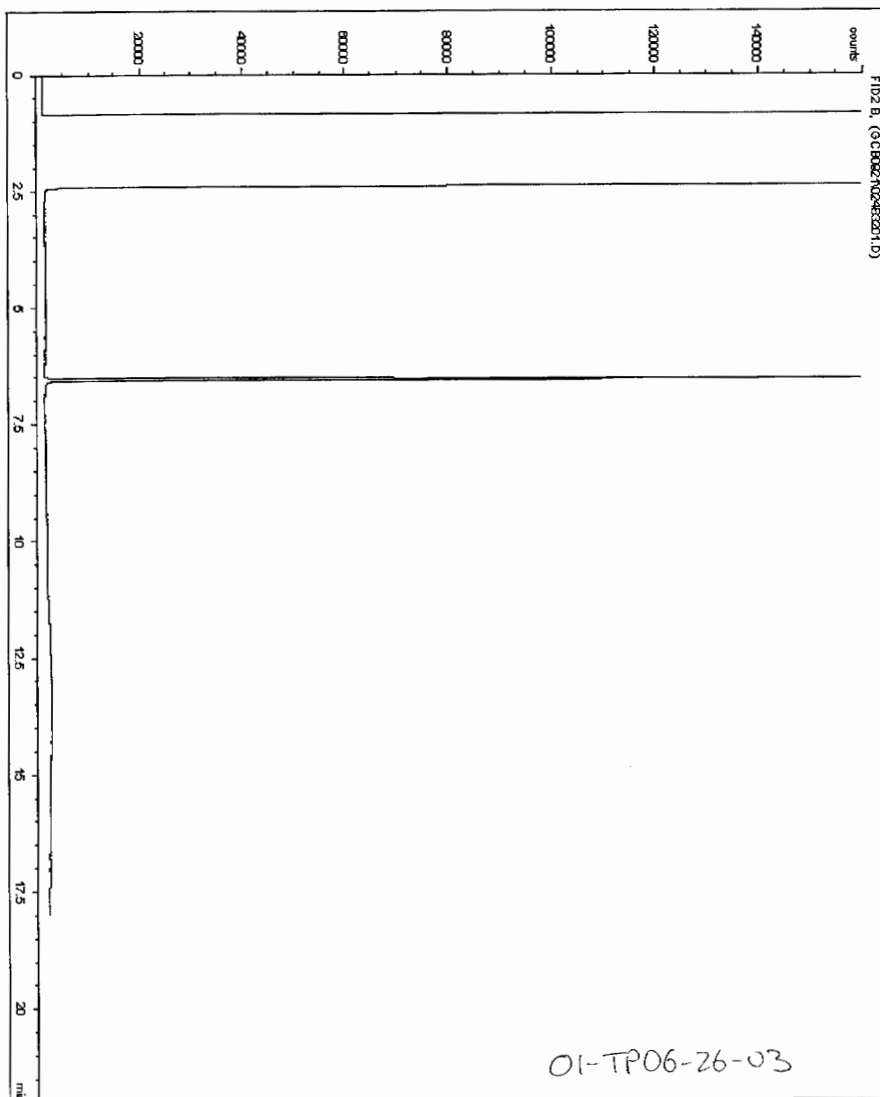
QA/QC Batch Num. Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1332906 MCS	BLANK	Total Magnesium (Mg)	2006/11/02	<20		mg/kg	
		Total Manganese (Mn)	2006/11/02	<10		mg/kg	
		Total Phosphorus (P)	2006/11/02	<20		mg/kg	
		Total Potassium (K)	2006/11/02	<30		mg/kg	
		Total Sodium (Na)	2006/11/02	<50		mg/kg	
		Total Strontium (Sr)	2006/11/02	<10		mg/kg	
		Total Sulphur (S)	2006/11/02	<20		mg/kg	
	RPD	Total Aluminum (Al)	2006/11/02	0.05		%	35
		Total Boron (B)	2006/11/02	2.2		%	35
		Total Calcium (Ca)	2006/11/02	0.3		%	35
		Total Iron (Fe)	2006/11/02	0.6		%	35
		Total Lithium (Li)	2006/11/02	NC		%	35
		Total Magnesium (Mg)	2006/11/02	0.2		%	35
		Total Manganese (Mn)	2006/11/02	0.2		%	35
		Total Phosphorus (P)	2006/11/02	1.3		%	35
		Total Potassium (K)	2006/11/02	0.1		%	35
		Total Sodium (Na)	2006/11/02	NC		%	35
		Total Strontium (Sr)	2006/11/02	0.4		%	35
		Total Sulphur (S)	2006/11/02	0.4		%	35

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference

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Data File C:\HPCHEM\1\DATA\GCB0921\024B3201.D

Sample Name: C82503



01-TP06-26-03

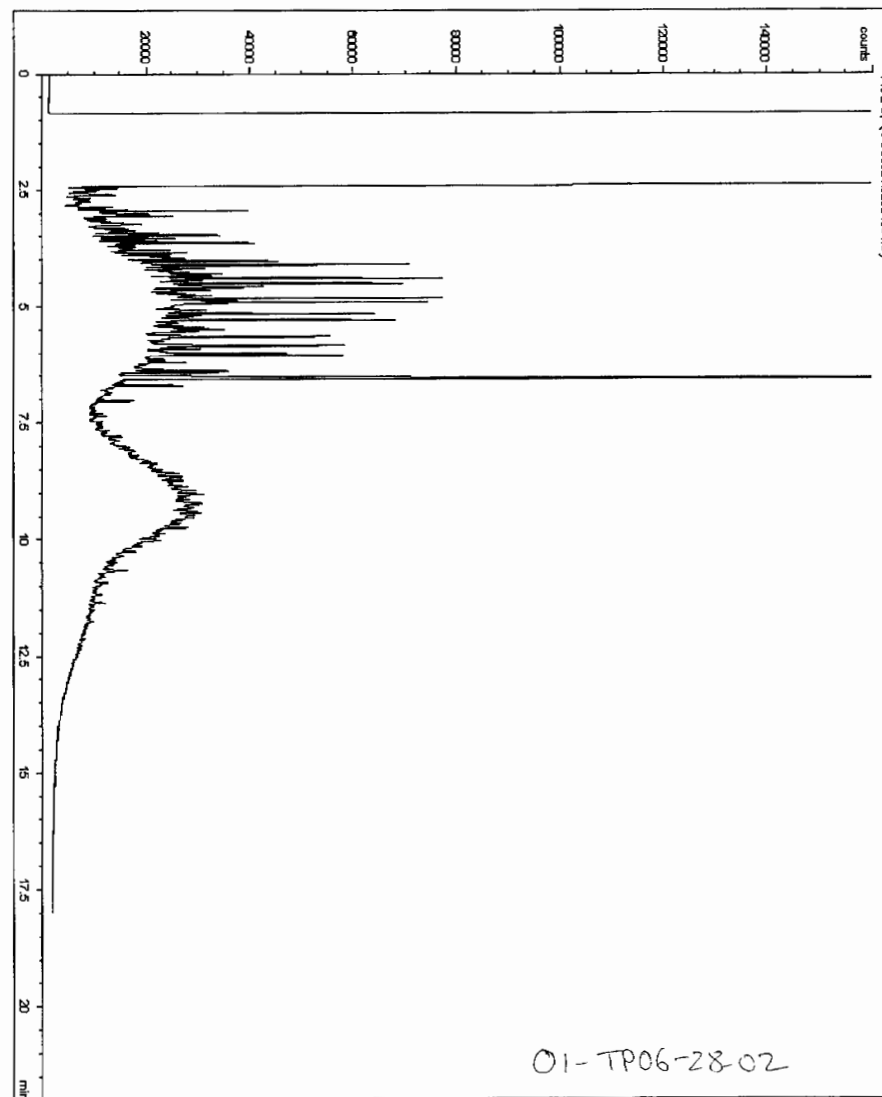
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Sample Name: C82517

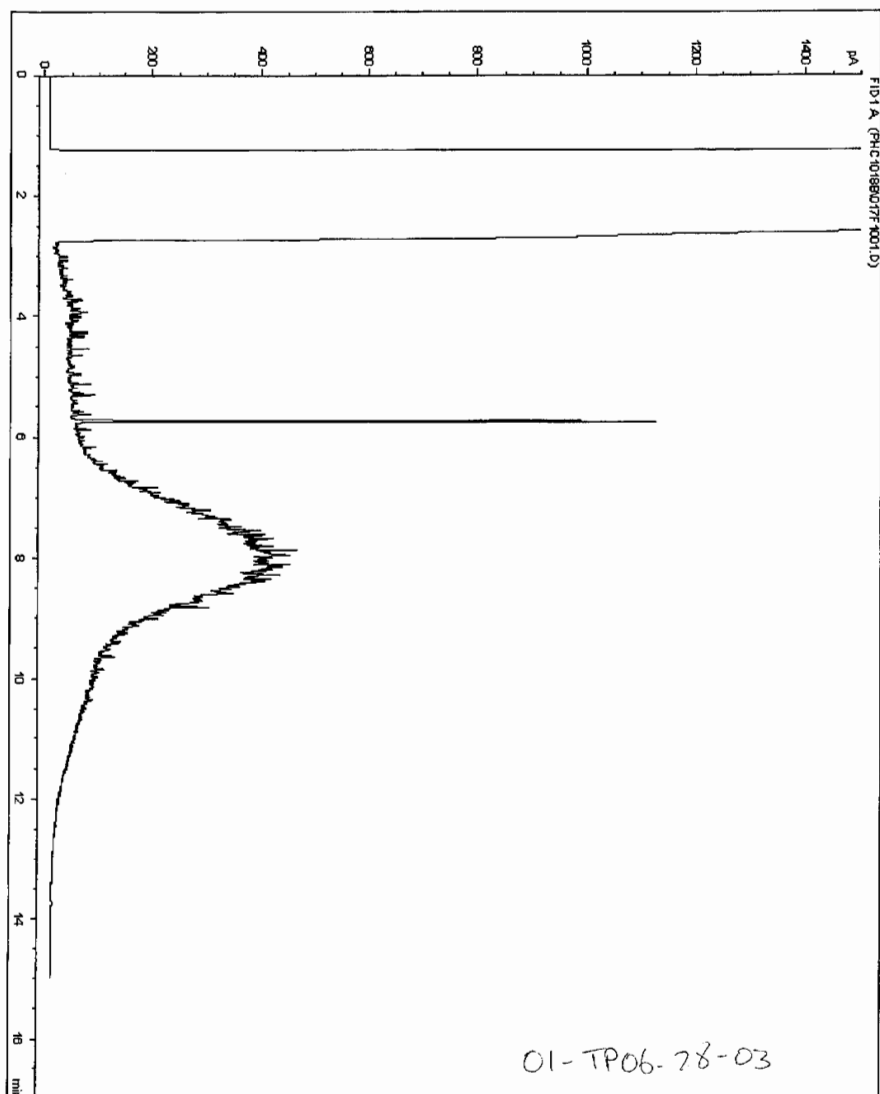


01-TP06-28-02

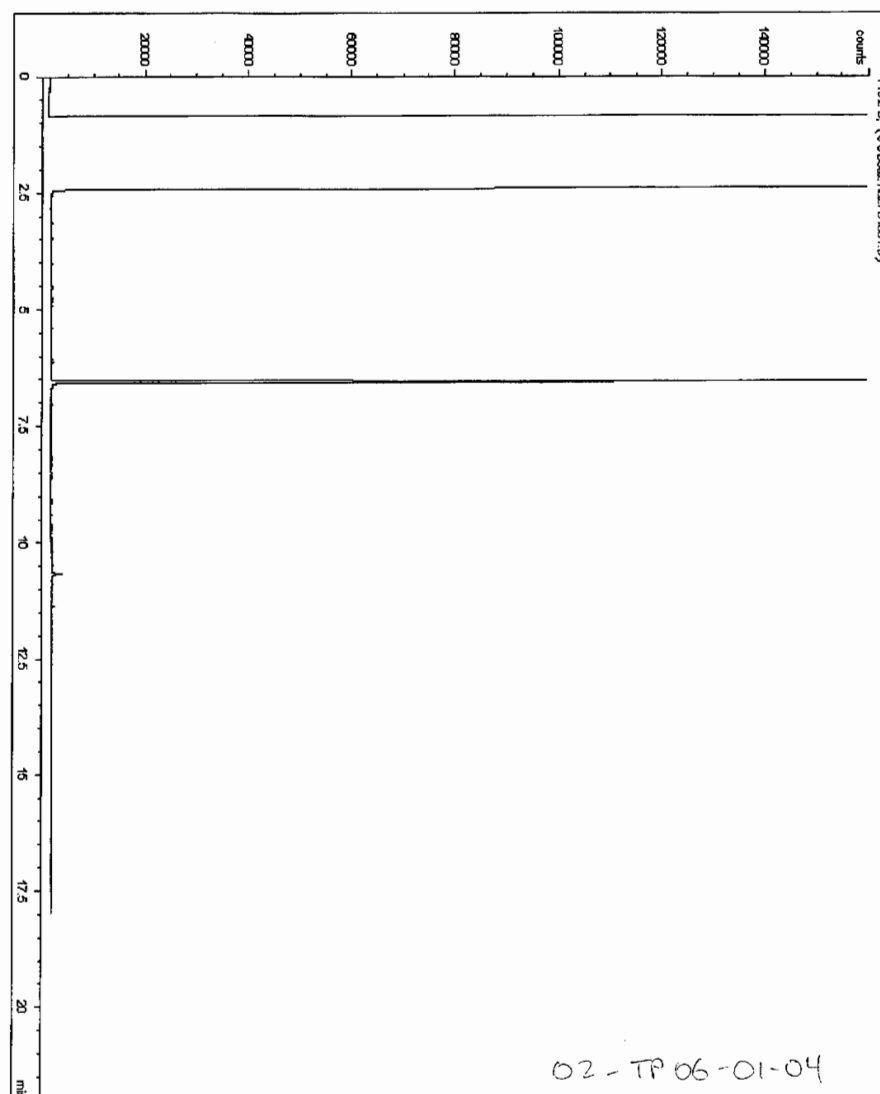
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Instrument 1 2007/01/11 9:47:10 AM AN

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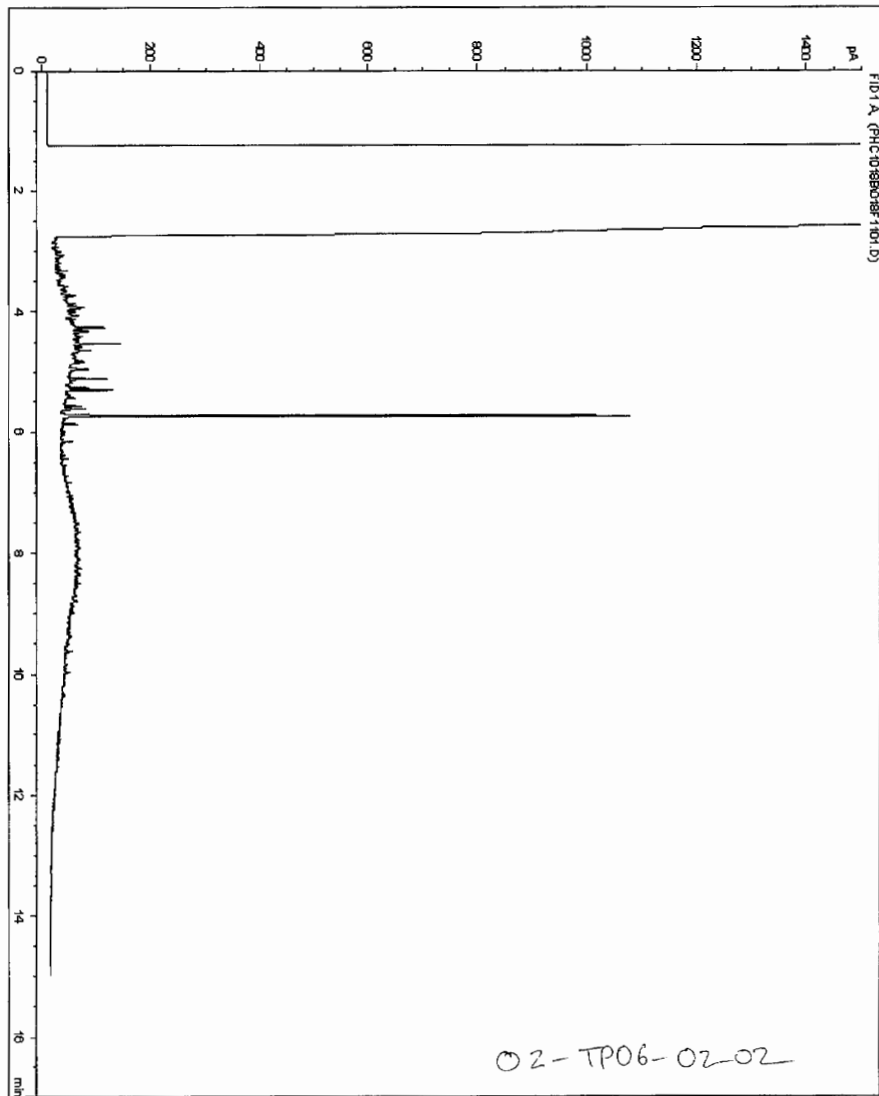
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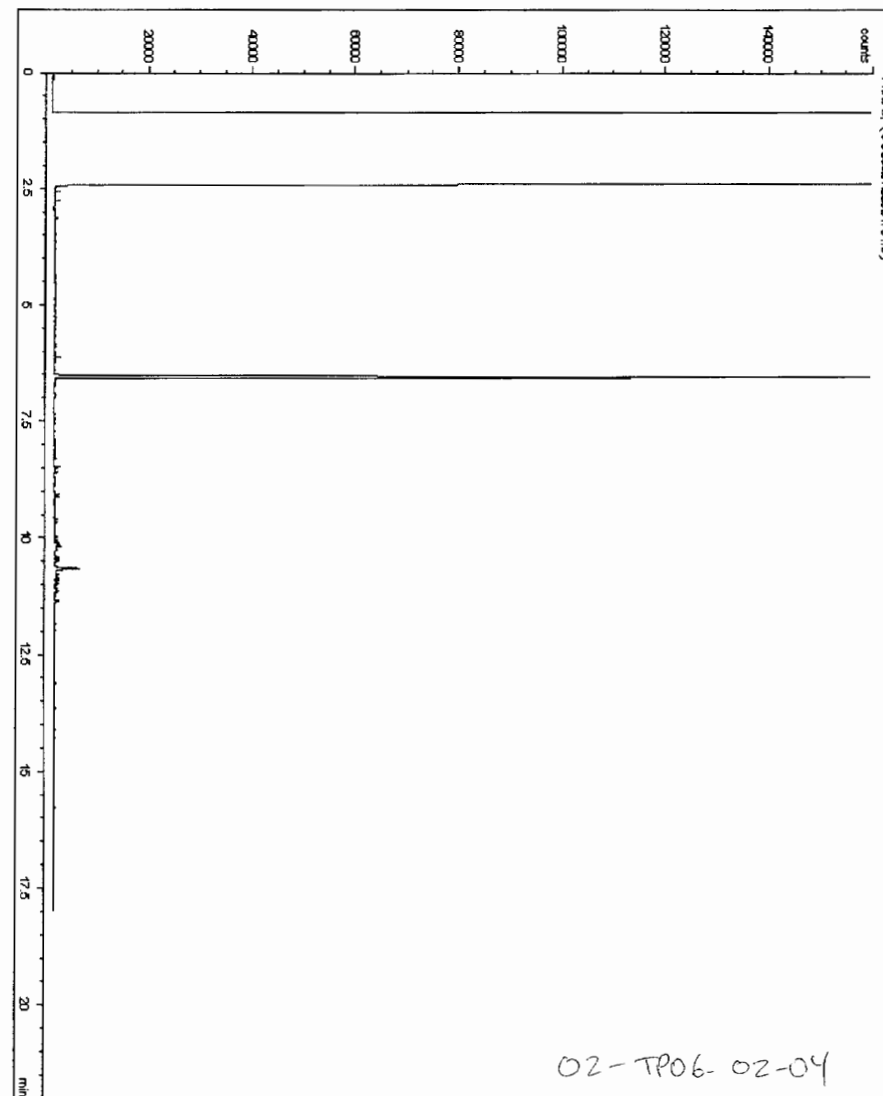
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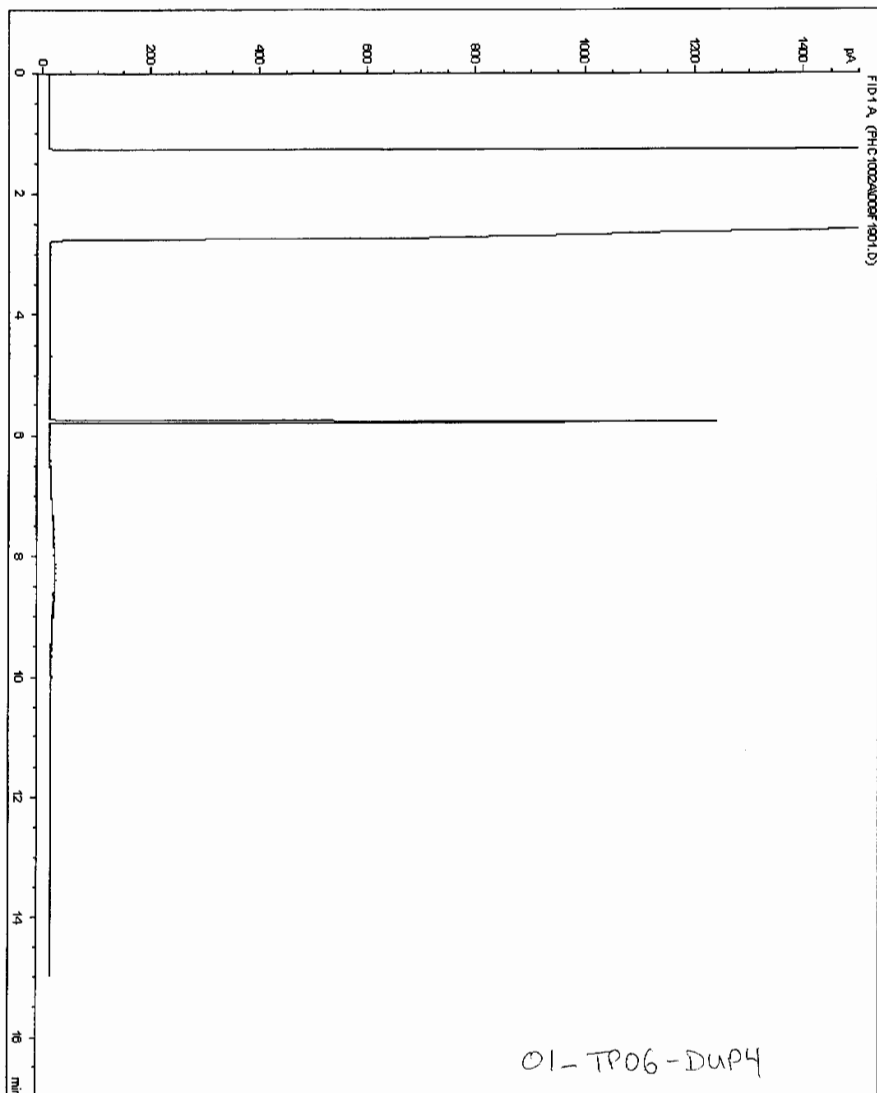
Sample Name: C82539



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Sample Name: C82542



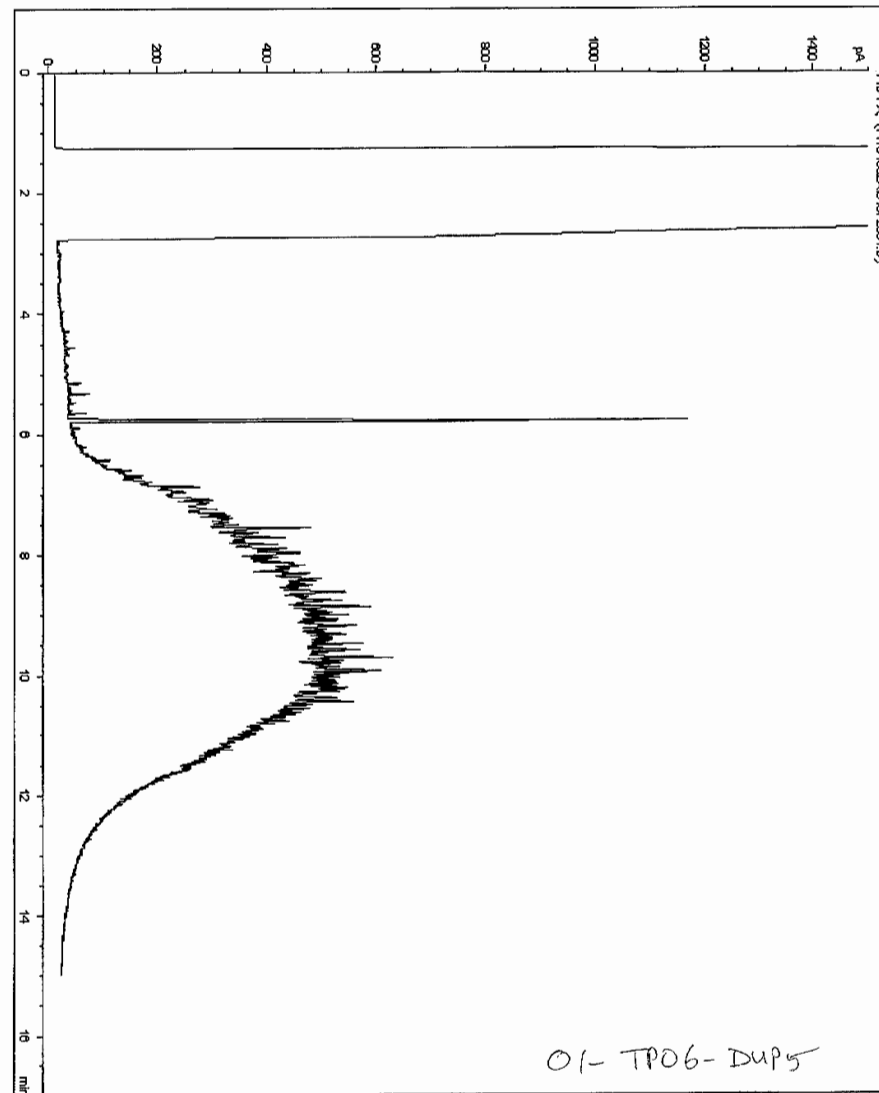
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Instrument 1 2007/01/11 10:07:03 AM KRIS

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Data File C:\HPCHEM\1\DATA\PHC1002A\010F2001.D

Sample Name: C82543



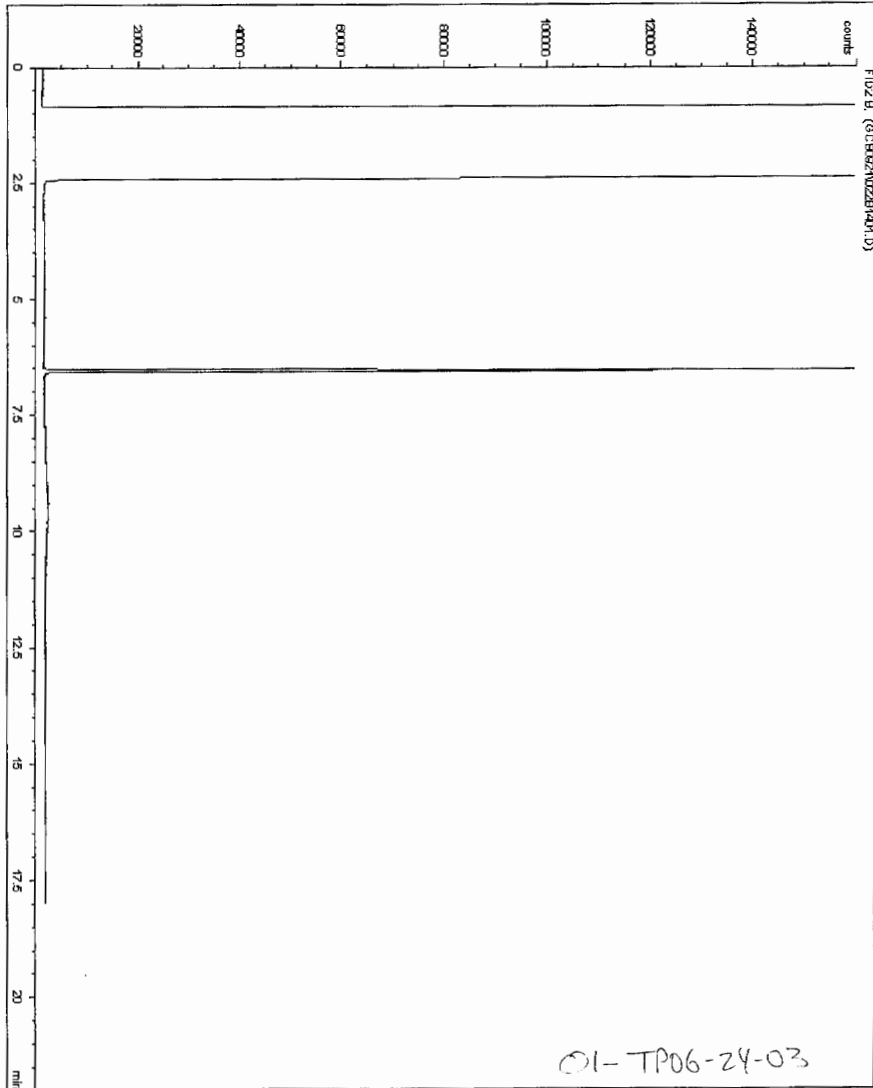
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Instrument 1 2007/01/11 10:07:07 AM KRIS

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Data File C:\HPCHEM\1\DATA\GCB0921\022B1401.D

Sample Name: C82495



*** End of Report ***



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115775, 115774, 115773, 115776

Attention: MICHAEL MUTTERSACH
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA ---

Report Date: 2006/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A644350
Received: 2006/09/21, 10:15

Sample Matrix: Soil
Samples Received: 19

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble)	1	N/A	2006/09/25	EENVSOP-00034 v1	Carrier SSMA 12.2.2
BTEX by HS GC/MS (MeOH extract)	8	2006/09/23	2006/09/25	EENVSOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	3	2006/09/23	2006/09/25	EENVSOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	3	2006/09/29	2006/09/29	EENVSOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	2	2006/10/02	2006/10/02	EENVSOP-00005 V.2	EPA 8260B/5021A
Hexavalent Chromium Ⓟ	1	2006/09/26	2006/09/26	EENVSOP-00067 v4	SM 3500-Cr B
F1-BTEX Soil Cal	11	2006/09/23	2006/09/23		
F1-BTEX Soil Cal	2	2006/09/29	2006/09/29		
F1-BTEX Soil Cal	2	2006/10/02	2006/10/02		
F1-BTEX Soil Cal	1	2006/10/17	2006/10/17		
CCME Hydrocarbons (F1; MeOH; HSGC)	6	2006/09/23	2006/09/23	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F1; MeOH; HSGC)	5	2006/09/23	2006/09/25	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F1; MeOH; HSGC)	5	2006/09/29	2006/10/02	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in soil)	3	2006/09/25	2006/09/25	EENVSOP-00007 v4	CWS PHCS Tier I
CCME Hydrocarbons (F2-F4 in soil)	8	2006/09/25	2006/09/26	EENVSOP-00007 v4	CWS PHCS Tier I
CCME Hydrocarbons (F2-F4 in soil)	7	2006/09/29	2006/10/02	EENVSOP-00007 v4	CWS PHCS Tier I
CCME Hydrocarbons (F4G in soil)	5	2006/09/26	2006/09/26	EENVSOP-00121 v1	CWS PHCS Tier I
Mercury in Soil by CVAA	1	N/A	2006/09/26	EENVSOP-00032 V.1	EPA SW846 7471B
Elements by ICP-Soils	1	N/A	2006/10/26	EENVSOP-00034 v1	EPA 6010C
Elements by ICPMS - Soils	1	N/A	2006/09/26	EENVSOP-00123 v2	EPA 6020A
Moisture	11	N/A	2006/09/23	EENVWI-00023 v2	Carrier SSMA 51.2
Moisture	2	N/A	2006/09/25	EENVWI-00023 v2	Carrier SSMA 51.2
Moisture	4	N/A	2006/09/29	EENVWI-00023 v2	Carrier SSMA 51.2
Moisture	2	N/A	2006/10/02	EENVWI-00023 v2	Carrier SSMA 51.2
PAH in Soil by GC/MS (Extended)	2	2006/09/25	2006/09/26	EENVSOP-00010 v3	EPA 3510C/8270D
PAH in Soil by GC/MS (Extended)	3	2006/09/29	2006/10/02	EENVSOP-00010 v3	EPA 3510C/8270D
Lead by ICPMS	2	N/A	2006/09/26	EENVSOP-00123 v2	EPA SW846 6020 A

(1) Results reported on a dry weight basis.

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332
Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187
Page 1 of 27



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115775, 115774, 115773, 115776

Attention: MICHAEL MUTTERSACH
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA ---

Report Date: 2006/10/27

CERTIFICATE OF ANALYSIS

-2-

Encryption Key

 Jeremy Wakaruk
27 Oct 2006 07:48:00 -06:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187
Page 2 of 27



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C87432		C87442		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115775		115775		
	Units	02-TP06-03-01	QC Batch	02-TP06-03-03	RDL	QC Batch

Physical Properties						
Moisture	%	4.0	1282372	5.0	0.3	1290090

RDL = Reportable Detection Limit

Maxxam ID		C87446		C87449		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115775		115775		
	Units	02-TP06-04-01	QC Batch	02-TP06-05-01	RDL	QC Batch

Elements						
Soluble (Hot water) Boron (B)	mg/kg		1283806	1.4	0.1	1283806
Hex. Chromium (Cr 6+)	mg/kg		1285447	<0.2	0.2	1285447
Mercury (Hg)	mg/kg		1284758	<0.05	0.05	1284758

Physical Properties						
Moisture	%	5.0	1282372	3.2	0.3	1282719

RDL = Reportable Detection Limit

Maxxam ID		C87453	C87459		C87462	
Sampling Date		2006/09/18	2006/09/18		2006/09/18	
COC Number		115774	115774		115774	
	Units	02-TP06-08-01	02-TP06-07-02	QC Batch	02-TP06-07-04	RDL QC Batch

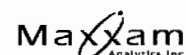
Physical Properties						
Moisture	%	7.7	5.3	1282372	16.5	0.3 1290090

RDL = Reportable Detection Limit

Maxxam ID		C87466	C87478		C87480	
Sampling Date		2006/09/18	2006/09/18		2006/09/18	
COC Number		115773	115773		115773	
	Units	02-TP06-08-02	02-TP06-08-05	QC Batch	02-TP06-08-06	RDL QC Batch

Physical Properties						
Moisture	%	17.3	19.8	1282372	13.5	0.3 1290080

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C87492		C87494		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115773		115773		
	Units	02-TP06-09-01	QC Batch	02-TP06-09-03	RDL	QC Batch

Physical Properties						
Moisture	%	9.3	1282388	18.8	0.3	1282719

RDL = Reportable Detection Limit

Maxxam ID		C87495		C87496		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115773		115773		
	Units	02-TP06-09-04	QC Batch	02-TP06-09-05	RDL	QC Batch

Physical Properties						
Moisture	%	13.1	1282388	25.5	0.3	1290090

RDL = Reportable Detection Limit

Maxxam ID		C87498	C87538	C87551		
Sampling Date		2006/09/18	2006/09/18	2006/09/18		
COC Number		115773	115776	115776		
	Units	02-TP06-10-2	02-TP06-11-01	02-TP06-12-01	RDL	QC Batch

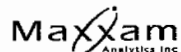
Physical Properties						
Moisture	%	12.2	6.7	7.6	0.3	1282388

RDL = Reportable Detection Limit

Maxxam ID		C87552	C87553			
Sampling Date		2006/09/18	2006/09/18			
COC Number		115776	115776			
	Units	02-TP06-DUP-07	02-TP06-DUP-08	RDL	QC Batch	

Physical Properties						
Moisture	%	9.2	8.7	0.3	1291437	

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

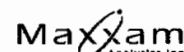
PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87432		C87442		
Sampling Date		2006/09/18		2006/09/18		
COG Number		115775		115775		
	Units	02-TP06-03-01	QC Batch	02-TP06-03-03	RDL	QC Batch

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	<10	1282371		10	1282371
F1 (C06-C10) - BTEX	mg/kg	<10	1282424		10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	175	1282698	12	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	3240	1282698	257	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	2250	1282698	119	10	1290350
Reached Baseline at C50	mg/kg	No	1282698	Yes	1	1290350
OIL & GREASE						
F4SG (Heavy Hydrocarbons-SilicaGel)	mg/kg	8000	1284713		200	
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	83	1282371			
O-TERPHENYL (sur.)	%	74	1282698	77		1290350
RDL = Reportable Detection Limit						

Maxxam ID		C87448		C87449		
Sampling Date		2006/09/18		2006/09/18		
COG Number		115775		115775		
	Units	02-TP06-04-01	QC Batch	02-TP06-05-01	RDL	QC Batch

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	<10	1282371		10	1282371
F1 (C06-C10) - BTEX	mg/kg	<10	1282424		10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	13	1282698	71	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	31	1282698	760	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	69	1282698	1420	10	1290350
Reached Baseline at C50	mg/kg	Yes	1282698	No	1	1290350
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	98	1282371			
O-TERPHENYL (sur.)	%	74	1282698	75		1290350
RDL = Reportable Detection Limit						



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87453		C87458		
Sampling Date		2006/09/18		2006/09/18		
COG Number		115774		115774		
	Units	02-TP06-06-01	QC Batch	02-TP06-07-02	RDL	QC Batch

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	<10		1530	10	1282371
F1 (C06-C10) - BTEX	mg/kg	<10		1460	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	98		2830	10	1282698
F3 (C16-C34 Hydrocarbons)	mg/kg	1040		4910	10	1282698
F4 (C34-C50 Hydrocarbons)	mg/kg	623		1690	10	1282698
Reached Baseline at C50	mg/kg	No		No	1	1282698
OIL & GREASE						
F4SG (Heavy Hydrocarbons-SilicaGel)	mg/kg	2700		8300	200	1284713
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	89		86		1282371
O-TERPHENYL (sur.)	%	81		79		1282698
RDL = Reportable Detection Limit						

Maxxam ID		C87462		C87468		
Sampling Date		2006/09/18		2006/09/18		
COG Number		115774		115773		
	Units	02-TP06-07-04	QC Batch	02-TP06-08-02	RDL	QC Batch

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	16	1290080	1270	10	1282371
F1 (C06-C10) - BTEX	mg/kg	14	1311295	1220	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	49	1290350	1680	10	1282698
F3 (C16-C34 Hydrocarbons)	mg/kg	80	1290350	974	10	1282698
F4 (C34-C50 Hydrocarbons)	mg/kg	71	1290350	535	10	1282698
Reached Baseline at C50	mg/kg	Yes	1290350	No	1	1282698
OIL & GREASE						
F4SG (Heavy Hydrocarbons-SilicaGel)	mg/kg			2800	200	1284713
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	70	1290080	95		1282371
O-TERPHENYL (sur.)	%	80	1290350	80		1282698
RDL = Reportable Detection Limit						



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87478		C87480		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115773		115773		
Units 02-TP06-08-05 QC Batch 02-TP06-08-05 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	974	1282371	47	10	1290080
F1 (C06-C10) - BTEX	mg/kg	908	1282424	41	10	1290328
F2 (C10-C16 Hydrocarbons)	mg/kg	968	1282698	18	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	452	1282698	37	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	135	1282698	49	10	1290350
Reached Baseline at C50	mg/kg	Yes	1282698	Yes	1	1290350
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	94	1282371	84		1290080
O-TERPHENYL (sur.)	%	76	1282698	80		1290350

RDL = Reportable Detection Limit

Maxxam ID		C87492		C87495		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115773		115773		
Units 02-TP06-09-01 02-TP06-09-04 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	1380		70	10	1282387
F1 (C06-C10) - BTEX	mg/kg	1380		64	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	3580		43	10	1282698
F3 (C16-C34 Hydrocarbons)	mg/kg	12800		45	10	1282698
F4 (C34-C50 Hydrocarbons)	mg/kg	6830		16	10	1282698
Reached Baseline at C50	mg/kg	No		Yes	1	1282698

OIL & GREASE

F4SG (Heavy Hydrocarbons-SilicaGel)	mg/kg	27000		200		1284713
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	97		95		1282387
O-TERPHENYL (sur.)	%	83		73		1282698

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87496		C87498		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115773		115773		
Units 02-TP06-09-05 QC Batch 02-TP06-10-2 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	14	1290080	138	10	1282387
F1 (C06-C10) - BTEX	mg/kg	14	1290328	138	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	1290350	609	10	1282795
F3 (C16-C34 Hydrocarbons)	mg/kg	27	1290350	7600	10	1282795
F4 (C34-C50 Hydrocarbons)	mg/kg	29	1290350	2670	10	1282795
Reached Baseline at C50	mg/kg	Yes	1290350	No	1	1282795
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	83	1290080	93		1282387
O-TERPHENYL (sur.)	%	81	1290350	73		1282795

RDL = Reportable Detection Limit

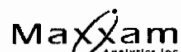
Maxxam ID		C87538		C87551		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115776		115776		
Units 02-TP06-11-01 02-TP06-12-01 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	15		<10	10	1282387
F1 (C06-C10) - BTEX	mg/kg	15		<10	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	107		314	10	1282795
F3 (C16-C34 Hydrocarbons)	mg/kg	1070		1280	10	1282795
F4 (C34-C50 Hydrocarbons)	mg/kg	1670		599	10	1282795
Reached Baseline at C50	mg/kg	No		No	1	1282795

Surrogate Recovery (%)

4-BROMOFLUOROBENZENE (sur.)	%	101		94		1282387
O-TERPHENYL (sur.)	%	75		76		1282795

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87552	C87553		
Sampling Date		2006/09/18	2006/09/18		
COC Number		115776	115776		
	Units	02-TP06-DUP-07	02-TP06-DUP-08	RDL	QC Batch

Ext. Pet. Hydrocarbon					
F1 (C06-C10)	mg/kg	1130	<10	10	1290080
F1 (C06-C10) - BTEX	mg/kg	1070	<10	10	1291783
F2 (C10-C16 Hydrocarbons)	mg/kg	4530	383	10	1290350
F3 (C16-C34 Hydrocarbons)	mg/kg	7180	1220	10	1290350
F4 (C34-C50 Hydrocarbons)	mg/kg	2190	563	10	1290350
Reached Baseline at C50	mg/kg	No	Yes	1	1290350
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	93	78		1290080
O-TERPHENYL (sur.)	%	92	80		1290350

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87449	C87459	C87462		
Sampling Date		2006/09/18	2006/09/18	2006/09/18		
COC Number		115775	115774	115774		
	Units	02-TP06-05-01	02-TP06-07-02	02-TP06-07-04	RDL	QC Batch

Polycyclic Aromatics					
Naphthalene	mg/kg	19	<0.05	<0.05	0.05 1289491
2-Methylnaphthalene	mg/kg	40	<0.05	<0.05	0.05 1289491
Acenaphthylene	mg/kg	0.36	<0.05	<0.05	0.05 1289491
Acenaphthene	mg/kg	0.50	<0.05	<0.05	0.05 1289491
Fluorene	mg/kg	1.5	<0.05	<0.05	0.05 1289491
Phenanthrene	mg/kg	2.4	<0.05	<0.05	0.05 1289491
Anthracene	mg/kg	0.10	<0.05	<0.05	0.05 1289491
Fluoranthene	mg/kg	0.16	<0.05	<0.05	0.05 1289491
Pyrene	mg/kg	0.27	<0.05	<0.05	0.05 1289491
Benzo(c)phenanthrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Benzo(a)anthracene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Chrysene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Benzo(b,k)fluoranthene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
7,12-Dimethylbenz(a)anthracene	mg/kg	0.06	<0.05	<0.05	0.05 1289491
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Dibenzo(a,h)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Dibenzo(a,i)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491
Dibenzo(a,l)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1289491

Surrogate Recovery (%)

D10-ANTHRACENE (sur.)	%	102	122	124	1289491
D12-BENZO(A)PYRENE (sur.)	%	114	106	101	1289491
D8-ACENAPHTHYLENE (sur.)	%	109	117	116	1289491
TERPHENYL-D14 (sur.)	%	115	121	125	1289491

RDL = Reportable Detection Limit

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

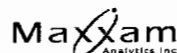
Maxxam ID		C87478	C87494		
Sampling Date		2006/09/18	2006/09/18		
COC Number		115773	115773		
	Units	02-TP06-08-05	02-TP06-09-03	RDL	QC Batch

Polycyclic Aromatics					
Naphthalene	mg/kg	3.4	4.0	0.05	1282944
2-Methylnaphthalene	mg/kg	7.3	5.2	0.05	1282944
Acenaphthylene	mg/kg	0.07	<0.05	0.05	1282944
Acenaphthene	mg/kg	<0.05	<0.05	0.05	1282944
Fluorene	mg/kg	0.22	0.15	0.05	1282944
Phenanthrene	mg/kg	0.13	0.19	0.05	1282944
Anthracene	mg/kg	<0.05	<0.05	0.05	1282944
Fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944
Pyrene	mg/kg	<0.05	<0.05	0.05	1282944
Benzo(a)anthracene	mg/kg	<0.05	<0.05	0.05	1282944
Chrysene	mg/kg	<0.05	<0.05	0.05	1282944
Benzo(b&j)fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.05	1282944
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	0.05	1282944
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	0.05	1282944
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	0.05	1282944
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	124	122		1282944
D12-BENZO(A)PYRENE (sur.)	%	107	103		1282944
D8-ACENAPHTHYLENE (sur.)	%	108	109		1282944
TERPHENYL-D14 (sur.)	%	119	118		1282944
RDL = Reportable Detection Limit					

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		C87449	C87466	C87495	
Sampling Date		2006/09/18	2006/09/18	2006/09/18	
COC Number		115775	115773	115773	
	Units	02-TP06-05-01	02-TP06-08-02	02-TP06-09-04	RDL QC Batch

Elements					
Total Aluminum (Al)	mg/kg	8050		10	1322914
Total Antimony (Sb)	mg/kg	<1		1	1284161
Total Arsenic (As)	mg/kg	2		1	1284161
Total Barium (Ba)	mg/kg	113		10	1284161
Total Beryllium (Be)	mg/kg	0.9		0.4	1284161
Total Boron (B)	mg/kg	11		2	1322914
Total Cadmium (Cd)	mg/kg	0.2		0.1	1284161
Total Calcium (Ca)	mg/kg	122000		50	1322914
Total Chromium (Cr)	mg/kg	26		1	1284161
Total Cobalt (Co)	mg/kg	8		1	1284161
Total Copper (Cu)	mg/kg	27		5	1284161
Total Iron (Fe)	mg/kg	19400		10	1322914
Total Lead (Pb)	mg/kg	7		1	1284161
Total Lithium (Li)	mg/kg	15		10	1322914
Total Magnesium (Mg)	mg/kg	46200		20	1322914
Total Manganese (Mn)	mg/kg	418		10	1322914
Total Molybdenum (Mo)	mg/kg	1.0		0.4	1284161
Total Nickel (Ni)	mg/kg	18		1	1284161
Total Phosphorus (P)	mg/kg	527		20	1322914
Total Potassium (K)	mg/kg	1580		30	1322914
Total Selenium (Se)	mg/kg	<0.5		0.5	1284161
Total Silver (Ag)	mg/kg	<1		1	1284161
Total Sodium (Na)	mg/kg	114		50	1322914
Total Strontium (Sr)	mg/kg	73		10	1322914
Total Sulphur (S)	mg/kg	676		20	1322914
Total Thallium (Tl)	mg/kg	<0.3		0.3	1284161
Total Tin (Sn)	mg/kg	<1		1	1284161
Total Vanadium (V)	mg/kg	13		1	1284161
Total Zinc (Zn)	mg/kg	37		10	1284161
Metals					
Total Lead (Pb)	mg/kg		21	18	10 1284162
RDL = Reportable Detection Limit					



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87432	C87446	C87453		
Sampling Date	2006/09/18	2006/09/18	2006/09/18		
COC Number	115775	115775	115774		
	Units	02-TP06-03-01	02-TP06-04-01	02-TP06-06-01	RDL QC Batch

Volatiles					
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050 1282369
Toluene	mg/kg	<0.020	<0.020	<0.020	0.020 1282369
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010 1282369
Xylenes (Total)	mg/kg	<0.020	<0.020	<0.020	0.020 1282369
m & p-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020 1282369
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020 1282369

Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	96	95	94	1282369
D10-ETHYLBENZENE (sur.)	%	111	112	107	1282369
D4-1,2-DICHLOROETHANE (sur.)	%	102	99	97	1282369
D8-TOLUENE (sur.)	%	102	101	102	1282369

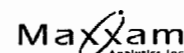
RDL = Reportable Detection Limit

Maxxam ID	C87459		C87462		
Sampling Date	2006/09/18		2006/09/18		
COC Number	115774		115774		
	Units	02-TP06-07-02	RDL QC Batch	02-TP06-07-04	RDL QC Batch

Volatiles					
Benzene	mg/kg	0.16	0.050 1282369	0.26	0.0050 1290079
Toluene	mg/kg	1.2	0.20 1282369	0.90	0.020 1290079
Ethylbenzene	mg/kg	4.7	0.10 1282369	0.098	0.010 1290079
Xylenes (Total)	mg/kg	66	0.20 1282369	0.31	0.020 1290079
m & p-Xylene	mg/kg	40	0.20 1282369	0.24	0.020 1290079
o-Xylene	mg/kg	26	0.20 1282369	0.065	0.020 1290079

Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	112	1282369	97	1290079
D10-ETHYLBENZENE (sur.)	%	101	1282369	129	1290079
D4-1,2-DICHLOROETHANE (sur.)	%	98	1282369	87	1290079
D8-TOLUENE (sur.)	%	103	1282369	100	1290079

RDL = Reportable Detection Limit



Maxxam Job #: A644350
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials: AL

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87466	C87478		
Sampling Date	2006/09/18	2006/09/18		
COC Number	115773	115773		
	Units	02-TP06-08-02	02-TP06-08-05	RDL QC Batch

Volatiles				
Benzene	mg/kg	0.45	3.8	0.050 1282369
Toluene	mg/kg	0.45	9.6	0.20 1282369
Ethylbenzene	mg/kg	2.5	7.4	0.10 1282369
Xylenes (Total)	mg/kg	49	47	0.20 1282369
m & p-Xylene	mg/kg	37	36	0.20 1282369
o-Xylene	mg/kg	13	11	0.20 1282369

Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	108	103	1282369
D10-ETHYLBENZENE (sur.)	%	122	89	1282369
D4-1,2-DICHLOROETHANE (sur.)	%	96	97	1282369
D8-TOLUENE (sur.)	%	103	101	1282369

RDL = Reportable Detection Limit

Maxxam ID	C87480		C87492	C87495	
Sampling Date	2006/09/18		2006/09/18	2006/09/18	
COC Number	115773		115773	115773	
	Units	02-TP06-08-06	RDL QC Batch	02-TP06-09-01	02-TP06-09-04 RDL QC Batch

Volatiles					
Benzene	mg/kg	1.1	1290079	0.10	0.80 0.0050 1282386
Toluene	mg/kg	1.2	1290079	0.068	0.20 0.020 1282386
Ethylbenzene	mg/kg	0.61	1290079	0.49	1.1 0.010 1282386
Xylenes (Total)	mg/kg	3.1	1290079	5.5	4.1 0.020 1282386
m & p-Xylene	mg/kg	2.2	1290079	5.1	2.8 0.020 1282386
o-Xylene	mg/kg	0.94	1290079	0.49	1.7 0.020 1282386

Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	100	1290079	120	110 1282386
D10-ETHYLBENZENE (sur.)	%	125	1290079	103	130 1282386
D4-1,2-DICHLOROETHANE (sur.)	%	95	1290079	97	93 1282386
D8-TOLUENE (sur.)	%	101	1290079	105	101 1282386

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87496		C87498		C87538	
Sampling Date		2006/09/18		2006/09/18		2006/09/18	
COC Number		115773		115773		115776	
	Units	02-TP06-09-05	QC Batch	02-TP06-10-2	02-TP06-11-01	RDL	QC Batch

Volatiles							
Benzene	mg/kg	0.27	1290079	0.11	0.013	0.0050	1282386
Toluene	mg/kg	0.21	1290079	0.031	<0.020	0.020	1282386
Ethylbenzene	mg/kg	0.031	1290079	0.38	<0.010	0.010	1282386
Xylenes (Total)	mg/kg	0.062	1290079	<0.020	0.035	0.020	1282386
m & p-Xylene	mg/kg	0.062	1290079	<0.020	<0.020	0.020	1282386
o-Xylene	mg/kg	<0.020	1290079	<0.020	0.035	0.020	1282386
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	97	1290079	107	97		1282386
D10-ETHYLBENZENE (sur.)	%	124	1290079	124	124		1282386
D4-1,2-DICHLOROETHANE (sur.)	%	96	1290079	96	90		1282386
D8-TOLUENE (sur.)	%	101	1290079	101	99		1282386

RDL = Reportable Detection Limit

Maxxam ID		C87551		C87552	
Sampling Date		2006/09/18		2006/09/18	
COC Number		115775		115776	
	Units	02-TP06-12-01	RDL	QC Batch	02-TP06-DUP-07

Volatiles							
Benzene	mg/kg	<0.0050	0.0050	1282386	<0.0050	0.0050	1291431
Toluene	mg/kg	<0.020	0.020	1282386	0.15	0.020	1291431
Ethylbenzene	mg/kg	<0.010	0.010	1282386	0.19	0.010	1291431
Xylenes (Total)	mg/kg	<0.020	0.020	1282386	60	0.20	1291431
m & p-Xylene	mg/kg	<0.020	0.020	1282386	35	0.20	1291431
o-Xylene	mg/kg	<0.020	0.020	1282386	26	0.20	1291431
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	98		1282386	104		1291431
D10-ETHYLBENZENE (sur.)	%	118		1282386	106		1291431
D4-1,2-DICHLOROETHANE (sur.)	%	96		1282386	101		1291431
D8-TOLUENE (sur.)	%	100		1282386	114		1291431

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87553			
Sampling Date		2006/09/18			
COC Number		115778			
	Units	02-TP06-DUP-08	RDL	QC Batch	

Volatiles							
Benzene	mg/kg	<0.0050	0.0050	1291431			
Toluene	mg/kg	<0.020	0.020	1291431			
Ethylbenzene	mg/kg	<0.010	0.010	1291431			
Xylenes (Total)	mg/kg	<0.020	0.020	1291431			
m & p-Xylene	mg/kg	<0.020	0.020	1291431			
o-Xylene	mg/kg	<0.020	0.020	1291431			
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	115		1291431			
D10-ETHYLBENZENE (sur.)	%	106		1291431			
D4-1,2-DICHLOROETHANE (sur.)	%	95		1291431			
D8-TOLUENE (sur.)	%	100		1291431			

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL) Comments

Sample C97495-01 BTEX by HS GC/MS (MeOH extract): BTEX MATRIX SPIKE OUTSIDE ACCEPTANCE CRITERIA DUE TO MATRIX INTERFERENCE

Results relate only to the items tested.

Quality Assurance Report
Maxxam Job Number: EA644350

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282368 SD7	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/25		94	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25		125	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		96	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		101	%	60 - 140
		Benzene	2006/09/25		96	%	60 - 140
		Toluene	2006/09/25		105	%	60 - 140
		Ethylbenzene	2006/09/25		104	%	60 - 140
		m & p-Xylene	2006/09/25		108	%	60 - 140
		o-Xylene	2006/09/25		102	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		95	%	60 - 140
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/09/25		117	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		93	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		101	%	60 - 140
		Benzene	2006/09/25		91	%	60 - 140
		Toluene	2006/09/25		100	%	60 - 140
		Ethylbenzene	2006/09/25		104	%	60 - 140
		m & p-Xylene	2006/09/25		108	%	60 - 140
		o-Xylene	2006/09/25		105	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		97	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25		123	%	60 - 130
	BLANK	D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		96	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		100	%	60 - 140
		Benzene	2006/09/25	<0.0050		mg/kg	
		Toluene	2006/09/25	<0.020		mg/kg	
		Ethylbenzene	2006/09/25	<0.010		mg/kg	
		Xylenes (Total)	2006/09/25	<0.020		mg/kg	
		m & p-Xylene	2006/09/25	<0.020		mg/kg	
		o-Xylene	2006/09/25	<0.020		mg/kg	
		Benzene	2006/09/25	NC		%	50
		Toluene	2006/09/25	NC		%	50
1282371 KO	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/23		93	%	60 - 130
		F1 (C06-C10)	2006/09/23		104	%	60 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/09/23		86	%	60 - 130
		F1 (C06-C10)	2006/09/23		96	%	60 - 120
		4-BROMOFLUOROBENZENE (sur.)	2006/09/23		86	%	60 - 130
		F1 (C06-C10)	2006/09/23	<10		mg/kg	
		F1 (C06-C10)	2006/09/23	NC		%	50
		Moisture	2006/09/23	<0.3		%	
		Moisture	2006/09/23	8.2		%	20
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/25		101	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25		122	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		90	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		101	%	60 - 140
		Benzene	2006/09/25		111	%	60 - 140
		Toluene	2006/09/25		104	%	60 - 140
		Ethylbenzene	2006/09/25		167 (1)	%	60 - 140
		m & p-Xylene	2006/09/25		130	%	60 - 140
		o-Xylene	2006/09/25		87	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		99	%	60 - 140
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/09/25		119	%	60 - 130
1282372 SD7	RPD	Moisture	2006/09/23			%	
	BLANK	Moisture	2006/09/23			%	
	RPD	Moisture	2006/09/23			%	
1282386 HW4	MATRIX SPIKE [C87495-01]	4-BROMOFLUOROBENZENE (sur.)	2006/09/25		101	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25		122	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		90	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		101	%	60 - 140
		Benzene	2006/09/25		111	%	60 - 140
		Toluene	2006/09/25		104	%	60 - 140
		Ethylbenzene	2006/09/25		167 (1)	%	60 - 140
		m & p-Xylene	2006/09/25		130	%	60 - 140
		o-Xylene	2006/09/25		87	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		99	%	60 - 140



FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644350

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282386 HW4	SPIKE	D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		96	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/25		101	%	60 - 140
		Benzene	2006/09/25		82	%	60 - 140
		Toluene	2006/09/25		94	%	60 - 140
		Ethylbenzene	2006/09/25		103	%	60 - 140
	BLANK	m & p-Xylene	2006/09/25		102	%	60 - 140
		o-Xylene	2006/09/25		103	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		100	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25		121	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25		92	%	60 - 140
	RPD [C87492-01]	D8-TOLUENE (sur.)	2006/09/25		100	%	60 - 140
		Benzene	2006/09/25	<0.0050		mg/kg	
		Toluene	2006/09/25	<0.020		mg/kg	
		Ethylbenzene	2006/09/25	<0.010		mg/kg	
		Xylenes (Total)	2006/09/25	<0.020		mg/kg	
		m & p-Xylene	2006/09/25	<0.020		mg/kg	
		o-Xylene	2006/09/25	<0.020		mg/kg	
		Benzene	2006/09/25	6.4		%	50
		Toluene	2006/09/25	NC		%	50
		Ethylbenzene	2006/09/25	0.02		%	50
1282387 KO	MATRIX SPIKE [C87495-01]	4-BROMOFLUOROBENZENE (sur.)	2006/09/25		88	%	60 - 130
		F1 (C06-C10)	2006/09/25		99	%	60 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		89	%	60 - 130
		F1 (C06-C10)	2006/09/25		92	%	60 - 120
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25		86	%	60 - 130
	BLANK	F1 (C06-C10)	2006/09/25	<10		mg/kg	
		F1 (C06-C10)	2006/09/25	7.3		%	50
		Moisture	2006/09/23	<0.3		%	
		Moisture	2006/09/23	1.1		%	20
		Moisture	2006/09/23			%	
1282388 SD7	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/09/26		74	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/26		92	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/26		61	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/09/26		76	%	50 - 130
		O-TERPHENYL (sur.)	2006/09/26		76	%	30 - 130
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/26		97	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/09/26		88	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/09/26		87	%	80 - 120
		O-TERPHENYL (sur.)	2006/09/26		87	%	30 - 130
	BLANK	F2 (C10-C16 Hydrocarbons)	2006/09/26	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/09/26	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/09/26	<10		mg/kg	
		Reached Baseline at C50	2006/09/26	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/09/26	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/09/26	NC		%	50
		F4 (C34-C50 Hydrocarbons)	2006/09/26	NC		%	50
		Reached Baseline at C50	2006/09/26	NC		%	50
	RPD	Moisture	2006/09/25	<0.3		%	
		Moisture	2006/09/25	3.5		%	20
1282719 HL2	BLANK	O-TERPHENYL (sur.)	2006/09/25		78	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/25		81	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/25		69	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/25		81	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/25		69	%	50 - 130

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Quality Assurance Report (Continued)
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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282795 KB4	MATRIX SPIKE	F4 (C34-C50 Hydrocarbons)	2006/09/25		89	%	50 - 130
		O-TERPHENYL (sur.)	2006/09/25		84	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/25		101	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/09/25		92	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/09/25		84	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2006/09/25		82	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/25	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/09/25	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/09/25	<10		mg/kg	
		Reached Baseline at C50	2006/09/25	YES, RDL=1		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2006/09/25	5.0		%	50
		F3 (C16-C34 Hydrocarbons)	2006/09/25	7.4		%	50
		F4 (C34-C50 Hydrocarbons)	2006/09/25	NC		%	50
		Reached Baseline at C50	2006/09/25	NC		%	50
	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/09/26		129	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/26		117	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/26		121	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/26		127	%	30 - 130
		Naphthalene	2006/09/26		101	%	30 - 130
		2-Methylnaphthalene	2006/09/26		103	%	30 - 130
		Aconaphthylene	2006/09/26		107	%	30 - 130
		Aconaphthylene	2006/09/26		97	%	30 - 130
		Fluorene	2006/09/26		100	%	30 - 130
		Phenanthrene	2006/09/26		100	%	30 - 130
		Anthracene	2006/09/26		98	%	30 - 130
		Fluoranthene	2006/09/26		101	%	30 - 130
		Pyrene	2006/09/26		100	%	30 - 130
		Benzo(a)anthracene	2006/09/26		103	%	30 - 130
		Chrysene	2006/09/26		97	%	30 - 130
		Benzo(b,k)fluoranthene	2006/09/26		98	%	30 - 130
		Benzo(k)fluoranthene	2006/09/26		100	%	30 - 130
		Benzo(a)pyrene	2006/09/26		102	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/09/26		111	%	30 - 130
1282944 AK3	SPIKE	Dibenz(a,h)anthracene	2006/09/26		124	%	30 - 130
		Benzo(g,h,i)perylene	2006/09/26		107	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/09/26		122	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/26		103	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/26		118	%	30 - 130
	BLANK	TERPHENYL-D14 (sur.)	2006/09/26		118	%	30 - 130
		Naphthalene	2006/09/26		105	%	30 - 130
		2-Methylnaphthalene	2006/09/26		104	%	30 - 130
		Aconaphthylene	2006/09/26		105	%	30 - 130
		Aconaphthylene	2006/09/26		101	%	30 - 130
		Fluorene	2006/09/26		100	%	30 - 130
		Phenanthrene	2006/09/26		104	%	30 - 130
		Anthracene	2006/09/26		101	%	30 - 130
		Fluoranthene	2006/09/26		100	%	30 - 130
		Pyrene	2006/09/26		100	%	30 - 130
		Benzo(a)anthracene	2006/09/26		99	%	30 - 130
		Chrysene	2006/09/26		99	%	30 - 130
		Benzo(b,k)fluoranthene	2006/09/26		94	%	30 - 130
		Benzo(k)fluoranthene	2006/09/26		98	%	30 - 130
		Benzo(a)pyrene	2006/09/26		96	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/09/26		107	%	30 - 130
		Dibenz(a,h)anthracene	2006/09/26		104	%	30 - 130

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282944 AK3	SPIKE	Benzo(g,h,i)perylene	2006/09/26	108	%	%	30 - 130
	BLANK	D10-ANTHRACENE (sur.)	2006/09/26	119	%	%	30 - 130
	BLANK	D12-BENZO(A)PYRENE (sur.)	2006/09/26	107	%	%	30 - 130
		DB-ACENAPHTHYLENE (sur.)	2006/09/26	124	%	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/26	123	%	%	30 - 130
		Naphthalene	2006/09/26	<0.05		mg/kg	
		2-Methylnaphthalene	2006/09/26	<0.05		mg/kg	
		Acenaphthylene	2006/09/26	<0.05		mg/kg	
		Acenaphthene	2006/09/26	<0.05		mg/kg	
		Fluorene	2006/09/26	<0.05		mg/kg	
		Phenanthrene	2006/09/26	<0.05		mg/kg	
		Anthracene	2006/09/26	<0.05		mg/kg	
		Fluoranthene	2006/09/26	<0.05		mg/kg	
		Pyrene	2006/09/26	<0.05		mg/kg	
		Benzo(a)anthracene	2006/09/26	<0.05		mg/kg	
		Chrysene	2006/09/26	<0.05		mg/kg	
		Benzo(b)fluoranthene	2006/09/26	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/09/26	<0.05		mg/kg	
		Benzo(a)pyrene	2006/09/26	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/09/26	<0.05		mg/kg	
		Dibenzo(a,h)anthracene	2006/09/26	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/09/26	<0.05		mg/kg	
RPD		Naphthalene	2006/09/26	NC		%	50
		2-Methylnaphthalene	2006/09/26	NC		%	50
		Acenaphthylene	2006/09/26	NC		%	50
		Acenaphthene	2006/09/26	NC		%	50
		Fluorene	2006/09/26	NC		%	50
		Phenanthrene	2006/09/26	NC		%	50
		Anthracene	2006/09/26	NC		%	50
		Fluoranthene	2006/09/26	NC		%	50
		Pyrene	2006/09/26	NC		%	50
		Benzo(a)anthracene	2006/09/26	NC		%	50
		Chrysene	2006/09/26	NC		%	50
		Benzo(b)fluoranthene	2006/09/26	NC		%	50
		Benzo(k)fluoranthene	2006/09/26	NC		%	50
		Benzo(a)pyrene	2006/09/26	NC		%	50
		Indeno(1,2,3-cd)pyrene	2006/09/26	NC		%	50
		Dibenzo(a,h)anthracene	2006/09/26	NC		%	50
		Benzo(g,h,i)perylene	2006/09/26	NC		%	50
1283806 MC3	MATRIX SPIKE	Soluble (Hot water) Boron (B)	2006/09/25		99	%	80 - 120
	SPIKE	Soluble (Hot water) Boron (B)	2006/09/25		106	%	85 - 115
	BLANK	Soluble (Hot water) Boron (B)	2006/09/25	<0.1		mg/kg	
	RPD	Soluble (Hot water) Boron (B)	2006/09/25	NC		%	40
1284161 AC4	Calibration Check	Total Antimony (Sb)	2006/09/26	103	%	%	80 - 120
		Total Arsenic (As)	2006/09/26	104	%	%	80 - 120
		Total Barium (Ba)	2006/09/26	101	%	%	80 - 120
		Total Beryllium (Be)	2006/09/26	106	%	%	80 - 120
		Total Cadmium (Cd)	2006/09/26	101	%	%	80 - 120
		Total Chromium (Cr)	2006/09/26	100	%	%	80 - 120
		Total Cobalt (Co)	2006/09/26	105	%	%	80 - 120
		Total Copper (Cu)	2006/09/26	104	%	%	80 - 120
		Total Lead (Pb)	2006/09/26	104	%	%	80 - 120
		Total Molybdenum (Mo)	2006/09/26	103	%	%	80 - 120
		Total Nickel (Ni)	2006/09/26	105	%	%	80 - 120
		Total Selenium (Se)	2006/09/26	104	%	%	80 - 120

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1284161 AC4	Calibration Check	Total Silver (Ag)	2006/09/26	104	%	%	80 - 120
		Total Thallium (Tl)	2006/09/26	103	%	%	80 - 120
		Total Tin (Sn)	2006/09/26	104	%	%	80 - 120
		Total Vanadium (V)	2006/09/26	103	%	%	80 - 120
		Total Zinc (Zn)	2006/09/26	104	%	%	80 - 120
	MATRIX SPIKE	Total Arsenic (As)	2006/09/26	99	%	%	80 - 120
		Total Cadmium (Cd)	2006/09/26	93	%	%	N/A
		Total Selenium (Se)	2006/09/26	104	%	%	80 - 120
		Total Thallium (Tl)	2006/09/26	94	%	%	80 - 120
	BLANK	Total Antimony (Sb)	2006/09/26	<1		mg/kg	
		Total Arsenic (As)	2006/09/26	<1		mg/kg	
		Total Barium (Ba)	2006/09/26	<10		mg/kg	
		Total Beryllium (Be)	2006/09/26	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/09/26	<0.1		mg/kg	
		Total Chromium (Cr)	2006/09/26	<1		mg/kg	
		Total Cobalt (Co)	2006/09/26	<1		mg/kg	
		Total Copper (Cu)	2006/09/26	<1		mg/kg	
		Total Lead (Pb)	2006/09/26	<1		mg/kg	
		Total Molybdenum (Mo)	2006/09/26	<0.4		mg/kg	
		Total Nickel (Ni)	2006/09/26	<1		mg/kg	
		Total Selenium (Se)	2006/09/26	<0.5		mg/kg	
		Total Silver (Ag)	2006/09/26	<1		mg/kg	
		Total Thallium (Tl)	2006/09/26	<0.3		mg/kg	
		Total Tin (Sn)	2006/09/26	<1		mg/kg	
		Total Vanadium (V)	2006/09/26	<1		mg/kg	
		Total Zinc (Zn)	2006/09/26	<10		mg/kg	
RPD		Total Antimony (Sb)	2006/09/26	NC		%	35
		Total Arsenic (As)	2006/09/26	NC		%	35
		Total Barium (Ba)	2006/09/26	10.2		%	35
		Total Beryllium (Be)	2006/09/26	NC		%	35
		Total Cadmium (Cd)	2006/09/26	10.1		%	35
		Total Chromium (Cr)	2006/09/26	11.1		%	35
		Total Cobalt (Co)	2006/09/26	7.2		%	35
		Total Copper (Cu)	2006/09/26	NC		%	35
		Total Lead (Pb)	2006/09/26	9.4		%	35
		Total Molybdenum (Mo)	2006/09/26	NC		%	35
		Total Nickel (Ni)	2006/09/26	8.3		%	35
		Total Selenium (Se)	2006/09/26	NC		%	35
		Total Silver (Ag)	2006/09/26	NC		%	35
		Total Thallium (Tl)	2006/09/26	NC		%	35
		Total Tin (Sn)	2006/09/26	NC		%	35
		Total Vanadium (V)	2006/09/26	7.0		%	35
		Total Zinc (Zn)	2006/09/26	8.2		%	35
1284162 AC4	Calibration Check	Total Lead (Pb)	2006/09/26		104	%	80 - 120
	MATRIX SPIKE	Total Lead (Pb)	2006/09/26		85	%	75 - 125
	BLANK	Total Lead (Pb)	2006/09/26	<10		mg/kg	
	RPD	Total Lead (Pb)	2006/09/26	NC		%	35
1284713 JR1	SPIKE	F4SG (Heavy Hydrocarbons-SilicaGel)	2006/09/26	80	%	%	70 - 130
	BLANK	F4SG (Heavy Hydrocarbons-SilicaGel)	2006/09/26	<200		mg/kg	
	RPD	F4G (Heavy Hydrocarbons - Grav.)	2006/09/26	9.8		%	50
1284758 YY1	Calibration Check	Mercury (Hg)	2006/09/26		106	%	85 - 115
	QC STANDARD	Mercury (Hg)	2006/09/26		123	%	N/A
	BLANK	Mercury (Hg)	2006/09/26	<0.05		mg/kg	
	RPD	Mercury (Hg)	2006/09/26	NC		%	35
	Calibration Check	Hex. Chromium (Cr 6+)	2006/09/26		101	%	75 - 125

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QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1285447 DD1	MATRIX SPIKE	Hex. Chromium (Cr 6+)	2006/09/26		69 (%)	%	75 - 125
	BLANK	Hex. Chromium (Cr 6+)	2006/09/26	<0.2		mg/kg	
	RPD	Hex. Chromium (Cr 6+)	2006/10/02	NC			35
1289491 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		125 %	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		117 %	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118 %	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		118 %	%	30 - 130
		Naphthalene	2006/10/02		105 %	%	30 - 130
		2-Methylnaphthalene	2006/10/02		100 %	%	30 - 130
		Acenaphthylene	2006/10/02		102 %	%	30 - 130
		Acenaphthene	2006/10/02		98 %	%	30 - 130
		Fluorene	2006/10/02		94 %	%	30 - 130
		Phenanthrene	2006/10/02		101 %	%	30 - 130
		Anthracene	2006/10/02		97 %	%	30 - 130
		Fluoranthene	2006/10/02		97 %	%	30 - 130
		Pyrene	2006/10/02		97 %	%	30 - 130
		Benzo(c)phenanthrene	2006/10/02		96 %	%	30 - 130
		Benzo(a)anthracene	2006/10/02		98 %	%	30 - 130
		Chrysene	2006/10/02		98 %	%	30 - 130
		Benzo(b&j)fluoranthene	2006/10/02		112 %	%	30 - 130
		7,12-Dimethylbenz(a)anthracene	2006/10/02		104 %	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		103 %	%	30 - 130
		Benzo(a)pyrene	2006/10/02		102 %	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		122 %	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		99 %	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/02		75 %	%	30 - 130
		Dibenz(a,h)pyrene	2006/10/02		70 %	%	30 - 130
		Dibenz(a,i)pyrene	2006/10/02		95 %	%	30 - 130
		Dibenz(a,j)pyrene	2006/10/02		122 %	%	30 - 130
	SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		103 %	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		118 %	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118 %	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		105 %	%	30 - 130
		Naphthalene	2006/10/02		104 %	%	30 - 130
		2-Methylnaphthalene	2006/10/02		105 %	%	30 - 130
		Acenaphthylene	2006/10/02		101 %	%	30 - 130
		Acenaphthene	2006/10/02		100 %	%	30 - 130
		Fluorene	2006/10/02		104 %	%	30 - 130
		Phenanthrene	2006/10/02		101 %	%	30 - 130
		Anthracene	2006/10/02		100 %	%	30 - 130
		Fluoranthene	2006/10/02		100 %	%	30 - 130
		Pyrene	2006/10/02		97 %	%	30 - 130
		Benzo(c)phenanthrene	2006/10/02		99 %	%	30 - 130
		Benzo(a)anthracene	2006/10/02		99 %	%	30 - 130
		Chrysene	2006/10/02		94 %	%	30 - 130
		Benzo(b&j)fluoranthene	2006/10/02		102 %	%	30 - 130
		7,12-Dimethylbenz(a)anthracene	2006/10/02		98 %	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		96 %	%	30 - 130
		Benzo(a)pyrene	2006/10/02		96 %	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		107 %	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		124 %	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/02		108 %	%	30 - 130
		Dibenz(a,h)pyrene	2006/10/02		101 %	%	30 - 130
		Dibenz(a,i)pyrene	2006/10/02		120 %	%	30 - 130
		Dibenz(a,j)pyrene	2006/10/02		110 %	%	30 - 130

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QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1289491 AK3	BLANK	D10-ANTHRACENE (sur.)	2006/10/02		119 %	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		107 %	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		124 %	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		123 %	%	30 - 130
		Naphthalene	2006/10/02	<0.05		mg/kg	
		2-Methylnaphthalene	2006/10/02	<0.05		mg/kg	
		Acenaphthylene	2006/10/02	<0.05		mg/kg	
		Acenaphthene	2006/10/02	<0.05		mg/kg	
		Fluorene	2006/10/02	<0.05		mg/kg	
		Phenanthrene	2006/10/02	<0.05		mg/kg	
		Anthracene	2006/10/02	<0.05		mg/kg	
		Fluoranthene	2006/10/02	<0.05		mg/kg	
		Pyrene	2006/10/02	<0.05		mg/kg	
		Benzo(c)phenanthrene	2006/10/02	<0.05		mg/kg	
		Benzo(a)anthracene	2006/10/02	<0.05		mg/kg	
		Chrysene	2006/10/02	<0.05		mg/kg	
		Benzo(b&j)fluoranthene	2006/10/02	<0.05		mg/kg	
		7,12-Dimethylbenz(a)anthracene	2006/10/02	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/10/02	<0.05		mg/kg	
		Benzo(a)pyrene	2006/10/02	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/10/02	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/10/02	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/10/02	<0.05		mg/kg	
		Dibenz(a,h)pyrene	2006/10/02	<0.05		mg/kg	
		Dibenz(a,i)pyrene	2006/10/02	<0.05		mg/kg	
		Dibenz(a,j)pyrene	2006/10/02	<0.05		mg/kg	
	RPD	Naphthalene	2006/10/02	NC		%	50
		2-Methylnaphthalene	2006/10/02	NC		%	50
		Acenaphthylene	2006/10/02	NC		%	50
		Acenaphthene	2006/10/02	NC		%	50
		Fluorene	2006/10/02	NC		%	50
		Phenanthrene	2006/10/02	NC		%	50
		Anthracene	2006/10/02	NC		%	50
		Fluoranthene	2006/10/02	NC		%	50
		Pyrene	2006/10/02	NC		%	50
		Benzo(a)anthracene	2006/10/02	NC		%	50
		Chrysene	2006/10/02	NC		%	50
		Benzo(b&j)fluoranthene	2006/10/02	NC		%	50
		Benzo(k)fluoranthene	2006/10/02	NC		%	50
		Benzo(a)pyrene	2006/10/02	NC		%	50
		Indeno(1,2,3-cd)pyrene	2006/10/02	NC		%	50
		Dibenz(a,h)anthracene	2006/10/02	NC		%	50
		Benzo(g,h,i)perylene	2006/10/02	NC		%	50
		4-BROMOFLUOROBENZENE (sur.)	2006/09/29		95 %	%	60 - 140
1290079 HW4	MATRIX SPIKE	D10-ETHYLBENZENE (sur.)	2006/09/29		119 %	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/29		88 %	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/29		99 %	%	60 - 140
		Benzene	2006/09/29		92 %	%	60 - 140
		Toluene	2006/09/29		98 %	%	60 - 140
		Ethylbenzene	2006/09/29		100 %	%	60 - 140
		m & p-Xylene	2006/09/29		98 %	%	60 - 140
		o-Xylene	2006/09/29		98 %	%	60 - 140
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/29		98 %	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/29		116 %	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/29		96 %	%	60 - 140

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644350

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed wwy/mm/dd	Value	Recovery	Units	QC Limits
1290079 HW4	SPIKE	D8-TOLUENE (sur.)	2006/09/29		100	%	60 - 140
		Benzene	2006/09/29		90	%	60 - 140
		Toluene	2006/09/29		95	%	60 - 140
		Ethylbenzene	2006/09/29		99	%	60 - 140
		m & p-Xylene	2006/09/29		97	%	60 - 140
		o-Xylene	2006/09/29		97	%	60 - 140
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/29		99	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/29		114	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/29		96	%	60 - 140
		D8-TOLUENE (sur.)	2006/09/29		100	%	60 - 140
		Benzene	2006/09/29	<0.0050		mg/kg	
		Toluene	2006/09/29	<0.020		mg/kg	
	RPD	Ethylbenzene	2006/09/29	<0.010		mg/kg	
		Xylenes (Total)	2006/09/29	<0.020		mg/kg	
		m & p-Xylene	2006/09/29	<0.020		mg/kg	
		o-Xylene	2006/09/29	<0.020		mg/kg	
		Benzene	2006/09/29	NC		%	50
		Toluene	2006/09/29	NC		%	50
1290080 KO	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/02		98	%	60 - 130
		F1 (C06-C10)	2006/10/02		91	%	60 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		72	%	60 - 130
	SPIKE	F1 (C06-C10)	2006/10/02		88	%	N/A
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		81	%	60 - 130
		F1 (C06-C10)	2006/10/02	<10		mg/kg	
	BLANK	F1 (C06-C10)	2006/10/02	NC		%	50
		Moisture	2006/09/29	13.3		%	
		Moisture	2006/09/29			%	20
	RPD	O-TERPHENYL (sur.)	2006/10/02		88	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/02		34	%	N/A
		F3 (C16-C34 Hydrocarbons)	2006/10/02		79	%	N/A
1290090 HL2	MATRIX SPIKE	F4 (C34-C50 Hydrocarbons)	2006/10/02		98	%	N/A
		O-TERPHENYL (sur.)	2006/10/02		81	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/02		98	%	85 - 115
	SPIKE	F3 (C16-C34 Hydrocarbons)	2006/10/02		98	%	85 - 115
		F4 (C34-C50 Hydrocarbons)	2006/10/02		101	%	85 - 115
		O-TERPHENYL (sur.)	2006/10/02		85	%	30 - 130
	BLANK	F2 (C10-C16 Hydrocarbons)	2006/10/02	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/10/02	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/02	<10		mg/kg	
	RPD	Reached Baseline at C50	2006/10/02	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/02	24.1		%	50
1290350 KB4	MATRIX SPIKE	F4 (C34-C50 Hydrocarbons)	2006/10/02		36.0	%	50
		Reached Baseline at C50	2006/10/02	NC		%	50
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		100	%	60 - 140
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/10/02		109	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/02		133	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/02		100	%	60 - 140
	BLANK	Benzene	2006/10/02		113	%	60 - 140
		Toluene	2006/10/02		130	%	60 - 140
		Ethylbenzene	2006/10/02			%	
	RPD	Reached Baseline at C50	2006/10/02	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/02	24.1		%	50
1291431 HW4	MATRIX SPIKE	F4 (C34-C50 Hydrocarbons)	2006/10/02		36.0	%	50
		Reached Baseline at C50	2006/10/02	NC		%	50
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		100	%	60 - 140
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/10/02		109	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/02		133	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/02		100	%	60 - 140
	BLANK	Benzene	2006/10/02		113	%	60 - 140
		Toluene	2006/10/02		130	%	60 - 140
		Ethylbenzene	2006/10/02			%	
	RPD	Reached Baseline at C50	2006/10/02	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/02	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/02	24.1		%	50

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644350

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed wwy/mm/dd	Value	Recovery	Units	QC Limits
1291431 HW4	MATRIX SPIKE	m & p-Xylene	2006/10/02		110	%	60 - 140
		o-Xylene	2006/10/02		131	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		96	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/02		125	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/02		113	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/02		98	%	60 - 140
	BLANK	Benzene	2006/10/02		120	%	60 - 140
		Toluene	2006/10/02		121	%	60 - 140
		Ethylbenzene	2006/10/02		120	%	60 - 140
		m & p-Xylene	2006/10/02		117	%	60 - 140
		o-Xylene	2006/10/02		116	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/10/02		98	%	60 - 140
	RPD	D10-ETHYLBENZENE (sur.)	2006/10/02		130	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/02		104	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/02		99	%	60 - 140
		Benzene	2006/10/02	<0.0050		mg/kg	
		Toluene	2006/10/02	<0.020		mg/kg	
		Ethylbenzene	2006/10/02	<0.010		mg/kg	
1291437 HL2	MATRIX SPIKE	Xylenes (Total)	2006/10/02		<0.020	mg/kg	
		m & p-Xylene	2006/10/02		<0.020	mg/kg	
		o-Xylene	2006/10/02		<0.020	mg/kg	
	BLANK	Benzene	2006/10/02	NC		%	50
		Toluene	2006/10/02	NC		%	50
		Ethylbenzene	2006/10/02	NC		%	50
	RPD	Xylenes (Total)	2006/10/02	NC		%	50
		m & p-Xylene	2006/10/02	NC		%	50
		o-Xylene	2006/10/02	NC		%	50
	BLANK	Moisture	2006/10/02	<0.3		%	
		Moisture	2006/10/02	6.8		%	20
		Moisture	2006/10/02			%	
1322914 MC3	CALIBRATION CHECK	Total Aluminum (Al)	2006/10/26		104	%	80 - 120
		Total Boron (B)	2006/10/26		100	%	80 - 120
		Total Calcium (Ca)	2006/10/26		95	%	80 - 120
	SPIKE	Total Iron (Fe)	2006/10/26		97	%	80 - 120
		Total Lithium (Li)	2006/10/26		102	%	80 - 120
		Total Magnesium (Mg)	2006/10/26		99	%	80 - 120
	BLANK	Total Manganese (Mn)	2006/10/26		100	%	80 - 120
		Total Phosphorus (P)	2006/10/26		97	%	80 - 120
		Total Potassium (K)	2006/10/26		103	%	80 - 120
	RPD	Total Sodium (Na)	2006/10/26		106	%	80 - 120
		Total Strontium (Sr)	2006/10/26		97	%	80 - 120
		Total Aluminum (Al)	2006/10/26		107	%	75 - 125
1291431 HW4	MATRIX SPIKE	Total Boron (B)	2006/10/26		102	%	80 - 120
		Total Calcium (Ca)	2006/10/26		98	%	75 - 125
		Total Iron (Fe)	2006/10/26		99	%	75 - 125
	BLANK	Total Lithium (Li)	2006/10/26		102	%	75 - 125
		Total Magnesium (Mg)	2006/10/26		103	%	75 - 125
		Total Manganese (Mn)	2006/10/26		104	%	75 - 125
	RPD	Total Phosphorus (P)	2006/10/26		101	%	75 - 125
		Total Potassium (K)	2006/10/26		103	%	75 - 125
		Total Sodium (Na)	2006/10/26		110	%	75 - 125
	BLANK	Total Strontium (Sr)	2006/10/26		98	%	75 - 125
		Total Aluminum (Al)	2006/10/26	<10		mg/kg	
		Total Boron (B)	2006/10/26	<2		mg/kg	
1291431 HW4	MATRIX SPIKE	Total Calcium (Ca)	2006/10/26		<50	mg/kg	
		Total Iron (Fe)	2006/10/26		<10	mg/kg	
		Total Lithium (Li)	2006/10/26			%	
	BLANK	Total Magnesium (Mg)	2006/10/26			%	
		Total Manganese (Mn)	2006/10/26			%	
		Total Phosphorus (P)	2006/10/26			%	
	RPD	Total Potassium (K)	2006/10/26			%	
		Total Sodium (Na)	2006/10/26			%	
		Total Strontium (Sr)	2006/10/26			%	
	BLANK	Total Aluminum (Al)	2006/10/26	<10		mg/kg	
		Total Boron (B)	2006/10/26	<2		mg/kg	
		Total Calcium (Ca)	2006/10/26	<50		mg/kg	
1291431 HW4	MATRIX SPIKE	Total Iron (Fe)	2006/10/26		<10	mg/kg	
		Total Lithium (Li)	2006/10/26			%	
		Total Magnesium (Mg)	2006/10/26			%	
	BLANK	Total Manganese (Mn)	2006/10/26			%	
		Total Phosphorus (P)	2006/10/26			%	
		Total Potassium (K)	2006/10/26			%	
	RPD	Total Sodium (Na)	2006/10/26			%	
		Total Strontium (Sr)	2006/10/26			%	
		Total Aluminum (Al)	2006/10/26	<10		mg/kg	
	BLANK	Total Boron (B)	2006/10/26	<2		mg/kg	
		Total Calcium (Ca)	2006/10/26	<50		mg/kg	
		Total Iron (Fe)	2006/10/26	<10		mg/kg	

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Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA644350

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1322914 MC3	BLANK	Total Lithium (Li)	2006/10/26	<10		mg/kg	
		Total Magnesium (Mg)	2006/10/26	<20		mg/kg	
		Total Manganese (Mn)	2006/10/26	<10		mg/kg	
		Total Phosphorus (P)	2006/10/26	<20		mg/kg	
		Total Potassium (K)	2006/10/26	<30		mg/kg	
		Total Sodium (Na)	2006/10/26	<50		mg/kg	
		Total Strontium (Sr)	2006/10/26	<10		mg/kg	
		Total Sulphur (S)	2006/10/26	<20		mg/kg	
	RPD	Total Aluminum (Al)	2006/10/26	0.7		%	35
		Total Boron (B)	2006/10/26	2.4		%	35
		Total Calcium (Ca)	2006/10/26	1.3		%	35
		Total Iron (Fe)	2006/10/26	1.4		%	35
		Total Lithium (Li)	2006/10/26	NC		%	35
		Total Magnesium (Mg)	2006/10/26	0.6		%	35
		Total Manganese (Mn)	2006/10/26	1.4		%	35
		Total Phosphorus (P)	2006/10/26	0.7		%	35
		Total Potassium (K)	2006/10/26	0.5		%	35
		Total Sodium (Na)	2006/10/26	NC		%	35
		Total Strontium (Sr)	2006/10/26	0.1		%	35
		Total Sulphur (S)	2006/10/26	0.5		%	35

N/A = Not Applicable

NC = Non-calculable

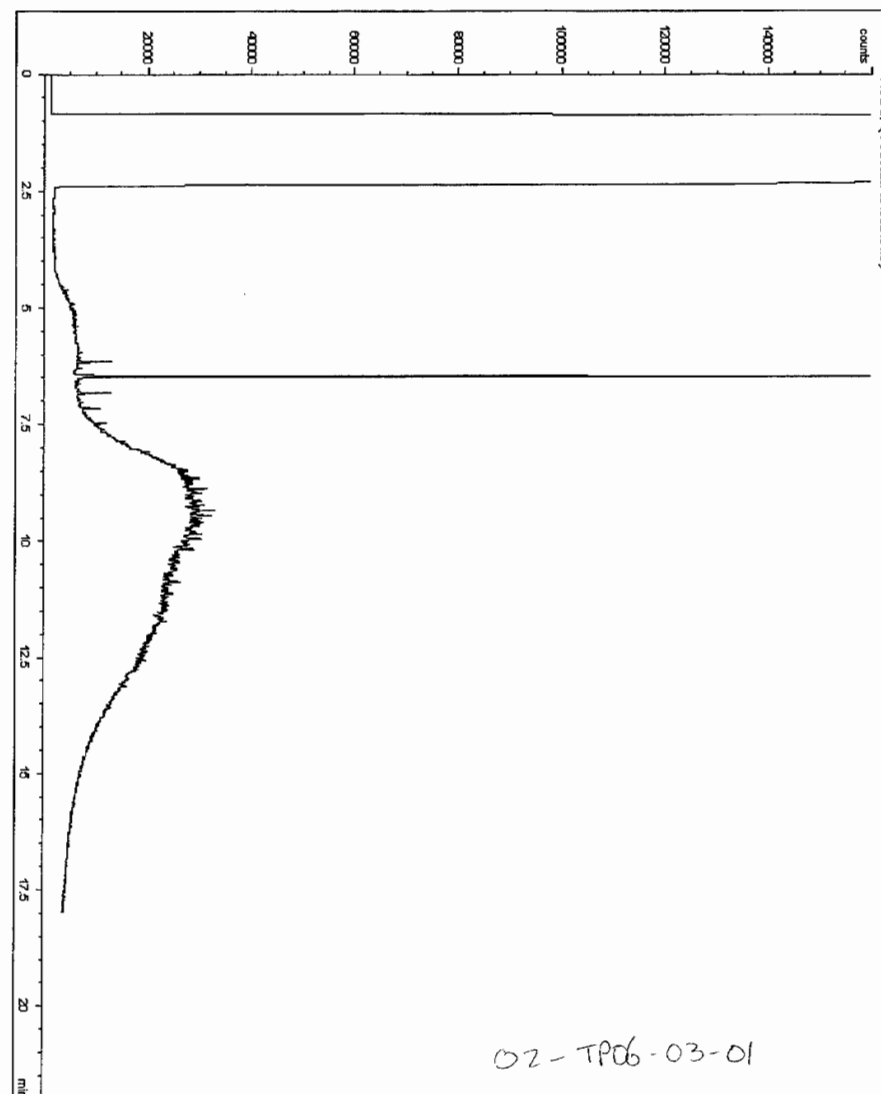
RPD = Relative Percent Difference

(1) Please note that the recovery of some compounds are outside control limits however the overall quality control for this analysis meets our acceptability criteria.

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Data File C:\HPCHEM\1\DATA\GCB0925A\015B2101.D

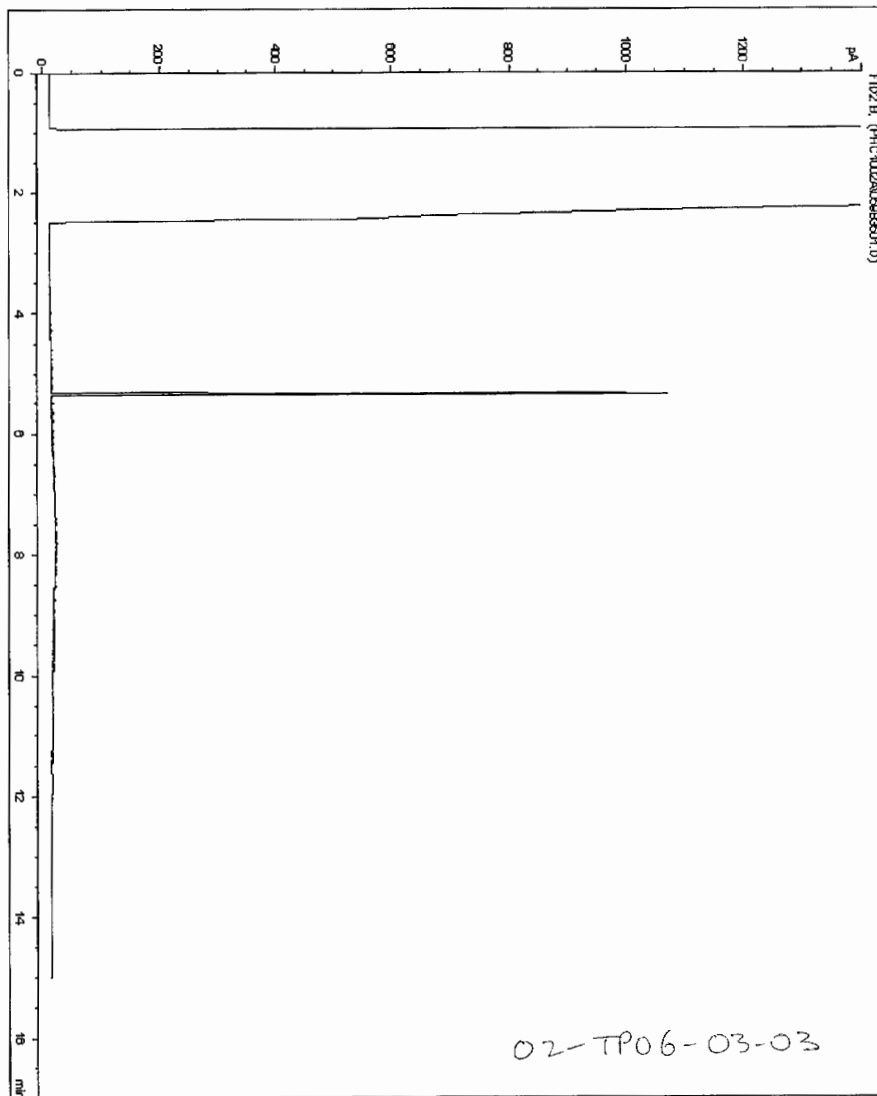
Sample Name: C87432



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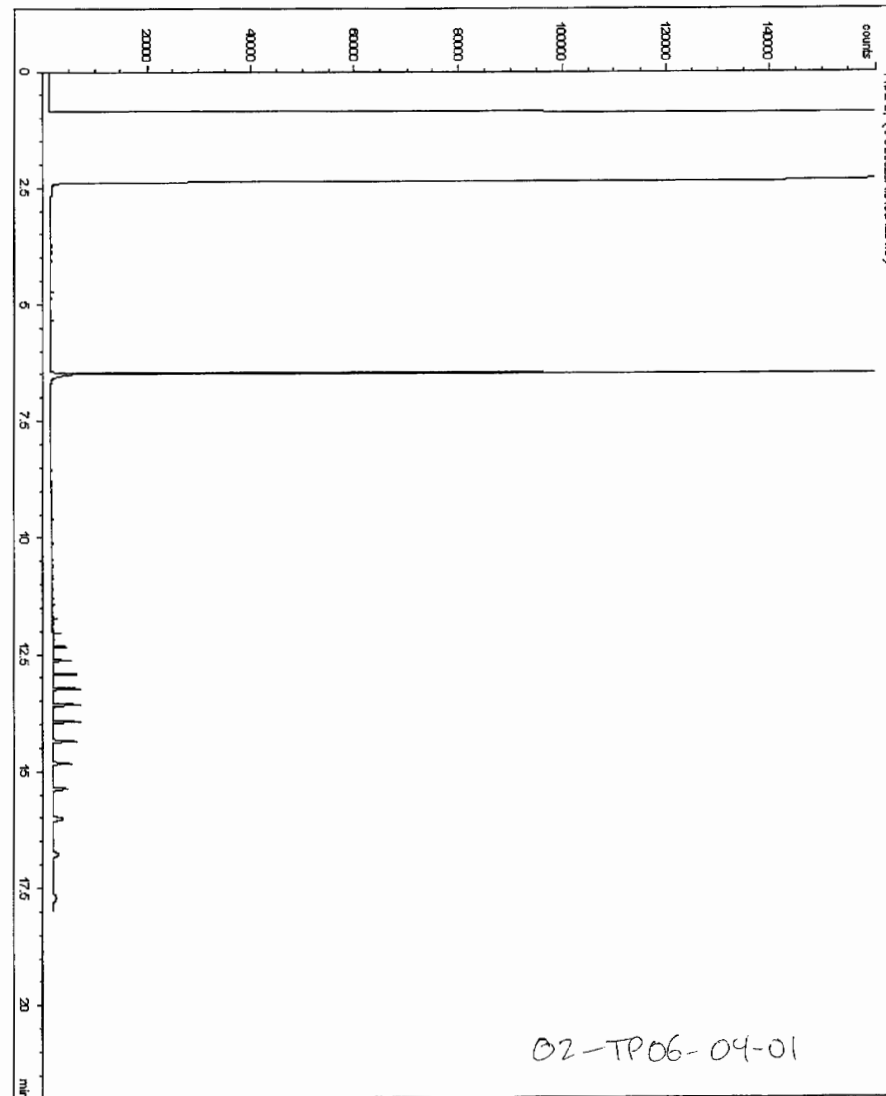
Sample Name: C87442



*** End of Report ***

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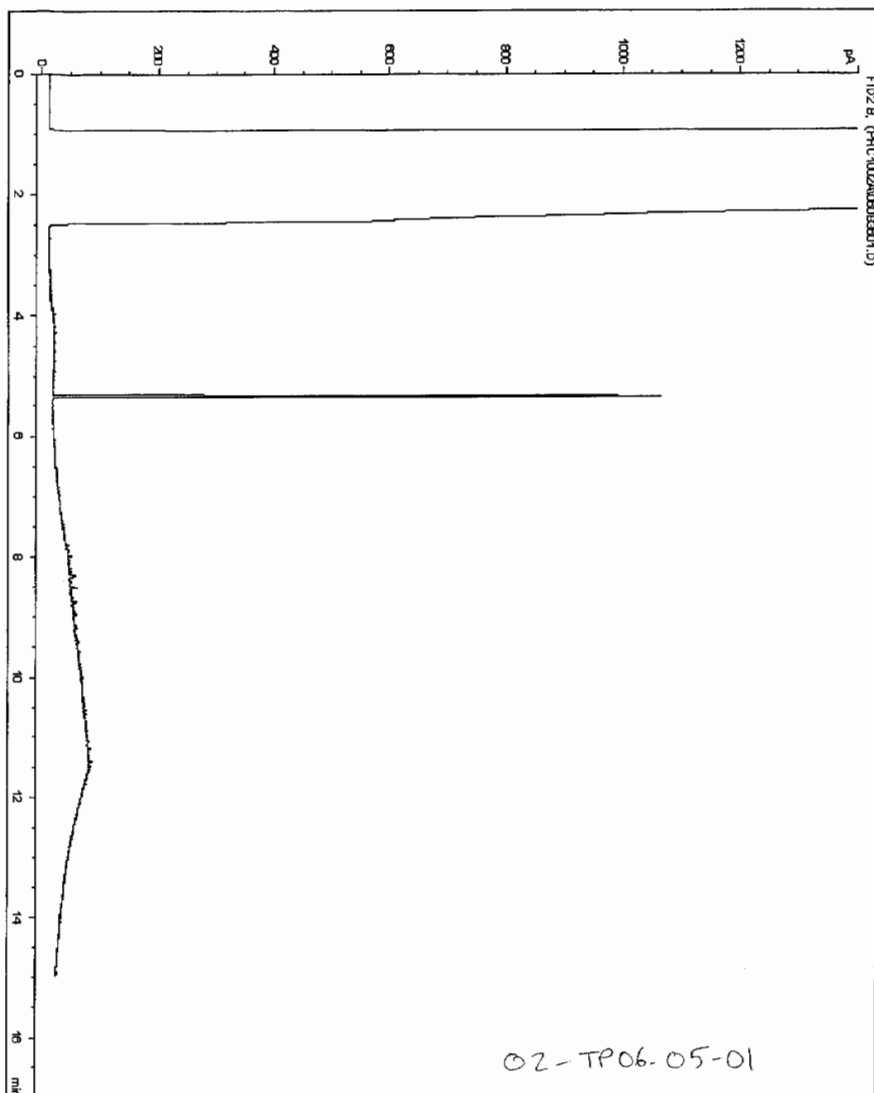
Sample Name: C87446



*** End of Report ***

Data File C:\HPCHEM\1\DATA\PHC1002A\060B3601.D

Sample Name: C87449



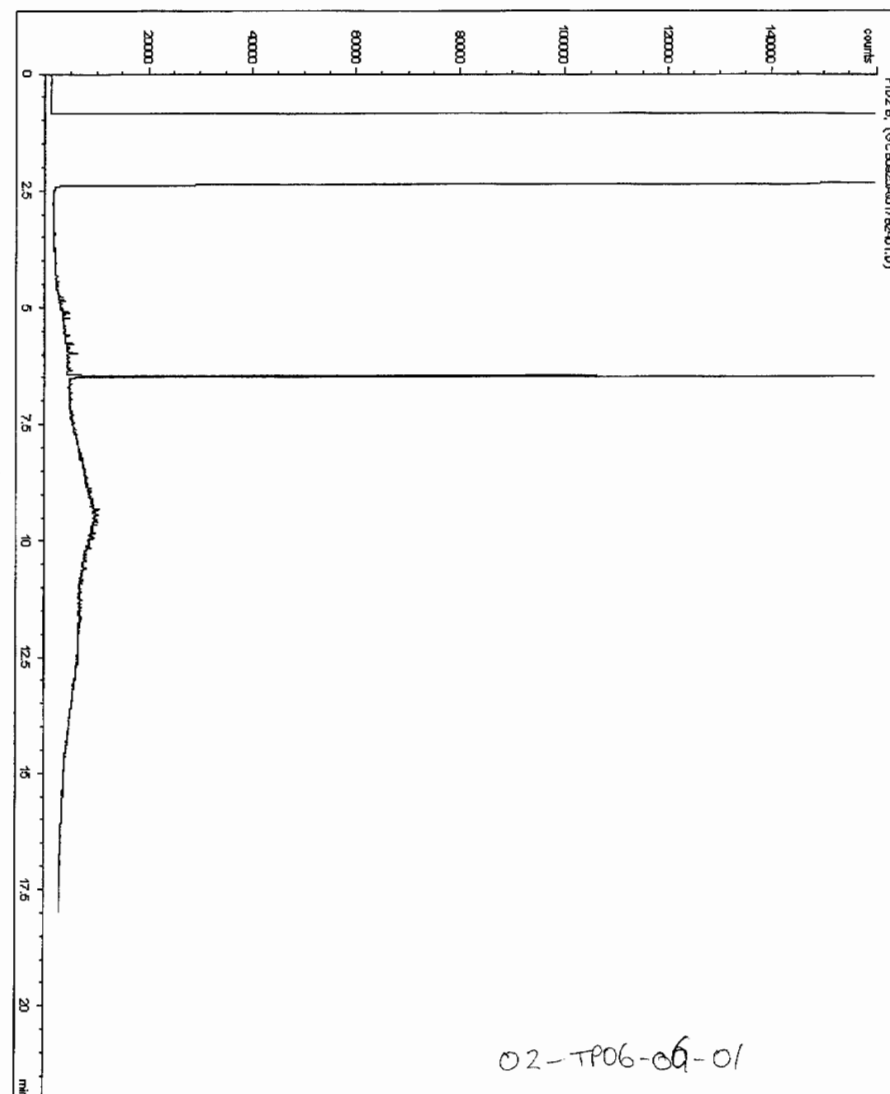
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Instrument 1 2007/01/11 10:28:56 AM KRIS

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Data File C:\HPCHEM\1\DATA\GCB0925A\017B2401.D

Sample Name: C87453



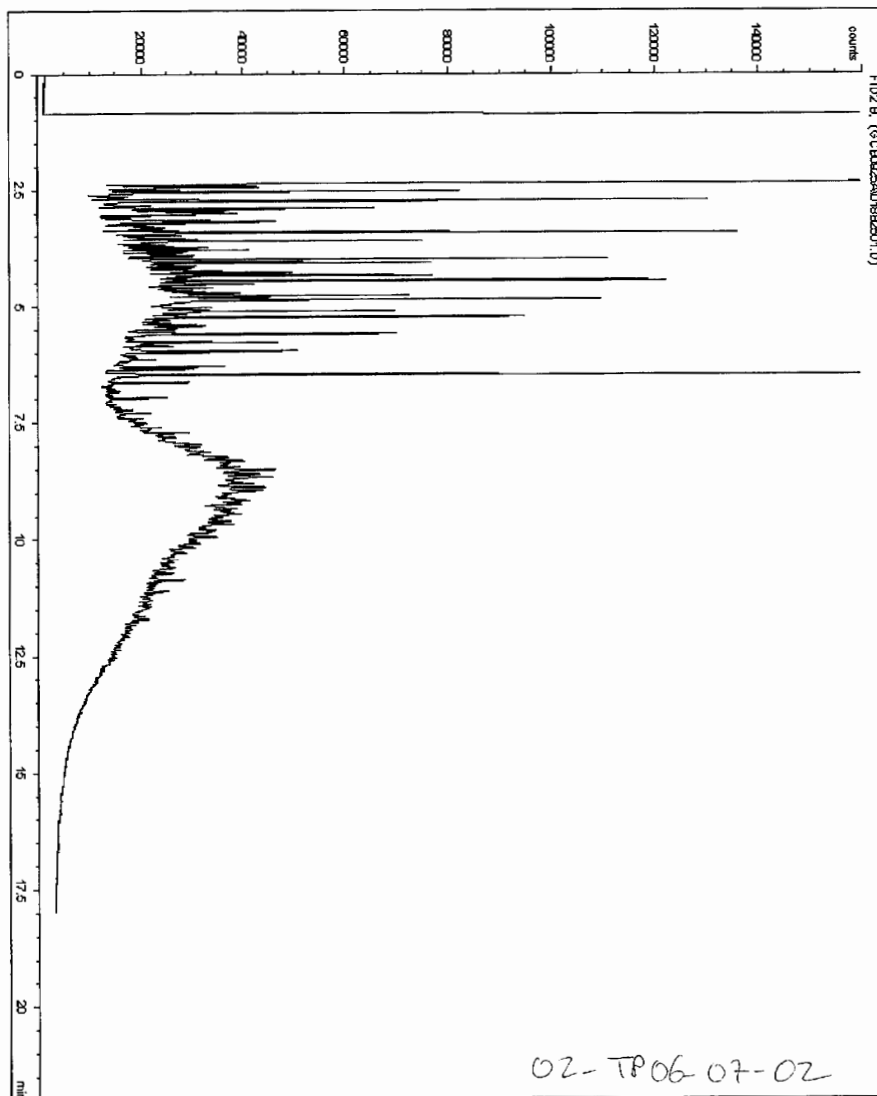
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Instrument 1 2007/01/11 10:36:14 AM AN

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Data File C:\HPCHEM\1\DATA\GCB0925A\018B2501.D

Sample Name: C87459



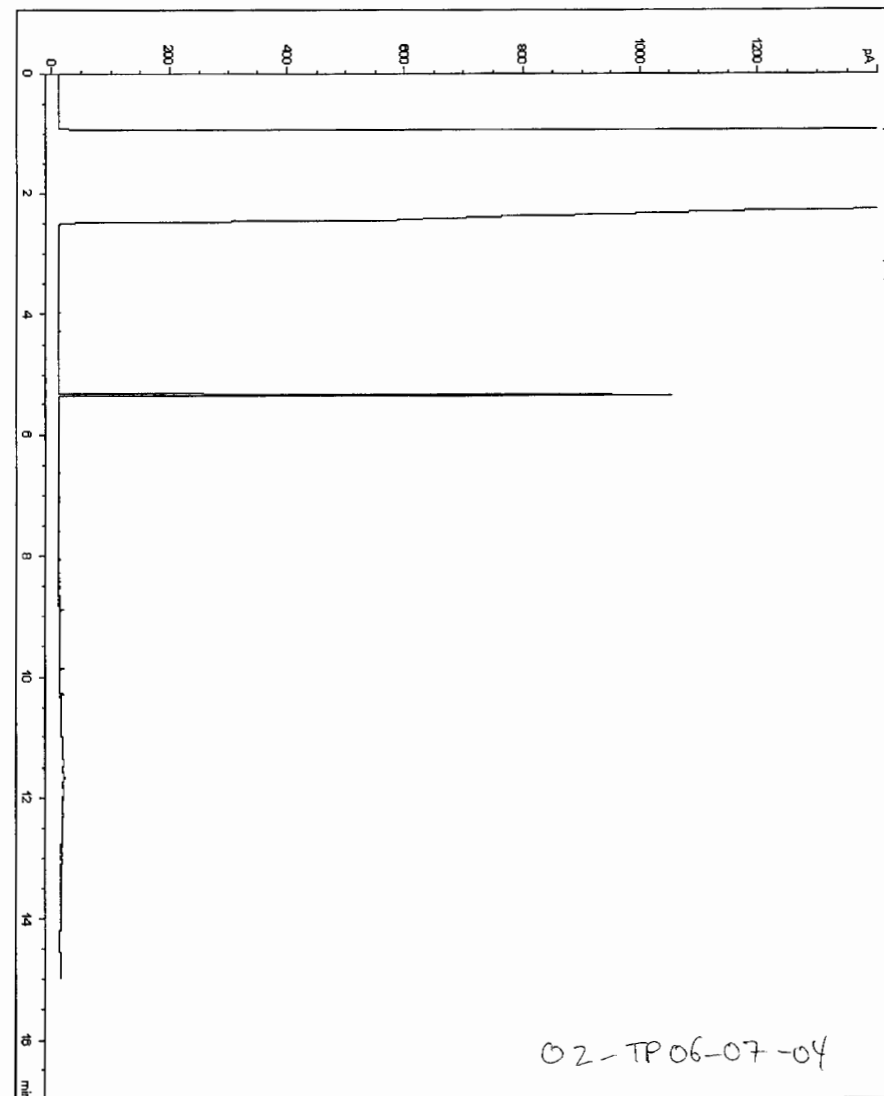
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Instrument 1 2007/01/11 10:36:16 AM AN

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Data File C:\HPCHEM\1\DATA\PHC1002A\061E3701.D

Sample Name: C87462



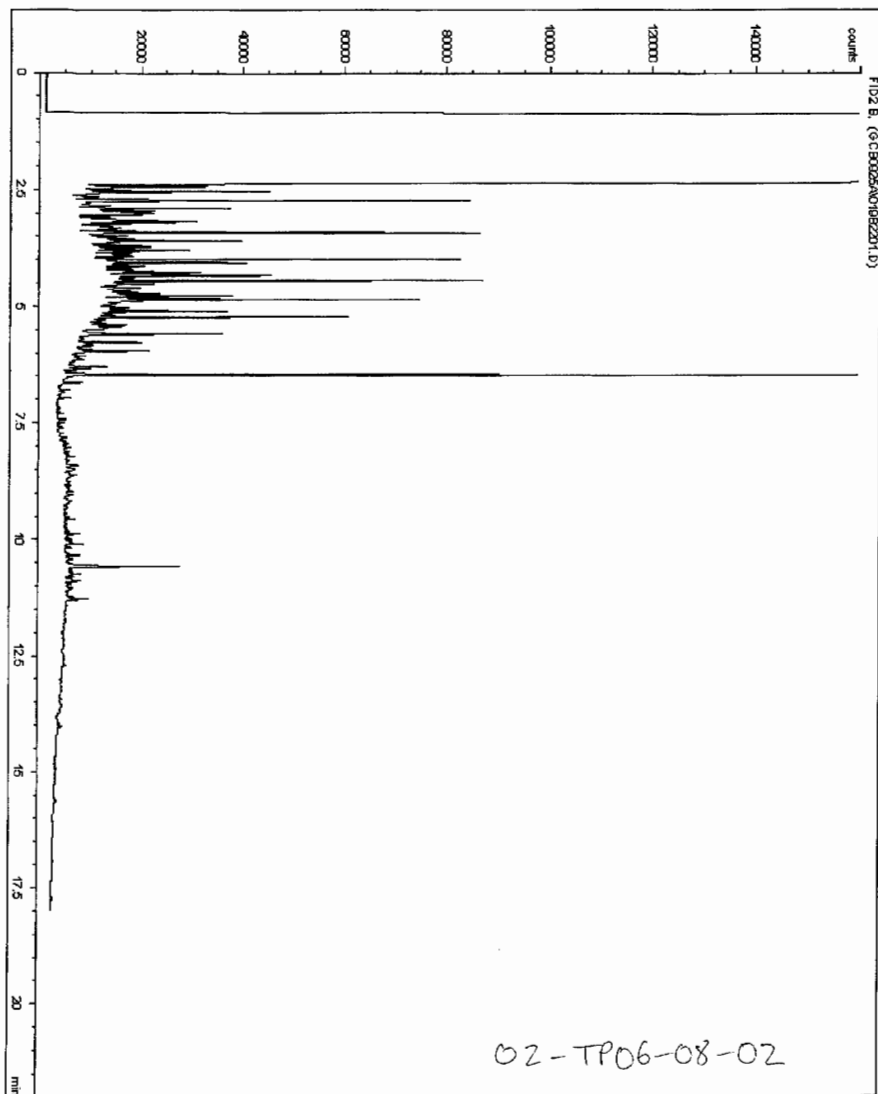
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Instrument 1 2007/01/11 10:28:59 AM KRIS

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Sample Name: C87466

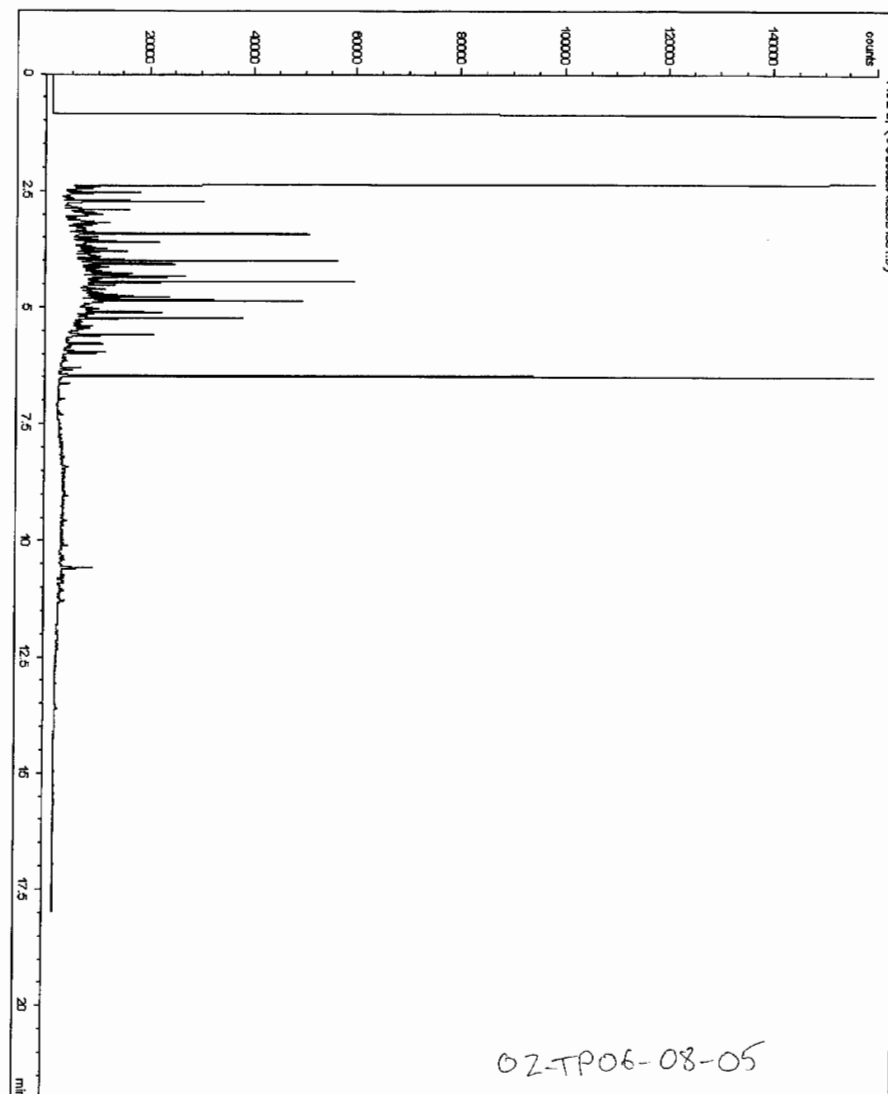


02-TP06-08-02

*** End of Report ***

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Sample Name: C87478

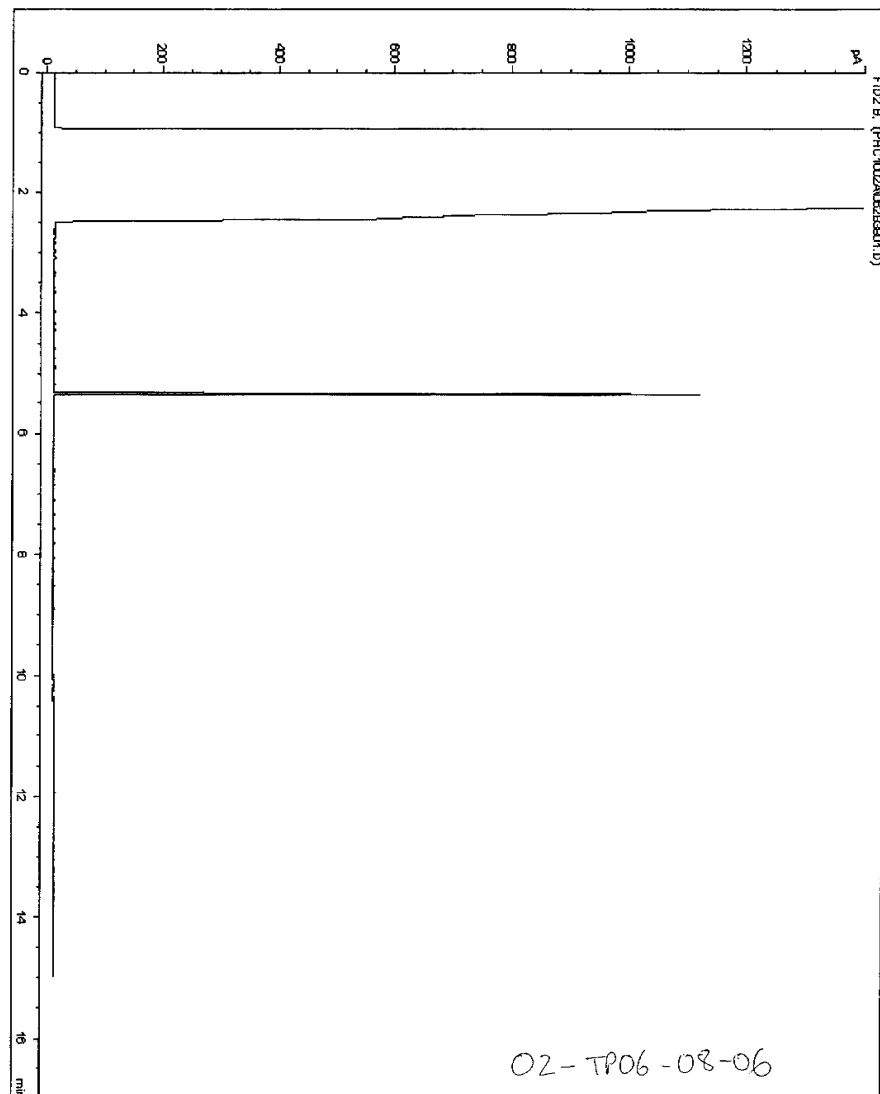


02-TP06-08-05

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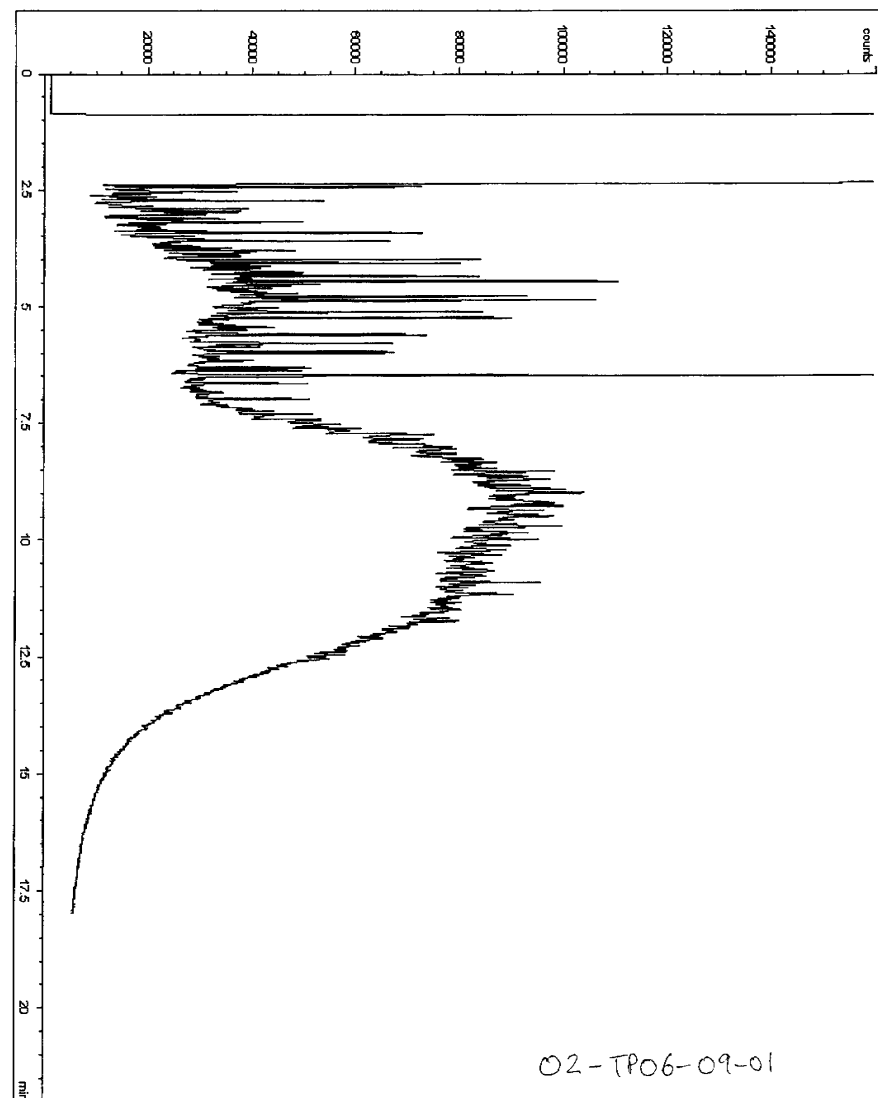
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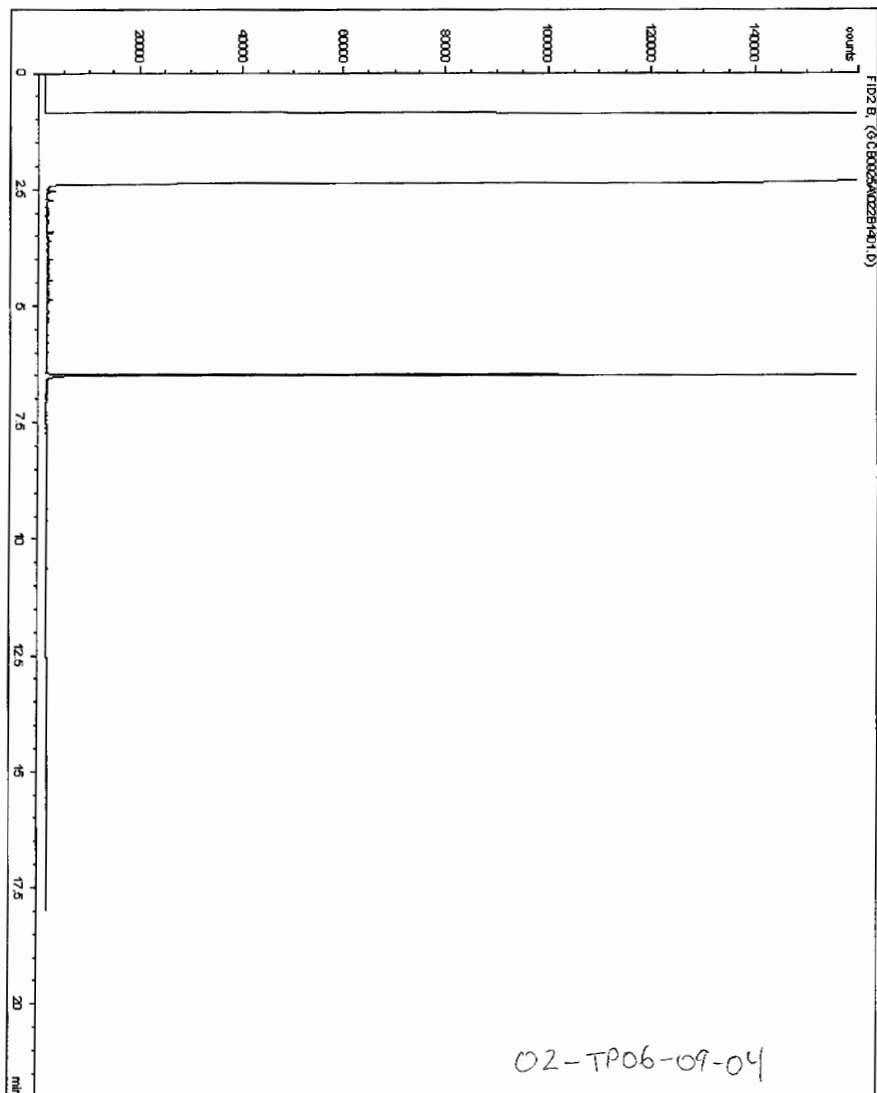
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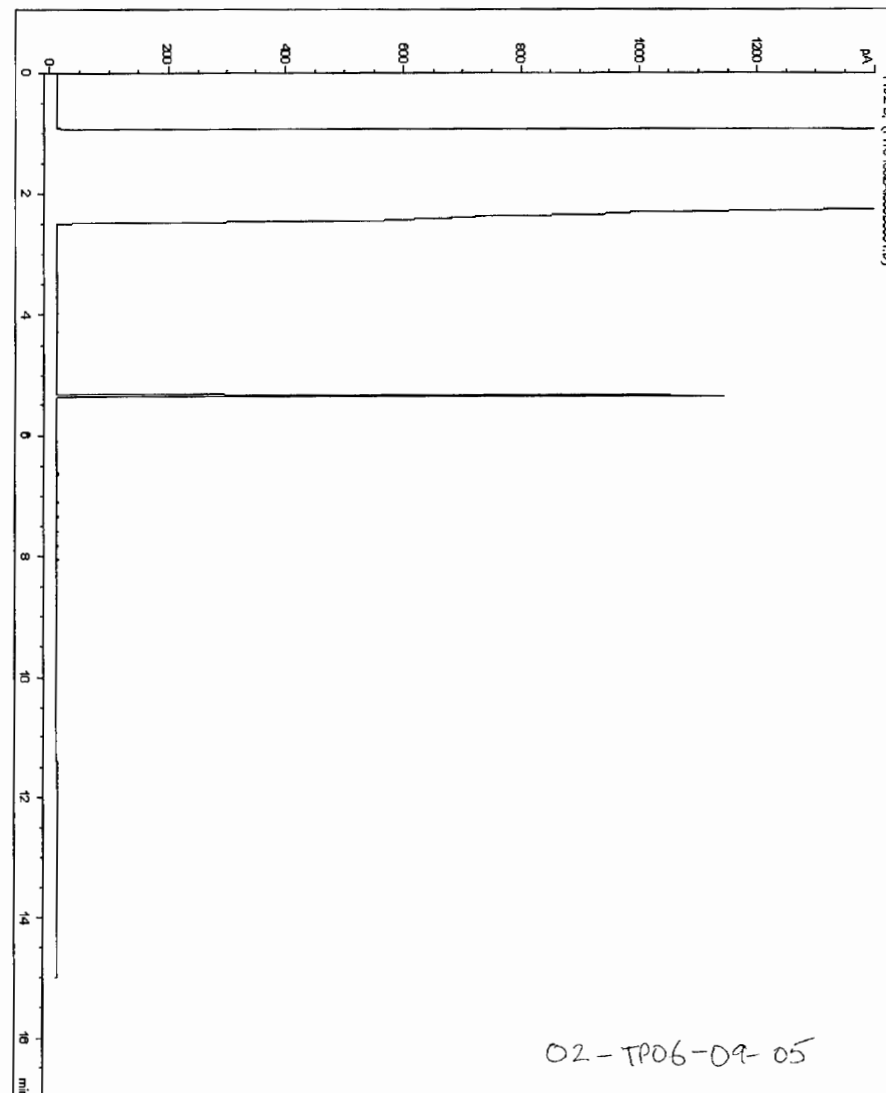
Sample Name: C87492



*** End of Report ***



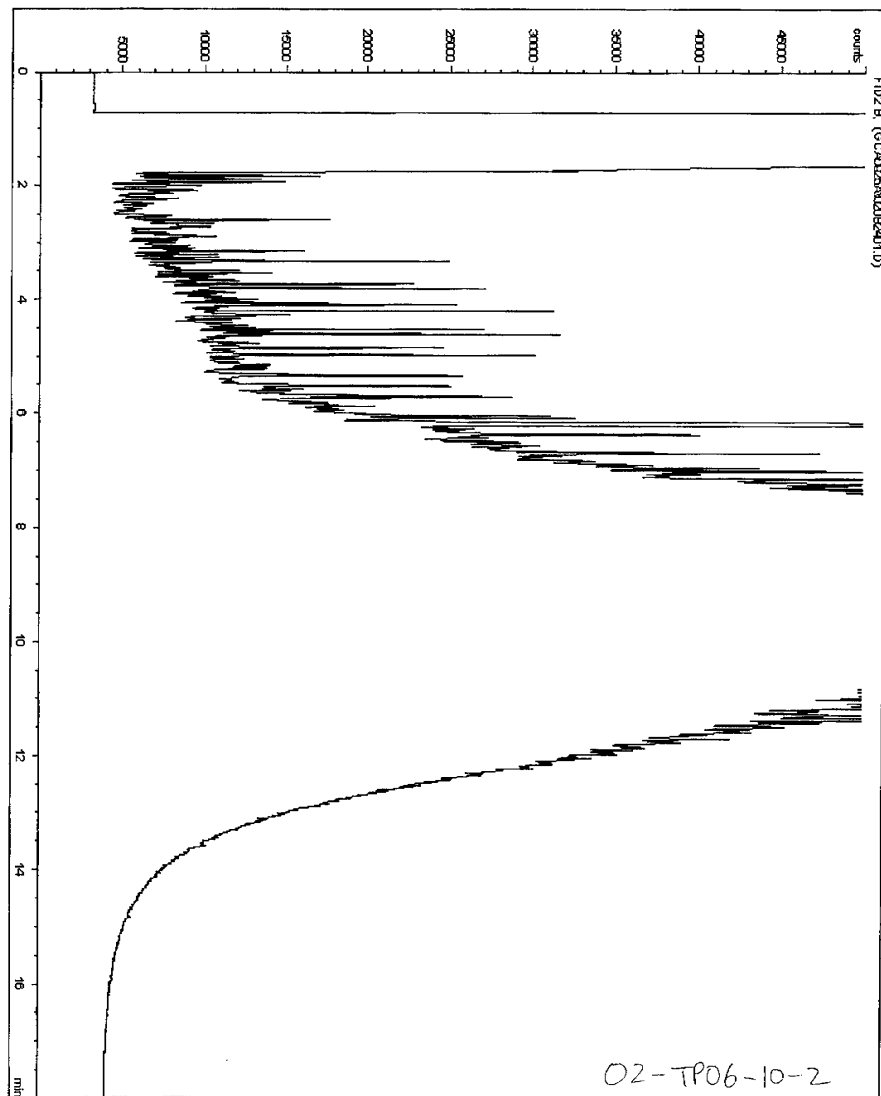
*** End of Report ***



*** End of Report ***

Data File D:\HPCHEM\1\DATA\GCA0925A\020B2401.D

Sample Name: C87498

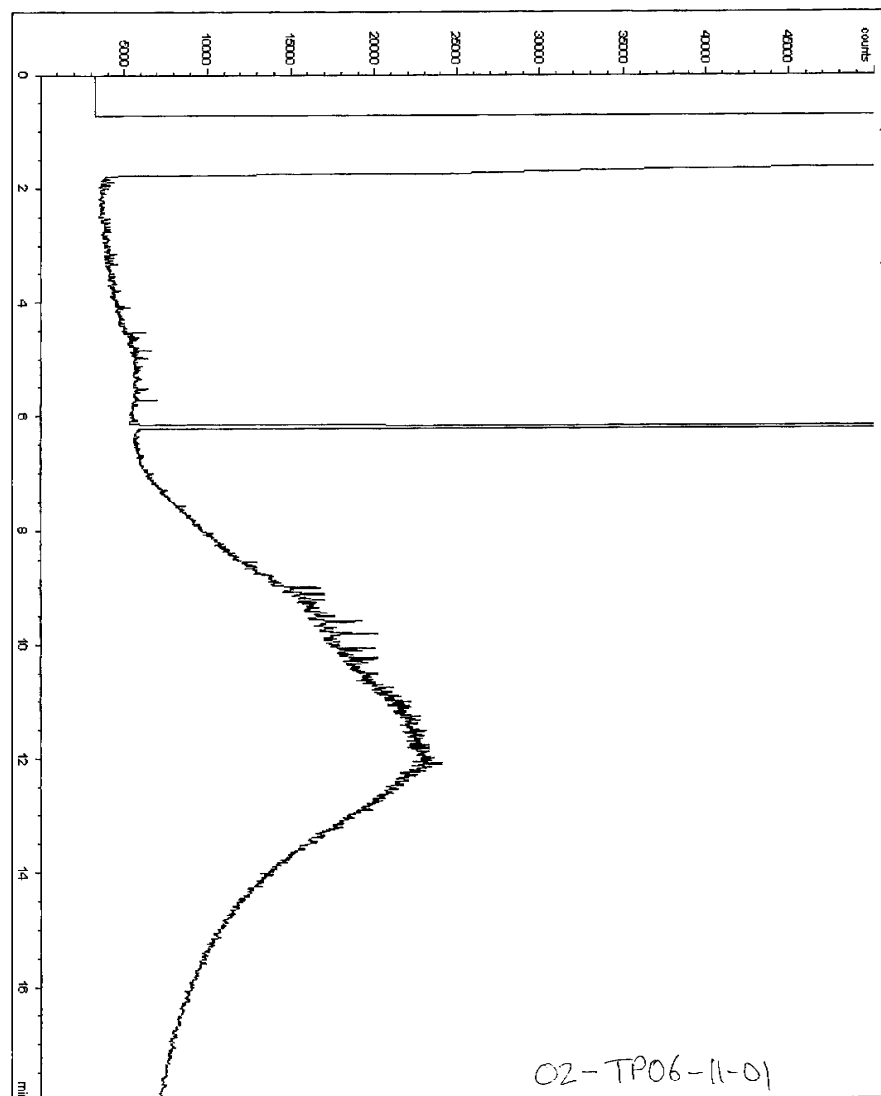


O2-TP06-10-2

*** End of Report ***

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Sample Name: C87538

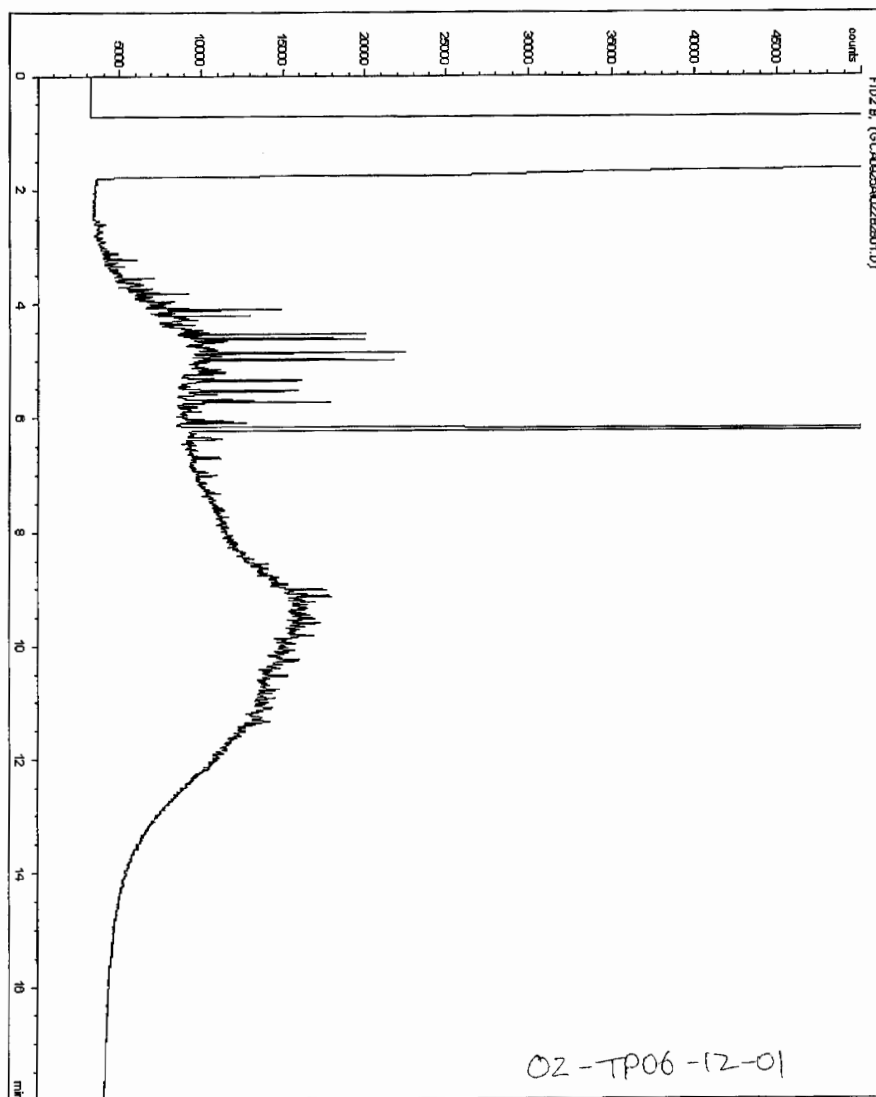


O2-TP06-11-01

*** End of Report ***

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Sample Name: C87551



OZ-TP06-12-01

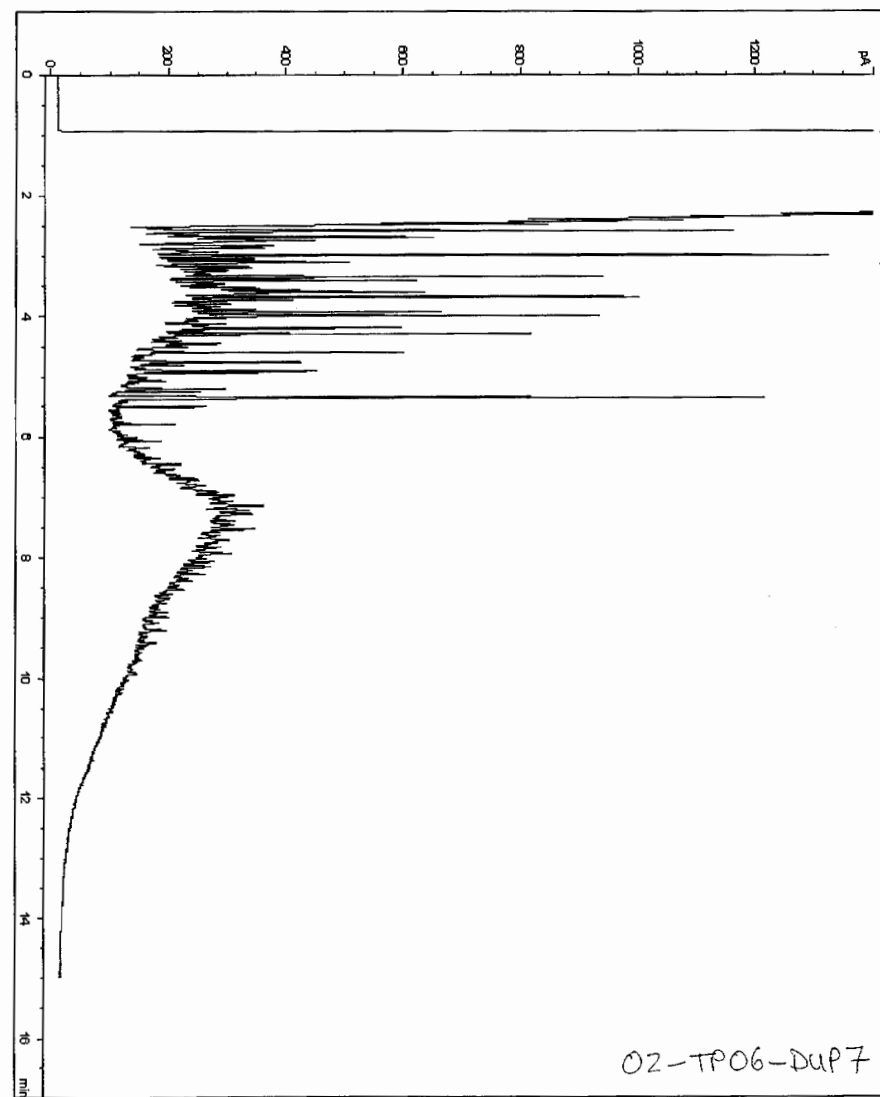
*** End of Report ***

Instrument 1 2007/01/11 10:35:58 AM KRIS

Page 1 of 1

Data File C:\HPCHEM\1\DATA\PHC1002A\064B4001.D

Sample Name: C87552



OZ-TP06-Dup7

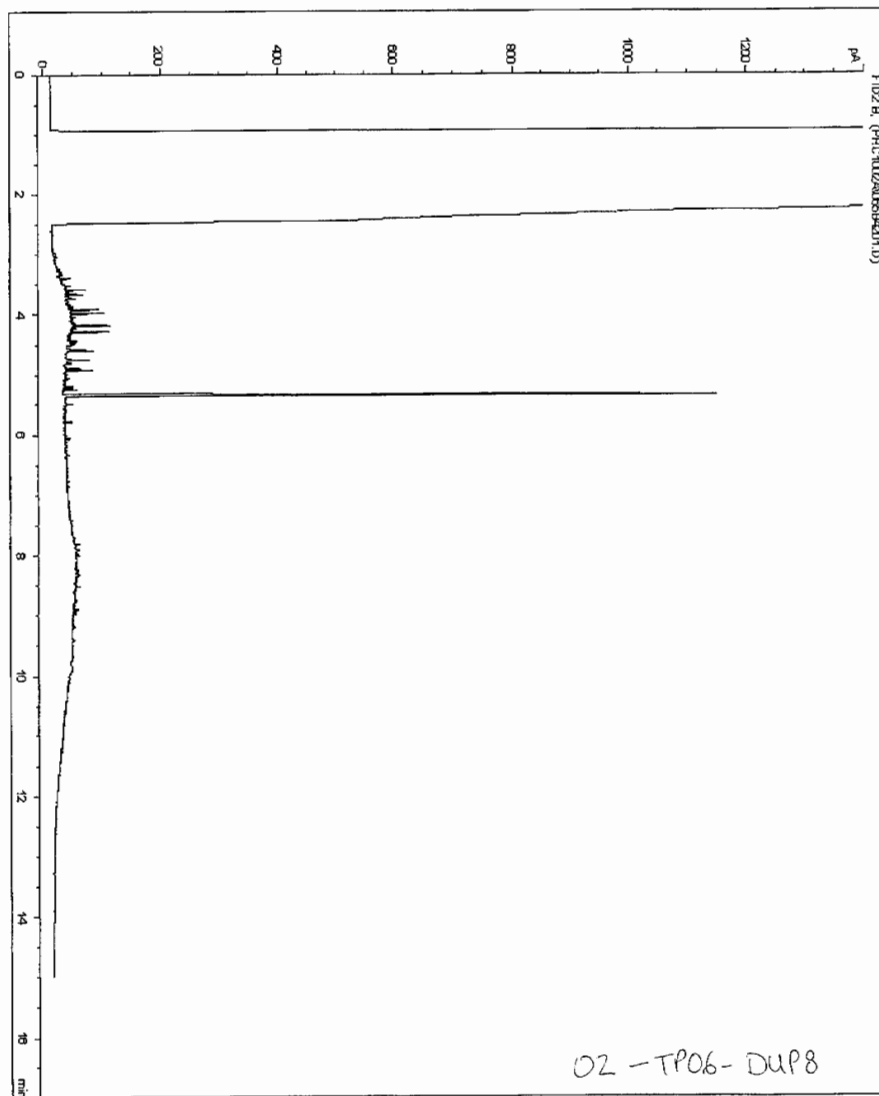
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Instrument 1 2007/01/11 10:29:08 AM KRIS

Page 1 of 1

Data File C:\HPCHEM\1\DATA\PHC1002A\06554201.D

Sample Name: C87553



*** End of Report ***



Your Project #: 1256.0601 INUVIK
Your C.O.C. #: 115777, 115779, 115778

Attention: **JOHANNE PARADIS**
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA

Report Date: 2006/11/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A644354

Received: 2006/09/21, 10:20

Sample Matrix: Leachate
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury (Leachable) ☉	4	2006/10/14	2006/10/16	BRN SOP-00044 V1.0	Based on EPA 245.1
Metals - SWEP undigested ☉	4	2006/10/14	2006/10/16	BRN SOP-00051 V1.0	BC Reg 63/88

Sample Matrix: Soil
Samples Received: 21

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble)	8	N/A	2006/10/05	EENV SOP-00034 v1	Carter SSMA 12.2.2
BTEX by HS GC/MS (MeOH extract)	6	2006/09/23	2006/09/25	EENV SOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	4	2006/10/04	2006/10/05	EENV SOP-00005 V.2	EPA 8260B/5021A
Hexavalent Chromium ☉	8	2006/10/05	2006/10/05	EENV SOP-00067 v4	SM 3500-Cr B
FI-BTEX Soil Ca	6	2006/09/23	2006/09/23		
FI-BTEX Soil Ca	4	2006/10/05	2006/10/05		
CCME Hydrocarbons (FI; MeOH; HSGC)	6	2006/09/23	2006/09/25	EENV SOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (FI; MeOH; HSGC)	4	2006/10/04	2006/10/05	EENV SOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (FI; MeOH; HSGC)	2	2006/10/05	2006/10/05	EENV SOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in soil)	6	2006/09/25	2006/09/25	EENV SOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (F2-F4 in soil)	5	2006/10/05	2006/10/05	EENV SOP-00007 v4	CWS PHCS Tier 1
Mercury in Soil by CVAA	8	N/A	2006/10/05	EENV SOP-00032 V.1	EPA SW846 7471B
Elements by ICP - Soils	1	N/A	2006/11/02	EENV SOP-00034 v1	EPA 6010C
Elements by ICPMS - Soils	8	N/A	2006/10/06	EENV SOP-00123 v2	EPA 6020A
Elements by ICPMS - Soils	1	N/A	2006/11/02	EENV SOP-00123 v2	EPA 6020A
Moisture	6	N/A	2006/09/23	EENV V1-00023 v2	Carter SSMA 51.2
Moisture	14	N/A	2006/10/05	EENV V1-00023 v2	Carter SSMA 51.2
Moisture ☉	1	N/A	2006/10/27		
PAH in Soil by GC/MS (Extended)	1	2006/09/25	2006/09/26	EENV SOP-00010 v3	EPA 3510C/8270D
PAH in Soil by GC/MS (Extended)	5	2006/10/05	2006/10/06	EENV SOP-00010 v3	EPA 3510C/8270D
Polychlorinated Biphenyls ☉	3	N/A	2006/10/13	CAL SOP-00149	GC/BCD-EXTRACTION
Polychlorinated Biphenyls ☉	1	N/A	2006/10/27	CAL SOP-00149	GC/BCD-EXTRACTION
VOCs in Soil by P&T GC/MS (Std List)	3	N/A	2006/10/05	EENV SOP-00003 V.3	EPA SW843 8260 B

(1) This test was performed by Maxxam Vancouver

(2) This test was performed by Maxxam Calgary
(3) Results reported on a dry weight basis.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSE, Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.



Maxxam Job #: A644354
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

CCME METALS PACKAGE ON SOILS (SOIL)

Maxxam ID	C87522	C87523	C87526	C87527		
Sampling Date	2006/09/19	2006/09/19	2006/09/19	2006/09/18		
COC Number	115779	115779	115779	115778		
Units	10-TP06-01-01	10-TP06-01-02	10-TP06-02-03	10-TP06-02-04	RDL	QC Batch

Elements						
Soluble (Hot water) Boron (B)	mg/kg	1.7	0.6	1.4	1.5	0.1 1297146
Hex. Chromium (Cr 6+)	mg/kg	<0.2	<0.2	<0.2	<0.2	0.2 1296442
Mercury (Hg)	mg/kg	<0.05	<0.05	<0.05	<0.05	0.05 1296878
Total Antimony (Sb)	mg/kg	<1	<1	<1	<1	1 1297777
Total Arsenic (As)	mg/kg	8	2	8	11	1 1297777
Total Barium (Ba)	mg/kg	114	69	90	76	10 1297777
Total Beryllium (Be)	mg/kg	0.7	0.8	0.5	0.6	0.4 1297777
Total Cadmium (Cd)	mg/kg	0.3	0.3	0.2	0.2	0.1 1297777
Total Chromium (Cr)	mg/kg	31	34	32	35	1 1297777
Total Cobalt (Co)	mg/kg	10	11	10	10	1 1297777
Total Copper (Cu)	mg/kg	22	10	20	23	5 1297777
Total Lead (Pb)	mg/kg	12	10	13	25	1 1297777
Total Molybdenum (Mo)	mg/kg	0.7	<0.4	0.7	1.3	0.4 1297777
Total Nickel (Ni)	mg/kg	24	28	24	25	1 1297777
Total Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5 1297777
Total Silver (Ag)	mg/kg	<1	<1	<1	<1	1 1297777
Total Thallium (Tl)	mg/kg	<0.3	<0.3	<0.3	<0.3	0.3 1297777
Total Tin (Sn)	mg/kg	<1	<1	<1	1	1 1297777
Total Vanadium (V)	mg/kg	17	12	16	14	1 1297777
Total Zinc (Zn)	mg/kg	52	56	45	49	10 1297777

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

CCME METALS PACKAGE ON SOILS (SOIL)

Maxxam ID	C87531	C87532	C87534	C87536		
Sampling Date	2006/09/18	2006/09/18	2006/09/18	2006/09/18		
COC Number	115778	115778	115778	115778		
Units	10-TP06-03-03	10-TP06-03-04	10-TP06-04-02	10-TP06-04-04	RDL	QC Batch

Elements						
Soluble (Hot water) Boron (B)	mg/kg	0.7	0.6	0.4	0.3	0.1 1297146
Hex. Chromium (Cr 6+)	mg/kg	<0.2	<0.2	<0.2	<0.2	0.2 1296442
Mercury (Hg)	mg/kg	0.07	<0.05	<0.05	<0.05	0.05 1296878
Total Antimony (Sb)	mg/kg	<1	1	<1	<1	1 1297777
Total Arsenic (As)	mg/kg	13	6	5	4	1 1297777
Total Barium (Ba)	mg/kg	139	204	63	64	10 1297777
Total Beryllium (Be)	mg/kg	0.7	0.8	0.5	0.9	0.4 1297777
Total Cadmium (Cd)	mg/kg	0.2	1.3	0.2	0.2	0.1 1297777
Total Chromium (Cr)	mg/kg	31	36	24	33	1 1297777
Total Cobalt (Co)	mg/kg	11	11	7	12	1 1297777
Total Copper (Cu)	mg/kg	69	22	11	13	5 1297777
Total Lead (Pb)	mg/kg	20	918	31	13	1 1297777
Total Molybdenum (Mo)	mg/kg	1.6	0.8	0.8	<0.4	0.4 1297777
Total Nickel (Ni)	mg/kg	29	29	18	28	1 1297777
Total Selenium (Se)	mg/kg	<0.5	<0.5	<0.5	<0.5	0.5 1297777
Total Silver (Ag)	mg/kg	<1	<1	<1	<1	1 1297777
Total Thallium (Tl)	mg/kg	<0.3	<0.3	<0.3	<0.3	0.3 1297777
Total Tin (Sn)	mg/kg	<1	<1	<1	<1	1 1297777
Total Vanadium (V)	mg/kg	22	20	10	13	1 1297777
Total Zinc (Zn)	mg/kg	62	449	39	57	10 1297777

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

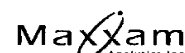
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

CCMEHC MECHANICAL EXTRACTION (SOIL)

Maxxam ID		C87504	C87507	C87512		
Sampling Date		2006/08/19	2006/09/19	2006/09/19		
COC Number		115777	115777	115777		
	Units	02-TP06-13-02	02-TP06-14-02	02-TP06-15-02	RDL	QC Batch

Physical Properties						
Moisture	%	20.3	5.4	10.6	0.3	1282386
Ext. Pet. Hydrocarbon						
F1 (C08-C10)	mg/kg	<10	<10	<10	10	1282387
F1 (C08-C10) - BTEX	mg/kg	<10	<10	<10	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	15	11	<10	10	1283128
F3 (C16-C34 Hydrocarbons)	mg/kg	75	129	<10	10	1283128
F4 (C34-C50 Hydrocarbons)	mg/kg	31	72	<10	10	1283128
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	1	1283128
Volatiles						
Benzene	mg/kg	<0.0050	<0.0050	<0.0050	0.0050	1282386
Toluene	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	1282386
Xylenes (Total)	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
m & p-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
o-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	91	87	87		1282387
O-TERPHENYL (sur.)	%	83	78	74		1283128
4-BROMOFLUOROBENZENE (sur.)	%	100	98	100		1282386
D10-ETHYLBENZENE (sur.)	%	120	117	120		1282386
D4-1,2-DICHLOROETHANE (sur.)	%	96	92	96		1282386
D8-TOLUENE (sur.)	%	101	99	100		1282386

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

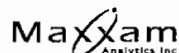
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

CCMEHC MECHANICAL EXTRACTION (SOIL)

Maxxam ID		C87515	C87516	C87521		
Sampling Date		2006/09/19	2006/09/19	2006/09/19		
COC Number		115779	115779	115779		
	Units	02-TP06-16-01	02-TP06-17-01	02-TP06-18-05	RDL	QC Batch

Physical Properties						
Moisture	%	8.2	7.8	12.7	0.3	1282388
Ext. Pet. Hydrocarbon						
F1 (C08-C10)	mg/kg	<10	11	21	10	1282387
F1 (C08-C10) - BTEX	mg/kg	<10	11	21	10	1282424
F2 (C10-C16 Hydrocarbons)	mg/kg	588	602	<10	10	1283128
F3 (C16-C34 Hydrocarbons)	mg/kg	28500	14200	<10	10	1283128
F4 (C34-C50 Hydrocarbons)	mg/kg	3420	8660	<10	10	1283128
Reached Baseline at C50	mg/kg	No	No	Yes	1	1283128
Volatiles						
Benzene	mg/kg	<0.0050	<0.0050	0.0069	0.0050	1282386
Toluene	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
Ethylbenzene	mg/kg	<0.010	<0.010	<0.010	0.010	1282386
Xylenes (Total)	mg/kg	<0.020	<0.020	0.037	0.020	1282386
m & p-Xylene	mg/kg	<0.020	<0.020	<0.020	0.020	1282386
o-Xylene	mg/kg	<0.020	<0.020	0.037	0.020	1282386
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	82	80	83		1282387
O-TERPHENYL (sur.)	%	110	107	78		1283128
4-BROMOFLUOROBENZENE (sur.)	%	97	98	104		1282386
D10-ETHYLBENZENE (sur.)	%	111	116	125		1282386
D4-1,2-DICHLOROETHANE (sur.)	%	97	96	90		1282386
D8-TOLUENE (sur.)	%	99	100	100		1282386

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

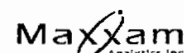
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

CCMEHC MECHANICAL EXTRACTION (SOIL)

Maxxam ID	C87531	C87537		
Sampling Date	2006/09/18	2006/09/18		
CDC Number	115778	115778		
Units	10-TP06-03-03	02-TP06-DUP-09	RDL	DC Batch

Physical Properties				
Molalure	%	13.3	5.2	0.3 1296803
Ext. Pet. Hydrocarbon				
F1 (C06-C10)	mg/kg	<10	<10	10 1295900
F1 (C06-C10) - BTEX	mg/kg	<10	<10	10 1296445
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	564	10 1296619
F3 (C16-C34 Hydrocarbons)	mg/kg	15	31000	10 1296619
F4 (C34-C50 Hydrocarbons)	mg/kg	58	3630	10 1296619
Reached Baseline at C50	mg/kg	Yes	Yes	1 1296619
Volatiles				
Benzene	mg/kg	<0.0050	<0.0050	0.0050 1295794
Toluene	mg/kg	<0.020	<0.020	0.020 1295794
Ethylbenzene	mg/kg	<0.010	<0.010	0.010 1295794
Xylenes (Total)	mg/kg	<0.020	<0.020	0.020 1295794
m & p-Xylene	mg/kg	<0.020	<0.020	0.020 1295794
o-Xylene	mg/kg	<0.020	<0.020	0.020 1295794
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	89	103	1295900
O-TERPHEYL (sur.)	%	82	86	1296619
4-BROMOFLUOROBENZENE (sur.)	%	97	105	1295794
D10-ETHYLBENZENE (sur.)	%	105	100	1295794
D4-1,2-DICHLOROETHANE (sur.)	%	82	105	1295794
D8-TOLUENE (sur.)	%	101	104	1295794

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

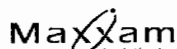
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

EXTENDED METALS PACKAGE ON SOIL (SOIL)

Maxxam ID	C87515		
Sampling Date	2006/09/19		
CDC Number	115779		
Units	02-TP06-15-01	RDL	DC Batch

Elements			
Total Aluminum (Al)	mg/kg	10100	10 1332906
Total Antimony (Sb)	mg/kg	<1	1 1332769
Total Arsenic (As)	mg/kg	6	1 1332769
Total Barium (Ba)	mg/kg	84	10 1332769
Total Beryllium (Be)	mg/kg	1.0	0.4 1332769
Total Boron (B)	mg/kg	15	2 1332906
Total Cadmium (Cd)	mg/kg	0.3	0.1 1332769
Total Calcium (Ca)	mg/kg	82100	50 1332906
Total Chromium (Cr)	mg/kg	18	1 1332769
Total Cobalt (Co)	mg/kg	13	1 1332769
Total Copper (Cu)	mg/kg	16	5 1332769
Total Iron (Fe)	mg/kg	24200	10 1332906
Total Lead (Pb)	mg/kg	22	1 1332769
Total Lithium (Li)	mg/kg	24	10 1332906
Total Magnesium (Mg)	mg/kg	22900	20 1332906
Total Manganese (Mn)	mg/kg	381	10 1332906
Total Molybdenum (Mo)	mg/kg	1.4	0.4 1332769
Total Nickel (Ni)	mg/kg	27	1 1332769
Total Phosphorus (P)	mg/kg	725	20 1332906
Total Potassium (K)	mg/kg	2250	30 1332906
Total Selenium (Se)	mg/kg	<0.5	0.5 1332769
Total Silver (Ag)	mg/kg	<1	1 1332769
Total Sodium (Na)	mg/kg	119	50 1332906
Total Strontium (Sr)	mg/kg	87	10 1332906
Total Sulphur (S)	mg/kg	900	20 1332906
Total Thallium (Tl)	mg/kg	<0.3	0.3 1332769
Total Tin (Sn)	mg/kg	<1	1 1332769
Total Uranium (U)	mg/kg	<1	1 1332769
Total Vanadium (V)	mg/kg	17	1 1332769
Total Zinc (Zn)	mg/kg	178	10 1332769

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

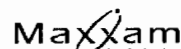
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

PAHS SOIL CCME (SOIL)

Maxxam ID	C87515	C87523	C87526	
Sampling Date	2006/09/19	2006/09/19	2006/09/19	
COC Number	115779	115779	115779	
Units	02-TP06-16-01	QC Batch	10-TP06-01-02	10-TP06-02-02 RDL QC Batch

Polycyclic Aromatics					
Naphthalene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
2-Methylnaphthalene	mg/kg	0.21	1282944	<0.05	<0.05 0.05 1296592
Acenaphthylene	mg/kg	0.49	1282944	<0.05	<0.05 0.05 1296592
Acenaphthene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Fluorene	mg/kg	0.18	1282944	<0.05	<0.05 0.05 1296592
Phenanthrene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Anthracene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Fluoranthene	mg/kg	0.07	1282944	<0.05	<0.05 0.05 1296592
Pyrene	mg/kg	0.27	1282944	<0.05	<0.05 0.05 1296592
Benzo(a)anthracene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Chrysene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Benzo(b&j)fluoranthene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Benzo(k)fluoranthene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Benzo(a)pyrene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Dibenz(a,h)anthracene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Benzo(g,h,i)perylene	mg/kg	<0.05	1282944	<0.05	<0.05 0.05 1296592
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	114	1282944	107	117 1296592
D12-BENZO(A)PYRENE (sur.)	%	80	1282944	98	89 1296592
D8-ACENAPHTHYLENE (sur.)	%	109	1282944	111	125 1296592
TERPHENYL-D14 (sur.)	%	121	1282944	116	102 1296592

RDL = Reportable Detection Limit



Maxxam Job #: A644354
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

PAHS SOIL CCME (SOIL)

Maxxam ID	C87532	C87535	C87537	
Sampling Date	2006/09/18	2006/09/18	2006/09/18	
COC Number	115778	115778	115778	
Units	10-TP06-03-04	10-TP06-04-03	02-TP06-DUP-08	RDL QC Batch

Polycyclic Aromatics					
Naphthalene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
2-Methylnaphthalene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Acenaphthylene	mg/kg	<0.05	<0.05	0.32	0.05 1296592
Acenaphthene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Fluorene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Phenanthrene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Anthracene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Fluoranthene	mg/kg	<0.05	<0.05	0.07	0.05 1296592
Pyrene	mg/kg	<0.05	<0.05	0.28	0.05 1296592
Benzo(a)anthracene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Chrysene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Benzo(b&j)fluoranthene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Benzo(a)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	<0.05	0.05 1296592
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	110	120	120	1296592
D12-BENZO(A)PYRENE (sur.)	%	100	99	92	1296592
D8-ACENAPHTHYLENE (sur.)	%	125	118	118	1296592
TERPHENYL-D14 (sur.)	%	125	116	111	1296592

RDL = Reportable Detection Limit



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RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C87522	C87523	C87524	C87525		
Sampling Date		2006/09/19	2006/09/19	2006/09/19	2006/09/19		
COC Number		115779	115779	115779	115779		
Units 10-TP06-01-01 10-TP06-01-02 10-TP06-02-01 10-TP06-02-02 RDL QC Batch							

Physical Properties							
Moisture	%	7.7	17.6	8.1	17.7	0.3	1296803
RDL = Reportable Detection Limit							

Maxxam ID		C87526	C87527	C87528	C87529		
Sampling Date		2006/09/19	2006/09/18	2006/09/18	2006/09/18		
COC Number		115779	115778	115778	115778		
Units 10-TP06-02-03 10-TP06-02-04 10-TP06-02-05 10-TP06-03-01 RDL QC Batch							

Physical Properties							
Moisture	%	5.1	8.1	15.0	6.8	0.3	1296803
RDL = Reportable Detection Limit							

Maxxam ID		C87530	C87532	C87534	C87535		
Sampling Date		2006/09/18	2006/09/18	2006/09/18	2006/09/18		
COC Number		115778	115778	115778	115778		
Units 10-TP06-03-02 QC Batch 10-TP06-03-04 10-TP06-04-02 10-TP06-04-03 RDL QC Batch							

Physical Properties							
Moisture	%	17.4	1324823	12.8	<0.3	9.9	0.3 1296803
RDL = Reportable Detection Limit							

Maxxam ID		C87536		
Sampling Date		2006/09/18		
COC Number		115778		
Units 10-TP06-04-04 RDL QC Batch				

Physical Properties				
Moisture	%	18.4	0.3	1296803
RDL = Reportable Detection Limit				



Maxxam Job #: A644354
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87523	C87524	C87528		
Sampling Date		2006/09/19	2006/09/19	2006/09/18		
COC Number		115779	115779	115778		
Units 10-TP06-01-02 10-TP06-02-01 QC Batch 10-TP06-02-05 RDL QC Batch						

Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg		<10	1296823	<10	10 1295900
F1 (C06-C10) - BTEX	mg/kg				<10	10 1296445
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	<10	1296619		10
F3 (C16-C34 Hydrocarbons)	mg/kg	134	17	1296619		10
F4 (C34-C50 Hydrocarbons)	mg/kg	389	43	1296619		10
Reached Baseline at C50	mg/kg	Yes	Yes	1296619		1
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%		102	1296823	105	1295900
O-TERPHENYL (sur.)	%	75	81	1296619		
RDL = Reportable Detection Limit						

Maxxam ID		C87534	C87535		
Sampling Date		2006/09/18	2006/09/18		
COC Number		115778	115778		
Units 10-TP06-04-02 QC Batch 10-TP06-04-03 RDL QC Batch					

Ext. Pet. Hydrocarbon					
F1 (C06-C10)	mg/kg	<10	1296823	<10	10 1295900
F1 (C06-C10) - BTEX	mg/kg			<10	10 1296445
F2 (C10-C16 Hydrocarbons)	mg/kg	<10	1296619		10
F3 (C16-C34 Hydrocarbons)	mg/kg	39	1296619		10
F4 (C34-C50 Hydrocarbons)	mg/kg	155	1296619		10
Reached Baseline at C50	mg/kg	Yes	1296619		1
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	81	1296823	104	1295900
O-TERPHENYL (sur.)	%	81	1296619		
RDL = Reportable Detection Limit					

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		C87522	C87528		C87530		
Sampling Date		2006/09/19	2006/09/18		2006/09/18		
COC Number		115779	115778		115778		
	Units	10-TP06-01-01	10-TP06-02-05	QC Batch	10-TP06-03-02	RDL	QC Batch

Polychlorinated Biphenyls							
Aroclor 1016	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1221	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1232	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1242	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1248	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1254	mg/kg	0.01	0.06	1305653	<0.01	0.01	1323829
Aroclor 1260	mg/kg	<0.01	0.03	1305653	<0.01	0.01	1323829
Aroclor 1262	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Aroclor 1268	mg/kg	<0.01	<0.01	1305653	<0.01	0.01	1323829
Total Aroclors	mg/kg	0.01	0.09	1305653	<0.01	0.01	1323829

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	89	92	1305653	90		1323829

RDL = Reportable Detection Limit

Maxxam ID		C87535		
Sampling Date		2006/09/18		
COC Number		115778		
	Units	10-TP06-04-03	RDL	QC Batch

Polychlorinated Biphenyls				
Aroclor 1016	mg/kg	<0.01	0.01	1305653
Aroclor 1221	mg/kg	<0.01	0.01	1305653
Aroclor 1232	mg/kg	<0.01	0.01	1305653
Aroclor 1242	mg/kg	<0.01	0.01	1305653
Aroclor 1248	mg/kg	<0.01	0.01	1305653
Aroclor 1254	mg/kg	0.01	0.01	1305653
Aroclor 1260	mg/kg	<0.01	0.01	1305653
Aroclor 1262	mg/kg	<0.01	0.01	1305653
Aroclor 1268	mg/kg	<0.01	0.01	1305653
Total Aroclors	mg/kg	0.01	0.01	1305653

Surrogate Recovery (%)

NONACHLOROBIPHENYL (sur.)	%	87		1305653

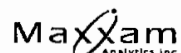
RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87526		C87528		
Sampling Date		2006/09/19		2006/09/18		
COC Number		115779		115778		
	Units	10-TP06-02-03	RDL	QC Batch	10-TP06-02-05	RDL

Volatiles						
Benzene	mg/kg	<0.005	0.005	1296631	<0.0050	0.0050
Bromodichloromethane	mg/kg	<0.03	0.03	1296631		
Toluene	mg/kg				<0.020	0.020
Bromofom	mg/kg	<0.05	0.05	1296631		
Ethylbenzene	mg/kg				<0.010	0.010
Bromomethane	mg/kg	<0.02	0.02	1296631		
Xylenes (Total)	mg/kg				<0.020	0.020
Carbon tetrachloride	mg/kg	<0.02	0.02	1296631		
m & p-Xylene	mg/kg				<0.020	0.020
Chlorobenzene	mg/kg	<0.02	0.02	1296631		
o-Xylene	mg/kg				<0.020	0.020
Chlorodibromomethane	mg/kg	<0.02	0.02	1296631		
Chloroethane	mg/kg	<0.02	0.02	1296631		
Chloroform	mg/kg	<0.02	0.02	1296631		
Chloromethane	mg/kg	<0.03	0.03	1296631		
1,2-dibromoethane	mg/kg	<0.02	0.02	1296631		
1,2-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,3-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,4-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,1-dichloroethane	mg/kg	<0.02	0.02	1296631		
1,2-dichloroethane	mg/kg	<0.02	0.02	1296631		
1,1-dichloroethene	mg/kg	<0.02	0.02	1296631		
cis-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631		
trans-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631		
Dichloromethane	mg/kg	<0.1	0.1	1296631		
1,2-dichloropropane	mg/kg	<0.02	0.02	1296631		
cis-1,3-dichloropropane	mg/kg	<0.02	0.02	1296631		
trans-1,3-dichloropropane	mg/kg	<0.02	0.02	1296631		
Ethylbenzene	mg/kg	<0.01	0.01	1296631		
Styrene	mg/kg	<0.02	0.02	1296631		
1,1,1,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631		
1,1,2,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631		
Tetrachloroethene	mg/kg	<0.02	0.02	1296631		

RDL = Reportable Detection Limit

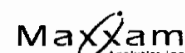


Maxxam Job #: A644354
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Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87526			C87528		
Sampling Date		2006/09/19			2006/09/18		
COC Number		115779			115778		
	Units	10-TP06-02-03	RDL	QC Batch	10-TP06-02-05	RDL	QC Batch
Toluene	mg/kg	<0.02	0.02	1296631			
1,1,1-trichloroethane	mg/kg	<0.02	0.02	1296631			
1,1,2-trichloroethane	mg/kg	<0.02	0.02	1296631			
Trichloroethene	mg/kg	<0.02	0.02	1296631			
Trichlorofluoromethane	mg/kg	<0.02	0.02	1296631			
Vinyl chloride	mg/kg	<0.02	0.02	1296631			
Xylenes (Total)	mg/kg	<0.04	0.04	1296631			
m & p-Xylene	mg/kg	<0.04	0.04	1296631			
o-Xylene	mg/kg	<0.02	0.02	1296631			
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	103		1296631	102		1295794
D10-ETHYLBENZENE (sur.)	%	98		1296631	106		1295794
D4-1,2-DICHLOROETHANE (sur.)	%	102		1296631	102		1295794
D8-TOLUENE (sur.)	%	100		1296631	104		1295794
RDL = Reportable Detection Limit							



Maxxam Job #: A644354
Report Date: 2006/11/07

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256.0601 INUVIK
Site Reference:
Sampler Initials: JP/

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87529			C87535		
Sampling Date		2006/09/18			2006/09/18		
COC Number		115778			115778		
	Units	10-TP06-03-01	RDL	QC Batch	10-TP06-04-03	RDL	QC Batch
Volatiles							
Benzene	mg/kg	<0.005	0.005	1296631	<0.0050	0.0050	1295794
Bromodichloromethane	mg/kg	<0.03	0.03	1296631			
Toluene	mg/kg				<0.020	0.020	1295794
Bromoforn	mg/kg	<0.05	0.05	1296631			
Ethylbenzene	mg/kg				<0.010	0.010	1295794
Bromomethane	mg/kg	<0.02	0.02	1296631			
Xylenes (Total)	mg/kg				<0.020	0.020	1295794
Carbon tetrachloride	mg/kg	<0.02	0.02	1296631			
m & p-Xylene	mg/kg				<0.020	0.020	1295794
Chlorobenzene	mg/kg	<0.02	0.02	1296631			
o-Xylene	mg/kg				<0.020	0.020	1295794
Chlorodibromomethane	mg/kg	<0.02	0.02	1296631			
Chloroethane	mg/kg	<0.02	0.02	1296631			
Chloroform	mg/kg	<0.02	0.02	1296631			
Chloromethane	mg/kg	<0.03	0.03	1296631			
1,2-dibromoethane	mg/kg	<0.02	0.02	1296631			
1,2-dichlorobenzene	mg/kg	<0.02	0.02	1296631			
1,3-dichlorobenzene	mg/kg	<0.02	0.02	1296631			
1,4-dichlorobenzene	mg/kg	<0.02	0.02	1296631			
1,1-dichloroethane	mg/kg	<0.02	0.02	1296631			
1,2-dichloroethane	mg/kg	<0.02	0.02	1296631			
1,1-dichloroethene	mg/kg	<0.02	0.02	1296631			
cis-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631			
trans-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631			
Dichloromethane	mg/kg	<0.1	0.1	1296631			
1,2-dichloropropane	mg/kg	<0.02	0.02	1296631			
cis-1,3-dichloropropene	mg/kg	<0.02	0.02	1296631			
trans-1,3-dichloropropene	mg/kg	<0.02	0.02	1296631			
Ethylbenzene	mg/kg	<0.01	0.01	1296631			
Styrene	mg/kg	<0.02	0.02	1296631			
1,1,1,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631			
1,1,2,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631			
Tetrachloromethane	mg/kg	<0.02	0.02	1296631			
RDL = Reportable Detection Limit							

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87528		C87535		
Sampling Date		2006/09/18		2006/09/18		
COC Number		115778		115778		
	Units	10-TP06-03-01	RDL	QC Batch	10-TP06-04-03	RDL QC Batch

Toluene	mg/kg	<0.02	0.02	1296631		
1,1,1-trichloroethane	mg/kg	<0.02	0.02	1296631		
1,1,2-trichloroethane	mg/kg	<0.02	0.02	1296631		
Trichloroethene	mg/kg	<0.02	0.02	1296631		
Trichlorofluoromethane	mg/kg	<0.02	0.02	1296631		
Vinyl chloride	mg/kg	<0.02	0.02	1296631		
Xylenes (Total)	mg/kg	<0.04	0.04	1296631		
m & p-Xylene	mg/kg	<0.04	0.04	1296631		
o-Xylene	mg/kg	<0.02	0.02	1296631		
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	104		1296631	101	1295794
D10-ETHYLBENZENE (sur.)	%	102		1296631	105	1295794
D4-1,2-DICHLOROETHANE (sur.)	%	103		1296631	105	1295794
D8-TOLUENE (sur.)	%	101		1296631	103	1295794

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87536				
Sampling Date		2006/09/18				
COC Number		115778				
	Units	10-TP06-04-04	RDL	QC Batch		

Volatiles						
Benzene	mg/kg	<0.005	0.005	1296631		
Bromodichloromethane	mg/kg	<0.03	0.03	1296631		
Bromoflorm	mg/kg	<0.05	0.05	1296631		
Bromomethane	mg/kg	<0.02	0.02	1296631		
Carbon tetrachloride	mg/kg	<0.02	0.02	1296631		
Chlorobenzene	mg/kg	<0.02	0.02	1296631		
Chlorodibromomethane	mg/kg	<0.02	0.02	1296631		
Chloroethane	mg/kg	<0.02	0.02	1296631		
Chloroform	mg/kg	<0.02	0.02	1296631		
Chloromethane	mg/kg	<0.03	0.03	1296631		
1,2-dibromoethane	mg/kg	<0.02	0.02	1296631		
1,2-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,3-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,4-dichlorobenzene	mg/kg	<0.02	0.02	1296631		
1,1-dichloroethane	mg/kg	<0.02	0.02	1296631		
1,2-dichloroethane	mg/kg	<0.02	0.02	1296631		
1,1-dichloroethene	mg/kg	<0.02	0.02	1296631		
cis-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631		
trans-1,2-dichloroethene	mg/kg	<0.02	0.02	1296631		
Dichloromethane	mg/kg	<0.1	0.1	1296631		
1,2-dichloropropane	mg/kg	<0.02	0.02	1296631		
cis-1,3-dichloropropane	mg/kg	<0.02	0.02	1296631		
trans-1,3-dichloropropane	mg/kg	<0.02	0.02	1296631		
Ethylbenzene	mg/kg	<0.01	0.01	1296631		
Styrene	mg/kg	<0.02	0.02	1296631		
1,1,1,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631		
1,1,2,2-tetrachloroethane	mg/kg	<0.1	0.1	1296631		
Tetrachloroethene	mg/kg	<0.02	0.02	1296631		
Toluene	mg/kg	<0.02	0.02	1296631		
1,1,1-trichloroethane	mg/kg	<0.02	0.02	1296631		
1,1,2-trichloroethane	mg/kg	<0.02	0.02	1296631		
Trichloroethene	mg/kg	<0.02	0.02	1296631		
Trichlorofluoromethane	mg/kg	<0.02	0.02	1296631		

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87536		
Sampling Date		2006/09/18		
COC Number		115778		
	Units	10-TP06-04-04	RDL	QC Batch

Vinyl chloride	mg/kg	<0.02	0.02	1296631
Xylenes (Total)	mg/kg	<0.04	0.04	1296631
m & p-Xylene	mg/kg	<0.04	0.04	1296631
o-Xylene	mg/kg	<0.02	0.02	1296631
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	101		1296631
D10-ETHYLBENZENE (sur.)	%	107		1296631
D4-1,2-DICHLOROETHANE (sur.)	%	96		1296631
D8-TOLUENE (sur.)	%	100		1296631

RDL = Reportable Detection Limit

SWEP METALS (LEACHATE)

Maxxam ID		C87522	C87527	C87531		
Sampling Date		2006/09/19	2006/09/18	2006/09/18		
COC Number		115779	115778	115778		
	Units	10-TP06-01-01	10-TP06-02-04	10-TP06-03-03	RDL	QC Batch

Elements						
Leachable Mercury (Hg)	ug/L	<0.05	<0.05	<0.05	0.05	1307826
Leachable Metals						
Leachable (SWEP) Arsenic (As)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Barium (Ba)	mg/L	0.6	0.5	1.1	0.1	1308845
Leachable (SWEP) Boron (B)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Cadmium (Cd)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Chromium (Cr)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Copper (Cu)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Lead (Pb)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Molybdenum (Mo)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Selenium (Se)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Silver (Ag)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Uranium (U)	mg/L	<0.1	<0.1	<0.1	0.1	1308845
Leachable (SWEP) Zinc (Zn)	mg/L	<0.1	0.1	<0.1	0.1	1308845

RDL = Reportable Detection Limit

SWEP METALS (LEACHATE)

Maxxam ID	C87536		
Sampling Date	2006/09/19		
COC Number	115778		
Units		10-TP08-04-04	RDL QC Batch

Elements				
Leachable Mercury (Hg)	ug/L	<0.05	0.05	1307828
Leachable Metals				
Leachable (SWEP) Arsenic (As)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Barium (Ba)	mg/L	0.6	0.1	1308845
Leachable (SWEP) Boron (B)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Cadmium (Cd)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Chromium (Cr)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Copper (Cu)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Lead (Pb)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Molybdenum (Mo)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Selenium (Se)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Silver (Ag)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Uranium (U)	mg/L	<0.1	0.1	1308845
Leachable (SWEP) Zinc (Zn)	mg/L	<0.1	0.1	1308845

RDL = Reportable Detection Limit

CCME METALS PACKAGE ON SOILS (SOIL) Comments

Sample C87532-01 Elements by ICPMS - Soils: Sample analyzed in duplicate to confirm high Pb result.

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282386 HW4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	101	%		60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25	122	%		60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	90	%		60 - 140
		D8-TOLUENE (sur.)	2006/09/25	101	%		60 - 140
		Benzene	2006/09/25	111	%		60 - 140
		Toluene	2006/09/25	104	%		60 - 140
	SPIKE	Ethylbenzene	2006/09/25	167 (f)	%		60 - 140
		m & p-Xylene	2006/09/25	130	%		60 - 140
		o-Xylene	2006/09/25	87	%		60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	99	%		60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25	119	%		60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	96	%		60 - 140
	BLANK	D8-TOLUENE (sur.)	2006/09/25	101	%		60 - 140
		Benzene	2006/09/25	82	%		60 - 140
		Toluene	2006/09/25	94	%		60 - 140
		Ethylbenzene	2006/09/25	103	%		60 - 140
		m & p-Xylene	2006/09/25	102	%		60 - 140
		o-Xylene	2006/09/25	103	%		60 - 140
	RPD	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	100	%		60 - 140
		D10-ETHYLBENZENE (sur.)	2006/09/25	121	%		60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	92	%		60 - 140
		D8-TOLUENE (sur.)	2006/09/25	100	%		60 - 140
		Benzene	2006/09/25	<0.0050	mg/kg		
		Toluene	2006/09/25	<0.020	mg/kg		
1282387 KO	MATRIX SPIKE	Ethylbenzene	2006/09/25	<0.010	mg/kg		
		Xylenes (Total)	2006/09/25	<0.020	mg/kg		
		m & p-Xylene	2006/09/25	<0.020	mg/kg		
		o-Xylene	2006/09/25	<0.020	mg/kg		
		Benzene	2006/09/25	6.4	%		50
		Toluene	2006/09/25	NC	%		50
	SPIKE	Ethylbenzene	2006/09/25	0.02	%		50
		Xylenes (Total)	2006/09/25	1.2	%		50
		m & p-Xylene	2006/09/25	0.2	%		50
		o-Xylene	2006/09/25	15.0	%		50
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	88	%		60 - 130
		F1 (C06-C10)	2006/09/25	99	%		60 - 130
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	89	%		60 - 130
		F1 (C06-C10)	2006/09/25	92	%		80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	86	%		60 - 130
		F1 (C06-C10)	2006/09/25	<10	mg/kg		
		F1 (C06-C10)	2006/09/25	7.3	%		50
		Moisture	2006/09/23	<0.3	%		20
1282388 SD7	RPD	Moisture	2006/09/26	1.1	%		20
	1282944 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/09/26	129	%	
D12-BENZO(A)PYRENE (sur.)			2006/09/26	117	%		30 - 130
D8-ACENAPHTHYLENE (sur.)			2006/09/26	121	%		30 - 130
TERPHENYL-D14 (sur.)			2006/09/26	127	%		30 - 130
Naphthalene			2006/09/26	101	%		30 - 130
2-Methylnaphthalene			2006/09/26	103	%		30 - 130
BLANK		Acenaphthylene	2006/09/26	107	%		30 - 130
		Acenaphthene	2006/09/26	97	%		30 - 130
		Fluorene	2006/09/26	100	%		30 - 130
		Phenanthrene	2006/09/26	100	%		30 - 130
		Anthracene	2006/09/26	98	%		30 - 130
		Fluoranthene	2006/09/26	101	%		30 - 130



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
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Quality Assurance Report (Continued)
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282944 AK3	RPD	Fluorene	2006/09/25	NC	%		50
		Phenanthrene	2006/09/26	NC	%		50
		Anthracene	2006/09/26	NC	%		50
		Fluoranthene	2006/09/26	NC	%		50
		Pyrene	2006/09/26	NC	%		50
		Benzo(a)anthracene	2006/09/26	NC	%		50
		Chrysene	2006/09/26	NC	%		50
		Benzo(b&l)fluoranthene	2006/09/26	NC	%		50
		Benzo(k)fluoranthene	2006/09/26	NC	%		50
		Benzo(a)pyrene	2006/09/26	NC	%		50
		Indeno(1,2,3-cd)pyrene	2006/09/26	NC	%		50
		Dibenz(a,h)anthracene	2006/09/26	NC	%		50
		Benzo(g,h,i)perylene	2006/09/26	NC	%		50
		O-TERPHENYL (sur.)	2006/09/25				
1283128 KB4	MATRIX SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/25	82	%	30 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/09/25	88	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/09/25	74	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/09/25	73	%	50 - 130	
	SPIKE	O-TERPHENYL (sur.)	2006/09/25	84	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/25	100	%	80 - 120	
		F3 (C16-C34 Hydrocarbons)	2006/09/25	91	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/09/25	101	%	80 - 120	
	BLANK	O-TERPHENYL (sur.)	2006/09/25	84	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/09/25	<10	mg/kg		
		F3 (C16-C34 Hydrocarbons)	2006/09/25	<10	mg/kg		
		F4 (C34-C50 Hydrocarbons)	2006/09/25	<10	mg/kg		
	RPD	Reached Baseline at C50	2006/09/25	YES, RDL=1	mg/kg		
		F2 (C10-C16 Hydrocarbons)	2006/09/25	NC	%	50	
		F3 (C16-C34 Hydrocarbons)	2006/09/25	6.1	%	50	
		F4 (C34-C50 Hydrocarbons)	2006/09/25	NC	%	50	
1295794 CD1	MATRIX SPIKE [C87531-01]	Reached Baseline at C50	2006/09/25	NC	%	50	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	102	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	107	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	104	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	104	%	60 - 140	
		Benzene	2006/10/05	97	%	60 - 140	
		Toluene	2006/10/05	103	%	60 - 140	
		Ethylbenzene	2006/10/05	100	%	60 - 140	
		m & p-Xylene	2006/10/05	100	%	60 - 140	
		o-Xylene	2006/10/05	100	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	100	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	105	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	100	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	103	%	60 - 140	
1295794 CD1	MATRIX SPIKE [C87531-01]	Benzene	2006/10/05	96	%	60 - 140	
		Toluene	2006/10/05	100	%	60 - 140	
		Ethylbenzene	2006/10/05	99	%	60 - 140	
		m & p-Xylene	2006/10/05	100	%	60 - 140	
		o-Xylene	2006/10/05	100	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	100	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	100	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	99	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	103	%	60 - 140	
		Benzene	2006/10/05	<0.0050	mg/kg		
		Toluene	2006/10/05	<0.020	mg/kg		

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1295794 CD1	BLANK	Ethylbenzene	2006/10/05	<0.010		mg/kg	
		Xylenes (Total)	2006/10/05	<0.020		mg/kg	
		m & p-Xylene	2006/10/05	<0.020		mg/kg	
		o-Xylene	2006/10/05	<0.020		mg/kg	
	RPD [C87528-01]	Benzene	2006/10/05	NC	%		50
		Toluene	2006/10/05	NC	%		50
		Ethylbenzene	2006/10/05	NC	%		50
		Xylenes (Total)	2006/10/05	NC	%		50
		m & p-Xylene	2006/10/05	NC	%		50
		o-Xylene	2006/10/05	NC	%		50
1295900 KO	MATRIX SPIKE [C87531-01]	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	93	%	60 - 130	
		F1 (C06-C10)	2006/10/05	81	%	60 - 130	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	103	%	60 - 130	
		F1 (C06-C10)	2006/10/05	101	%	60 - 130	
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	102	%	60 - 130	
		F1 (C06-C10)	2006/10/05	<10	mg/kg		
	RPD [C87528-01]	F1 (C06-C10)	2006/10/05	NC	%	50	
		Calibration Check	2006/10/05	96	%	75 - 125	
1296442 AL2	MATRIX SPIKE	Hex. Chromium (Cr 6+)	2006/10/05	91	%	75 - 125	
		Hex. Chromium (Cr 6+)	2006/10/05	91	%	75 - 125	
	BLANK	Hex. Chromium (Cr 6+)	2006/10/05	<0.2	mg/kg		
		Hex. Chromium (Cr 6+)	2006/10/05	NC	%	35	
	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/10/06	110	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/10/06	121	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/10/06	124	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/10/06	113	%	30 - 130	
		Naphthalene	2006/10/06	99	%	30 - 130	
		2-Methylnaphthalene	2006/10/06	88	%	30 - 130	
		Acenaphthylene	2006/10/06	116	%	30 - 130	
		Fluorene	2006/10/06	105	%	30 - 130	
		Phenanthrene	2006/10/06	100	%	30 - 130	
		Anthracene	2006/10/06	104	%	30 - 130	
		Fluoranthene	2006/10/06	107	%	30 - 130	
		Pyrene	2006/10/06	108	%	30 - 130	
1296592 AK3	MATRIX SPIKE	Benzo(a)anthracene	2006/10/06	108	%	30 - 130	
		Chrysene	2006/10/06	108	%	30 - 130	
		Benzo(b&l)fluoranthene	2006/10/06	108	%	30 - 130	
		Benzo(k)fluoranthene	2006/10/06	109	%	30 - 130	
		Benzo(a)pyrene	2006/10/06	109	%	30 - 130	
		Indeno(1,2,3-cd)pyrene	2006/10/06	107	%	30 - 130	
		Dibenz(a,h)anthracene	2006/10/06	104	%	30 - 130	
		D10-ANTHRACENE (sur.)	2006/10/06	109	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/10/06	107	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/10/06	124	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/10/06	99	%	30 - 130	
		Naphthalene	2006/10/06	109	%	30 - 130	
		2-Methylnaphthalene	2006/10/06	107	%	30 - 130	
		Acenaphthylene	2006/10/06	109	%	30 - 130	
		Acenaphthene	2006/10/06	105	%	30 - 130	
1296592 AK3	MATRIX SPIKE	Fluorene	2006/10/06	104	%	30 - 130	
		Phenanthrene	2006/10/06	108	%	30 - 130	
		Anthracene	2006/10/06	107	%	30 - 130	
		Fluoranthene	2006/10/06	108	%	30 - 130	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296592 AK3	SPIKE	Pyrene	2006/10/06		105	%	30 - 130
		Benzo(a)anthracene	2006/10/06		105	%	30 - 130
		Chrysene	2006/10/06		107	%	30 - 130
		Benzo(b&l)fluoranthene	2006/10/06		102	%	30 - 130
		Benzo(k)fluoranthene	2006/10/06		106	%	30 - 130
		Benzo(a)pyrene	2006/10/06		106	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/06		115	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/06		106	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/06		111	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/10/06		122	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/06		103	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/06		122	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/06		111	%	30 - 130
		Naphthalene	2006/10/06	<0.05		mg/kg	
		2-Methylnaphthalene	2006/10/06	<0.05		mg/kg	
		Acenaphthylene	2006/10/06	<0.05		mg/kg	
		Acenaphthene	2006/10/06	<0.05		mg/kg	
		Fluorene	2006/10/06	<0.05		mg/kg	
		Phenanthrene	2006/10/06	<0.05		mg/kg	
		Anthracene	2006/10/06	<0.05		mg/kg	
		Fluoranthene	2006/10/06	<0.05		mg/kg	
		Pyrene	2006/10/06	<0.05		mg/kg	
		Benzo(a)anthracene	2006/10/06	<0.05		mg/kg	
		Chrysene	2006/10/06	<0.05		mg/kg	
		Benzo(b&l)fluoranthene	2006/10/06	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/10/06	<0.05		mg/kg	
		Benzo(a)pyrene	2006/10/06	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/10/06	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/10/06	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/10/06	<0.05		mg/kg	
1296619 KB4	RPO	Naphthalene	2006/10/06	NC		%	50
		Benzo(a)pyrene	2006/10/06	NC		%	50
		O-TERPHENYL (sur.)	2006/10/05		79	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/05		96	%	50 - 130
		F3 (C18-C34 Hydrocarbons)	2006/10/05		89	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/10/05		95	%	50 - 130
		O-TERPHENYL (sur.)	2006/10/05		78	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/05		96	%	80 - 120
		F3 (C18-C34 Hydrocarbons)	2006/10/05		90	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/10/05		94	%	80 - 120
1296619 KB4	SPIKE	O-TERPHENYL (sur.)	2006/10/05		84	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/05	<10		mg/kg	
		F3 (C18-C34 Hydrocarbons)	2006/10/05	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/05	<10		mg/kg	
		Reached Baseline at C50	2006/10/05	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/05	12.7		%	50
		F3 (C18-C34 Hydrocarbons)	2006/10/05	61.0 (!)		%	50
		F4 (C34-C50 Hydrocarbons)	2006/10/05	NC		%	50
		Reached Baseline at C50	2006/10/05	NC		%	50
		O-TERPHENYL (sur.)	2006/10/05		100	%	60 - 140
1296631 LM4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		107	%	60 - 130
		D10-ETHYLBENZENE (sur.)	2006/10/05		103	%	60 - 140
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05		97	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/05		93	%	60 - 140
		Benzene	2006/10/05		96	%	60 - 140
		Bromodichloromethane	2006/10/05		96	%	60 - 140
		Bromodichloromethane	2006/10/05		96	%	60 - 140
		Bromodichloromethane	2006/10/05		96	%	60 - 140
		Bromodichloromethane	2006/10/05		96	%	60 - 140
		Bromodichloromethane	2006/10/05		96	%	60 - 140

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Client Project #: 1256.0601 INUVIK
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Quality Assurance Report (Continued)
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	MATRIX SPIKE	Bromomethane	2006/10/05		88	%	60 - 140
		Bromomethane	2006/10/05		112	%	60 - 140
		Carbon tetrachloride	2006/10/05		90	%	60 - 140
		Chlorobenzene	2006/10/05		93	%	60 - 140
		Chlorodibromomethane	2006/10/05		89	%	60 - 140
		Chloroethane	2006/10/05		101	%	60 - 140
		Chloroform	2006/10/05		111	%	60 - 140
		Chloromethane	2006/10/05		95	%	60 - 140
		1,2-dibromoethane	2006/10/05		88	%	60 - 140
		1,2-dichlorobenzene	2006/10/05		89	%	60 - 140
		1,3-dichlorobenzene	2006/10/05		88	%	60 - 140
		1,4-dichlorobenzene	2006/10/05		95	%	60 - 140
		1,1-dichloroethane	2006/10/05		100	%	60 - 140
		1,2-dichloroethane	2006/10/05		97	%	60 - 140
		1,1-dichloroethane	2006/10/05		102	%	60 - 140
		cis-1,2-dichloroethane	2006/10/05		113	%	60 - 140
		trans-1,2-dichloroethane	2006/10/05		102	%	60 - 140
		Dichloromethane	2006/10/05		98	%	60 - 140
		1,2-dichloropropane	2006/10/05		95	%	60 - 140
		cis-1,3-dichloropropene	2006/10/05		90	%	60 - 140
		trans-1,3-dichloropropene	2006/10/05		93	%	60 - 140
		Ethylbenzene	2006/10/05		88	%	60 - 140
		Styrene	2006/10/05		75	%	60 - 140
		1,1,1,2-tetrachloroethane	2006/10/05		97	%	60 - 140
		1,1,2,2-tetrachloroethane	2006/10/05		88	%	60 - 140
		Tetrachloroethane	2006/10/05		92	%	60 - 140
		Toluene	2006/10/05		98	%	60 - 140
		1,1,1-trichloroethane	2006/10/05		94	%	60 - 140
1296631 LM4	SPIKE	1,1,2-trichloroethane	2006/10/05		96	%	60 - 140
		Trichloroethane	2006/10/05		97	%	60 - 140
		Trichlorofluoromethane	2006/10/05		77	%	60 - 140
		Vinyl chloride	2006/10/05		93	%	60 - 140
		m & p-Xylene	2006/10/05		97	%	60 - 140
		o-Xylene	2006/10/05		97	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05		99	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/05		94	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05		98	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/05		97	%	60 - 140
		Benzene	2006/10/05		91	%	60 - 140
		Bromodichloromethane	2006/10/05		93	%	60 - 140
		Bromomethane	2006/10/05		91	%	60 - 140
		Bromomethane	2006/10/05		107	%	60 - 140
		Carbon tetrachloride	2006/10/05		91	%	60 - 140
		Chlorobenzene	2006/10/05		90	%	60 - 140
		Chlorodibromomethane	2006/10/05		87	%	60 - 140
		Chloroethane	2006/10/05		99	%	60 - 140
		Chloroform	2006/10/05		95	%	60 - 140
		Chloromethane	2006/10/05		102	%	60 - 140
		1,2-dibromoethane	2006/10/05		68	%	60 - 140
		1,2-dichlorobenzene	2006/10/05		91	%	60 - 140
		1,3-dichlorobenzene	2006/10/05		88	%	60 - 140
		1,4-dichlorobenzene	2006/10/05		96	%	60 - 140
		1,1-dichloroethane	2006/10/05		98	%	60 - 140
		1,2-dichloroethane	2006/10/05		96	%	60 - 140
		1,1-dichloroethane	2006/10/05		101	%	60 - 140

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
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Quality Assurance Report (Continued)
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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	SPIKE	cis-1,2-dichloroethene	2006/10/05		98	%	60 - 140
		trans-1,2-dichloroethene	2006/10/05		97	%	60 - 140
		Dichloromethane	2006/10/05		95	%	60 - 140
		1,2-dichloropropane	2006/10/05		92	%	60 - 140
		cis-1,3-dichloropropene	2006/10/05		93	%	60 - 140
		trans-1,3-dichloropropene	2006/10/05		93	%	60 - 140
		Ethylbenzene	2006/10/05		88	%	60 - 140
		Styrene	2006/10/05		92	%	60 - 140
		1,1,1,2-tetrachloroethane	2006/10/05		89	%	60 - 140
		1,1,2,2-tetrachloroethane	2006/10/05		98	%	60 - 140
		Tetrachloroethane	2006/10/05		91	%	60 - 140
		Toluene	2006/10/05		93	%	60 - 140
		1,1,1-trichloroethane	2006/10/05		87	%	60 - 140
		1,1,2-trichloroethane	2006/10/05		90	%	60 - 140
		Trichloroethane	2006/10/05		94	%	60 - 140
		Trichlorofluoromethane	2006/10/05		98	%	60 - 140
		Vinyl chloride	2006/10/05		67	%	60 - 140
		m & p-Xylene	2006/10/05		95	%	60 - 140
		o-Xylene	2006/10/05		95	%	60 - 140
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		103	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/05		101	%	60 - 140
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05		100	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/05		102	%	60 - 140
		Benzene	2006/10/05	<0.005		mg/kg	
		Bromodichloromethane	2006/10/05	<0.03		mg/kg	
		Bromoflorm	2006/10/05	<0.05		mg/kg	
		Bromomethane	2006/10/05	<0.02		mg/kg	
		Carbon tetrachloride	2006/10/05	<0.02		mg/kg	
		Chlorobenzene	2006/10/05	<0.02		mg/kg	
		Chlorodibromomethane	2006/10/05	<0.02		mg/kg	
		Chloroethane	2006/10/05	<0.02		mg/kg	
		Chloroform	2006/10/05	<0.02		mg/kg	
		Chloromethane	2006/10/05	<0.03		mg/kg	
		1,2-dibromoethane	2006/10/05	<0.02		mg/kg	
		1,2-dichlorobenzene	2006/10/05	<0.02		mg/kg	
		1,3-dichlorobenzene	2006/10/05	<0.02		mg/kg	
		1,4-dichlorobenzene	2006/10/05	<0.02		mg/kg	
		1,1-dichloroethane	2006/10/05	<0.02		mg/kg	
		1,2-dichloroethane	2006/10/05	<0.02		mg/kg	
		1,1-dichloroethane	2006/10/05	<0.02		mg/kg	
		cis-1,2-dichloroethene	2006/10/05	<0.02		mg/kg	
		trans-1,2-dichloroethene	2006/10/05	<0.02		mg/kg	
		Dichloromethane	2006/10/05	<0.1		mg/kg	
		1,2-dichloropropane	2006/10/05	<0.02		mg/kg	
		cis-1,3-dichloropropene	2006/10/05	<0.02		mg/kg	
		trans-1,3-dichloropropene	2006/10/05	<0.02		mg/kg	
		Ethylbenzene	2006/10/05	<0.01		mg/kg	
		Styrene	2006/10/05	<0.02		mg/kg	
		1,1,1,2-tetrachloroethane	2006/10/05	<0.1		mg/kg	
		1,1,2,2-tetrachloroethane	2006/10/05	<0.1		mg/kg	
		Tetrachloroethane	2006/10/05	<0.02		mg/kg	
		Toluene	2006/10/05	<0.02		mg/kg	
		1,1,1-trichloroethane	2006/10/05	<0.02		mg/kg	
		1,1,2-trichloroethane	2006/10/05	<0.02		mg/kg	
		Trichloroethane	2006/10/05	<0.02		mg/kg	

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	BLANK	Trichlorofluoromethane	2006/10/05	<0.02		mg/kg	
		Vinyl chloride	2006/10/05	<0.02		mg/kg	
		Xylenes (Total)	2006/10/05	<0.04		mg/kg	
		m & p-Xylene	2006/10/05	<0.04		mg/kg	
		o-Xylene	2006/10/05	<0.02		mg/kg	
	RPD	Benzene	2006/10/05	NC		%	50
		Bromodichloromethane	2006/10/05	NC		%	50
		Bromoflorm	2006/10/05	NC		%	50
		Bromomethane	2006/10/05	NC		%	50
		Carbon tetrachloride	2006/10/05	NC		%	50
		Chlorobenzene	2006/10/05	NC		%	50
		Chlorodibromomethane	2006/10/05	NC		%	50
		Chloroethane	2006/10/05	NC		%	50
		Chloroform	2006/10/05	NC		%	50
		Chloromethane	2006/10/05	NC		%	50
		1,2-dibromoethane	2006/10/05	NC		%	50
		1,2-dichlorobenzene	2006/10/05	NC		%	50
		1,3-dichlorobenzene	2006/10/05	NC		%	50
		1,4-dichlorobenzene	2006/10/05	NC		%	50
		1,2-dichloroethane	2006/10/05	NC		%	50
		1,1-dichloroethane	2006/10/05	NC		%	50
		cis-1,2-dichloroethene	2006/10/05	NC		%	50
		trans-1,2-dichloroethene	2006/10/05	NC		%	50
		Dichloromethane	2006/10/05	NC		%	50
		1,2-dichloropropane	2006/10/05	NC		%	50
		cis-1,3-dichloropropene	2006/10/05	NC		%	50
		trans-1,3-dichloropropene	2006/10/05	NC		%	50
		Ethylbenzene	2006/10/05	NC		%	50
		Styrene	2006/10/05	NC		%	50
		1,1,1,2-tetrachloroethane	2006/10/05	NC		%	50
		1,1,2,2-tetrachloroethane	2006/10/05	NC		%	50
		Tetrachloroethane	2006/10/05	NC		%	50
		Toluene	2006/10/05	NC		%	50
		1,1,1-trichloroethane	2006/10/05	NC		%	50
		1,1,2-trichloroethane	2006/10/05	NC		%	50
		Trichloroethane	2006/10/05	NC		%	50
		Trichlorofluoromethane	2006/10/05	NC		%	50
		Vinyl chloride	2006/10/05	NC		%	50
		Xylenes (Total)	2006/10/05	NC		%	50
		m & p-Xylene	2006/10/05	NC		%	50
		o-Xylene	2006/10/05	NC		%	50
1296803 HL2	BLANK	Moisture	2006/10/05	<0.3		%	
	RPD	Moisture	2006/10/05	1.7		%	20
1296823 RI2	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		93	%	60 - 130
		F1 (C06-C10)	2006/10/05		99	%	60 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		94	%	60 - 130
		F1 (C06-C10)	2006/10/05		108	%	80 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		95	%	60 - 130
		F1 (C06-C10)	2006/10/05			mg/kg	
	RPD	F1 (C06-C10)	2006/10/05	<10		%	50
1296878 YY1	Calibration Check	Mercury (Hg)	2006/10/05		111	%	85 - 115
	QC STANDARD	Mercury (Hg)	2006/10/05		101	%	N/A
	BLANK	Mercury (Hg)	2006/10/05	<0.05		mg/kg	
	RPD [C87622-01]	Mercury (Hg)	2006/10/05	NC		%	35

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Quality Assurance Report (Continued)
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QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1297146 MC3	MATRIX SPIKE	Soluble (Hot water) Boron (B)	2006/10/05		105	%	80 - 120
	SPIKE	Soluble (Hot water) Boron (B)	2006/10/05		109	%	85 - 115
	BLANK	Soluble (Hot water) Boron (B)	2006/10/05	<0.1		mg/kg	
	RPD	Soluble (Hot water) Boron (B)	2006/10/05	NC		%	40
1297777 AC4	Calibration Check	Total Antimony (Sb)	2006/10/06		100	%	80 - 120
		Total Arsenic (As)	2006/10/06		100	%	80 - 120
		Total Barium (Ba)	2006/10/06		98	%	80 - 120
		Total Beryllium (Be)	2006/10/06		100	%	80 - 120
		Total Cadmium (Cd)	2006/10/06		97	%	80 - 120
		Total Chromium (Cr)	2006/10/06		98	%	80 - 120
		Total Cobalt (Co)	2006/10/06		100	%	80 - 120
		Total Copper (Cu)	2006/10/06		99	%	80 - 120
		Total Lead (Pb)	2006/10/06		101	%	80 - 120
		Total Molybdenum (Mo)	2006/10/06		100	%	80 - 120
		Total Nickel (Ni)	2006/10/06		100	%	80 - 120
		Total Selenium (Se)	2006/10/06		100	%	80 - 120
		Total Silver (Ag)	2006/10/06		103	%	80 - 120
		Total Thallium (Tl)	2006/10/06		98	%	80 - 120
		Total Tin (Sn)	2006/10/06		101	%	80 - 120
		Total Vanadium (V)	2006/10/06		99	%	80 - 120
		Total Zinc (Zn)	2006/10/06		99	%	80 - 120
	MATRIX SPIKE [C87522-01]	Total Arsenic (As)	2006/10/06		99	%	80 - 120
		Total Cadmium (Cd)	2006/10/06		101	%	N/A
		Total Lead (Pb)	2006/10/06		91	%	N/A
		Total Selenium (Se)	2006/10/06		107	%	80 - 120
		Total Thallium (Tl)	2006/10/06		100	%	80 - 120
	BLANK	Total Antimony (Sb)	2006/10/06	<1		mg/kg	
		Total Arsenic (As)	2006/10/06	<1		mg/kg	
		Total Barium (Ba)	2006/10/06	<10		mg/kg	
		Total Beryllium (Be)	2006/10/06	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/10/06	<0.1		mg/kg	
		Total Chromium (Cr)	2006/10/06	<1		mg/kg	
		Total Cobalt (Co)	2006/10/06	<1		mg/kg	
		Total Copper (Cu)	2006/10/06	<5		mg/kg	
		Total Lead (Pb)	2006/10/06	<1		mg/kg	
		Total Molybdenum (Mo)	2006/10/06	<0.4		mg/kg	
		Total Nickel (Ni)	2006/10/06	<1		mg/kg	
		Total Selenium (Se)	2006/10/06	<0.5		mg/kg	
		Total Silver (Ag)	2006/10/06	<1		mg/kg	
		Total Thallium (Tl)	2006/10/06	<0.3		mg/kg	
		Total Tin (Sn)	2006/10/06	<1		mg/kg	
		Total Vanadium (V)	2006/10/06	<1		mg/kg	
		Total Zinc (Zn)	2006/10/06	<10		mg/kg	
	RPD [C87522-01]	Total Antimony (Sb)	2006/10/06	NC		%	35
		Total Arsenic (As)	2006/10/06	7.5		%	35
		Total Barium (Ba)	2006/10/06	4.1		%	35
		Total Beryllium (Be)	2006/10/06	NC		%	35
		Total Cadmium (Cd)	2006/10/06	NC		%	35
		Total Chromium (Cr)	2006/10/06	2.4		%	35
		Total Cobalt (Co)	2006/10/06	5.6		%	35
		Total Copper (Cu)	2006/10/06	NC		%	35
		Total Lead (Pb)	2006/10/06	17.2		%	35
		Total Molybdenum (Mo)	2006/10/06	NC		%	35
		Total Nickel (Ni)	2006/10/06	2.8		%	35

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Quality Assurance Report (Continued)
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QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1297777 AC4	RPD [C87522-01]	Total Selenium (Se)	2006/10/06	NC		%	35
		Total Silver (Ag)	2006/10/06	NC		%	35
		Total Thallium (Tl)	2006/10/06	NC		%	35
		Total Tin (Sn)	2006/10/06	NC		%	35
		Total Vanadium (V)	2006/10/06	5.3		%	35
		Total Zinc (Zn)	2006/10/06	3.8		%	35
	RPD [C87532-01]	Total Antimony (Sb)	2006/10/06	NC		%	35
		Total Arsenic (As)	2006/10/06	19.1		%	35
		Total Barium (Ba)	2006/10/06	20.3		%	35
		Total Beryllium (Be)	2006/10/06	NC		%	35
		Total Cadmium (Cd)	2006/10/06	18.0		%	35
		Total Chromium (Cr)	2006/10/06	17.3		%	35
		Total Cobalt (Co)	2006/10/06	20.6		%	35
		Total Copper (Cu)	2006/10/06	NC		%	35
		Total Lead (Pb)	2006/10/06	19.6		%	35
		Total Molybdenum (Mo)	2006/10/06	NC		%	35
		Total Nickel (Ni)	2006/10/06	18.0		%	35
		Total Selenium (Se)	2006/10/06	NC		%	35
		Total Silver (Ag)	2006/10/06	NC		%	35
		Total Thallium (Tl)	2006/10/06	NC		%	35
		Total Tin (Sn)	2006/10/06	NC		%	35
		Total Vanadium (V)	2006/10/06	21.0		%	35
		Total Zinc (Zn)	2006/10/06	17.9		%	35
1305653 RTA	Calibration Check	NONACHLOROBIPHENYL (sur.)	2006/10/13		91	%	53 - 127
		Aroclor 1254	2006/10/13		94	%	80 - 132
		Aroclor 1260	2006/10/13		68	%	60 - 117
	SPIKE	NONACHLOROBIPHENYL (sur.)	2006/10/13		97	%	53 - 127
		Aroclor 1260	2006/10/13		80	%	64 - 128
	BLANK	NONACHLOROBIPHENYL (sur.)	2006/10/13		81	%	53 - 127
		Aroclor 1016	2006/10/13	<0.01		mg/kg	
		Aroclor 1221	2006/10/13	<0.01		mg/kg	
		Aroclor 1232	2006/10/13	<0.01		mg/kg	
		Aroclor 1242	2006/10/13	<0.01		mg/kg	
		Aroclor 1248	2006/10/13	<0.01		mg/kg	
		Aroclor 1254	2006/10/13	<0.01		mg/kg	
		Aroclor 1260	2006/10/13	<0.01		mg/kg	
		Aroclor 1282	2006/10/13	<0.01		mg/kg	
		Aroclor 1298	2006/10/13	<0.01		mg/kg	
		Total Aroclors	2006/10/13	<0.01		mg/kg	
	RPD	Aroclor 1016	2006/10/13	NC		%	N/A
		Aroclor 1221	2006/10/13	NC		%	N/A
		Aroclor 1232	2006/10/13	NC		%	N/A
		Aroclor 1242	2006/10/13	NC		%	N/A
		Aroclor 1248	2006/10/13	NC		%	N/A
		Aroclor 1254	2006/10/13	NC		%	N/A
		Aroclor 1260	2006/10/13	NC		%	N/A
		Aroclor 1262	2006/10/13	NC		%	N/A
		Aroclor 1268	2006/10/13	NC		%	N/A
		Total Aroclors	2006/10/13	NC		%	N/A
1307826 JT3	LEACHATE BLAN	Leachable Mercury (Hg)	2006/10/16	<0.05		ug/L	
	BLANK	Leachable Mercury (Hg)	2006/10/16	<0.05		ug/L	
	RPD [C87522-00]	Leachable Mercury (Hg)	2006/10/16	NC		%	35
1308945 DJ	BLANK	Leachable (SWEP) Arsenic (As)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Barium (Ba)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Boron (B)	2006/10/16	<0.1		mg/L	

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1308845 DJ	BLANK	Leachable (SWEP) Cadmium (Cd)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Chromium (Cr)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Copper (Cu)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Lead (Pb)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Molybdenum (Mo)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Selenium (Se)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Silver (Ag)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Uranium (U)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Zinc (Zn)	2006/10/16	<0.1		mg/L	
		Leachable (SWEP) Arsenic (As)	2006/10/16	NC		%	35
		Leachable (SWEP) Barium (Ba)	2006/10/16	1.4		%	35
		Leachable (SWEP) Boron (B)	2006/10/16	NC		%	35
	RPD [C87522-00]	Leachable (SWEP) Cadmium (Cd)	2006/10/16	NC		%	35
		Leachable (SWEP) Chromium (Cr)	2006/10/16	NC		%	35
		Leachable (SWEP) Copper (Cu)	2006/10/16	NC		%	35
		Leachable (SWEP) Lead (Pb)	2006/10/16	NC		%	35
		Leachable (SWEP) Molybdenum (Mo)	2006/10/16	NC		%	35
		Leachable (SWEP) Selenium (Se)	2006/10/16	NC		%	35
		Leachable (SWEP) Silver (Ag)	2006/10/16	NC		%	35
		Leachable (SWEP) Uranium (U)	2006/10/16	NC		%	35
		Leachable (SWEP) Zinc (Zn)	2006/10/16	NC		%	35
1323829 RTA	Calibration Check	NONACHLOROBIPHENYL (sur.)	2006/10/27		96	%	53 - 127
		Aroclor 1254	2006/10/27		103	%	80 - 132
		Aroclor 1260	2006/10/27		83	%	60 - 117
		NONACHLOROBIPHENYL (sur.)	2006/10/27		96	%	53 - 127
		Aroclor 1260	2006/10/27		74	%	64 - 128
		NONACHLOROBIPHENYL (sur.)	2006/10/27		92	%	53 - 127
	SPIKE	Aroclor 1016	2006/10/27	<0.01		mg/kg	
		Aroclor 1221	2006/10/27	<0.01		mg/kg	
		Aroclor 1232	2006/10/27	<0.01		mg/kg	
		Aroclor 1242	2006/10/27	<0.01		mg/kg	
		Aroclor 1248	2006/10/27	<0.01		mg/kg	
		Aroclor 1254	2006/10/27	<0.01		mg/kg	
		Aroclor 1260	2006/10/27	<0.01		mg/kg	
		Aroclor 1262	2006/10/27	<0.01		mg/kg	
		Aroclor 1268	2006/10/27	<0.01		mg/kg	
		Total Aroclors	2006/10/27	<0.01		mg/kg	
	BLANK	Aroclor 1016	2006/10/27	NC		%	N/A
		Aroclor 1221	2006/10/27	NC		%	N/A
		Aroclor 1232	2006/10/27	NC		%	N/A
		Aroclor 1242	2006/10/27	NC		%	N/A
		Aroclor 1248	2006/10/27	NC		%	N/A
		Aroclor 1254	2006/10/27	NC		%	N/A
		Aroclor 1260	2006/10/27	NC		%	N/A
		Aroclor 1262	2006/10/27	NC		%	N/A
		Aroclor 1268	2006/10/27	NC		%	N/A
		Total Aroclors	2006/10/27	NC		%	N/A
1324623 DR1	RPD	Moisture	2006/10/27	1.0		%	20
		Total Antimony (Sb)	2006/11/02		105	%	80 - 120
		Total Arsenic (As)	2006/11/02		103	%	80 - 120
		Total Barium (Ba)	2006/11/02		98	%	80 - 120
		Total Beryllium (Be)	2006/11/02		99	%	80 - 120
		Total Cadmium (Cd)	2006/11/02		98	%	80 - 120
		Total Chromium (Cr)	2006/11/02		99	%	80 - 120
		Total Cobalt (Co)	2006/11/02		101	%	80 - 120
	Calibration Check	Total Antimony (Sb)	2006/11/02		105	%	80 - 120
		Total Arsenic (As)	2006/11/02		103	%	80 - 120
		Total Barium (Ba)	2006/11/02		98	%	80 - 120
		Total Beryllium (Be)	2006/11/02		99	%	80 - 120
		Total Cadmium (Cd)	2006/11/02		98	%	80 - 120
		Total Chromium (Cr)	2006/11/02		99	%	80 - 120
		Total Cobalt (Co)	2006/11/02		101	%	80 - 120
		Total Antimony (Sb)	2006/11/02		105	%	80 - 120
		Total Arsenic (As)	2006/11/02		103	%	80 - 120
		Total Barium (Ba)	2006/11/02		98	%	80 - 120
		Total Beryllium (Be)	2006/11/02		99	%	80 - 120
		Total Cadmium (Cd)	2006/11/02		98	%	80 - 120
1332759 LL2	Calibration Check	Total Chromium (Cr)	2006/11/02		101	%	80 - 120
		Total Copper (Cu)	2006/11/02		103	%	80 - 120
		Total Lead (Pb)	2006/11/02		99	%	80 - 120
		Total Molybdenum (Mo)	2006/11/02		98	%	80 - 120
		Total Nickel (Ni)	2006/11/02		101	%	80 - 120
		Total Selenium (Se)	2006/11/02		102	%	80 - 120
		Total Silver (Ag)	2006/11/02		103	%	80 - 120
		Total Thallium (Tl)	2006/11/02		97	%	80 - 120
		Total Tin (Sn)	2006/11/02		100	%	80 - 120
		Total Uranium (U)	2006/11/02		104	%	80 - 120
		Total Vanadium (V)	2006/11/02		100	%	80 - 120
		Total Zinc (Zn)	2006/11/02		100	%	80 - 120
	MATRIX SPIKE [C87515-01]	Total Arsenic (As)	2006/11/02		97	%	75 - 125
		Total Cadmium (Cd)	2006/11/02		96	%	75 - 125
		Total Lead (Pb)	2006/11/02		82	%	75 - 125
		Total Molybdenum (Mo)	2006/11/02		106	%	75 - 125
		Total Thallium (Tl)	2006/11/02		95	%	75 - 125
	BLANK	Total Antimony (Sb)	2006/11/02	<1		mg/kg	
		Total Arsenic (As)	2006/11/02	<1		mg/kg	
		Total Barium (Ba)	2006/11/02	<10		mg/kg	
		Total Beryllium (Be)	2006/11/02	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/11/02	<0.1		mg/kg	
		Total Chromium (Cr)	2006/11/02	<1		mg/kg	
		Total Cobalt (Co)	2006/11/02	<1		mg/kg	
		Total Copper (Cu)	2006/11/02	<5		mg/kg	
		Total Lead (Pb)	2006/11/02	<1		mg/kg	
		Total Molybdenum (Mo)	2006/11/02	<0.4		mg/kg	
		Total Nickel (Ni)	2006/11/02	<1		mg/kg	
		Total Selenium (Se)	2006/11/02	<0.5		mg/kg	
1332759 LL2	RPD [C87515-01]	Total Silver (Ag)	2006/11/02	<1		mg/kg	
		Total Thallium (Tl)	2006/11/02	<0.3		mg/kg	
		Total Tin (Sn)	2006/11/02	<1		mg/kg	
		Total Uranium (U)	2006/11/02	<1		mg/kg	
		Total Vanadium (V)	2006/11/02	<1		mg/kg	
		Total Zinc (Zn)	2006/11/02	<10		mg/kg	
		Total Antimony (Sb)	2006/11/02	NC		%	35
		Total Arsenic (As)	2006/11/02	NC		%	35
		Total Barium (Ba)	2006/11/02	9.1		%	35
		Total Beryllium (Be)	2006/11/02	NC		%	35
		Total Cadmium (Cd)	2006/11/02	NC		%	35
		Total Chromium (Cr)	2006/11/02	6.4		%	35
	Calibration Check	Total Cobalt (Co)	2006/11/02	1.9		%	35
		Total Copper (Cu)	2006/11/02	NC		%	35
		Total Lead (Pb)	2006/11/02	1.9		%	35
		Total Molybdenum (Mo)	2006/11/02	NC		%	35
		Total Nickel (Ni)	2006/11/02	3.2		%	35
		Total Selenium (Se)	2006/11/02	NC		%	35
		Total Silver (Ag)	2006/11/02	NC		%	35
		Total Thallium (Tl)	2006/11/02	NC		%	35
		Total Tin (Sn)	2006/11/02	NC		%	35
		Total Uranium (U)	2006/11/02	NC		%	35
		Total Vanadium (V)	2006/11/02	12.9		%	35
		Total Zinc (Zn)	2006/11/02	10.1		%	35
1332906 MC3	Calibration Check	Total Aluminum (Al)	2006/11/02		96	%	80 - 120
		Total Boron (B)	2006/11/02		97	%	80 - 120
		Total Antimony (Sb)	2006/11/02		96	%	80 - 120
		Total Arsenic (As)	2006/11/02		97	%	80 - 120
		Total Barium (Ba)	2006/11/02		98	%	80 - 120
		Total Beryllium (Be)	2006/11/02		99	%	80 - 120
		Total Cadmium (Cd)	2006/11/02		98	%	80 - 120
		Total Chromium (Cr)	2006/11/02		99	%	80 - 120
		Total Cobalt (Co)	2006/11/02		101	%	80 - 120
		Total Copper (Cu)	2006/11/02		103	%	80 - 120
		Total Lead (Pb)	2006/11/02		99	%	80 - 120
		Total Molybdenum (Mo)	2006/11/02		98	%	80 - 120
	RPD	Total Nickel (Ni)	2006/11/02		101	%	80 - 120
		Total Selenium (Se)	2006/11/02		102	%	80 - 120
		Total Silver (Ag)	2006/11/02		103	%	80 - 120
		Total Thallium (Tl)	2006/11/02		97	%	80 - 120
		Total Tin (Sn)	2006/11/02		100	%	80 - 120
		Total Uranium (U)	2006/11/02		104	%	80 - 120
		Total Vanadium (V)	2006/11/02		100	%	80 - 120
		Total Zinc (Zn)	2006/11/02		100	%	80 - 120
		Total Antimony (Sb)	2006/11/02		97	%	75 - 125
		Total Arsenic (As)	2006/11/02		96	%	75 - 125
		Total Lead (Pb)	2006/11/02		82	%	75 - 125
		Total Molybdenum (Mo)	2006/11/02		106	%	75 - 125
		Total Thallium (Tl)	2006/11/02		95	%	75 - 125

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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644354

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1332769 LL2	Calibration Check	Total Copper (Cu)	2006/11/02		103	%	80 - 120	
		Total Lead (Pb)	2006/11/02		99	%	80 - 120	
		Total Molybdenum (Mo)	2006/11/02		98	%	80 - 120	
		Total Nickel (Ni)	2006/11/02		101	%	80 - 120	
		Total Selenium (Se)	2006/11/02		102	%	80 - 120	
		Total Silver (Ag)	2006/11/02		103	%	80 - 120	
		Total Thallium (Tl)	2006/11/02		97	%	80 - 120	
		Total Tin (Sn)	2006/11/02		100	%	80 - 120	
		Total Uranium (U)	2006/11/02		104	%	80 - 120	
		Total Vanadium (V)	2006/11/02		100	%	80 - 120	
		Total Zinc (Zn)	2006/11/02		100	%	80 - 120	
		MATRIX SPIKE [C87515-01]	Total Arsenic (As)	2006/11/02		97	%	75 - 125
			Total Cadmium (Cd)	2006/11/02		96	%	75 - 125
			Total Lead (Pb)	2006/11/02		82	%	75 - 125
	Total Selenium (Se)		2006/11/02		106	%	75 - 125	
	Total Thallium (Tl)		2006/11/02		95	%	75 - 125	
	BLANK		Total Antimony (Sb)	2006/11/02	<1		mg/kg	
			Total Arsenic (As)	2006/11/02	<1		mg/kg	
			Total Barium (Ba)	2006/11/02	<10		mg/kg	
			Total Beryllium (Be)	2006/11/02	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/11/02	<0.1		mg/kg		
		Total Chromium (Cr)	2006/11/02	<1		mg/kg		
		Total Cobalt (Co)	2006/11/02	<1		mg/kg		
		Total Copper (Cu)	2006/11/02	<5		mg/kg		
		Total Lead (Pb)	2006/11/02	<1		mg/kg		
		Total Molybdenum (Mo)	2006/11/02	<0.4		mg/kg		
	RPD [C87515-01]	Total Nickel (Ni)	2006/11/02	<1		mg/kg		
		Total Selenium (Se)	2006/11/02	<0.5		mg/kg		
		Total Silver (Ag)	2006/11/02	<1		mg/kg		
		Total Thallium (Tl)	2006/11/02	<0.3		mg/kg		
		Total Tin (Sn)	2006/11/02	<1		mg/kg		
		Total Uranium (U)	2006/11/02	<1		mg/kg		
		Total Vanadium (V)	2006/11/02	<1		mg/kg		
Total Zinc (Zn)		2006/11/02	<10		mg/kg			
Total Antimony (Sb)		2006/11/02	NC		%	35		
Total Arsenic (As)		2006/11/02	NC		%	35		
Total Barium (Ba)		2006/11/02	9.1		%	35		
Total Beryllium (Be)		2006/11/02	NC		%	35		
Total Cadmium (Cd)		2006/11/02	NC		%	35		
Total Chromium (Cr)		2006/11/02	6.4		%	35		
Total Cobalt (Co)		2006/11/02	1.9		%	35		
Total Copper (Cu)		2006/11/02	NC		%	35		
Total Lead (Pb)		2006/11/02	1.9		%	35		
Total Molybdenum (Mo)		2006/11/02	NC		%	35		
Total Nickel (Ni)		2006/11/02	3.2		%	35		
Total Selenium (Se)		2006/11/02	NC		%	35		
Total Silver (Ag)		2006/11/02	NC		%	35		
Total Thallium (Tl)	2006/11/02	NC		%	35			
Total Tin (Sn)	2006/11/02	NC		%	35			
Total Uranium (U)	2006/11/02	NC		%	35			
Total Vanadium (V)	2006/11/02	12.9		%	35			
Total Zinc (Zn)	2006/11/02	10.1		%	35			
1332906 MC3	Calibration Check	Total Aluminum (Al)	2006/11/02		96	%	80 - 120	
		Total Boron (B)	2006/11/02		97	%	80 - 120	



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256.0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: EA644354

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1332906 MC3	Calibration Check	Total Calcium (Ca)	2006/11/02	98	%		80 - 120
		Total Iron (Fe)	2006/11/02	95	%		80 - 120
		Total Lithium (Li)	2006/11/02	103	%		80 - 120
		Total Magnesium (Mg)	2006/11/02	97	%		80 - 120
		Total Manganese (Mn)	2006/11/02	94	%		80 - 120
		Total Phosphorus (P)	2006/11/02	98	%		80 - 120
		Total Potassium (K)	2006/11/02	101	%		80 - 120
		Total Sodium (Na)	2006/11/02	102	%		80 - 120
		Total Strontium (Sr)	2006/11/02	95	%		80 - 120
		Total Aluminum (Al)	2006/11/02	100	%		75 - 125
		Total Boron (B)	2006/11/02	104	%		80 - 120
		Total Calcium (Ca)	2006/11/02	87	%		75 - 125
		Total Iron (Fe)	2006/11/02	92	%		75 - 125
		Total Lithium (Li)	2006/11/02	103	%		75 - 125
		Total Magnesium (Mg)	2006/11/02	100	%		75 - 125
		Total Manganese (Mn)	2006/11/02	95	%		75 - 125
		Total Phosphorus (P)	2006/11/02	98	%		75 - 125
		Total Potassium (K)	2006/11/02	102	%		75 - 125
		Total Sodium (Na)	2006/11/02	108	%		75 - 125
		Total Strontium (Sr)	2006/11/02	95	%		75 - 125
		Total Aluminum (Al)	2006/11/02	<10		mg/kg	
		Total Boron (B)	2006/11/02	<2		mg/kg	
		Total Calcium (Ca)	2006/11/02	<50		mg/kg	
		Total Iron (Fe)	2006/11/02	<10		mg/kg	
		Total Lithium (Li)	2006/11/02	<10		mg/kg	
		Total Magnesium (Mg)	2006/11/02	<20		mg/kg	
		Total Manganese (Mn)	2006/11/02	<10		mg/kg	
		Total Phosphorus (P)	2006/11/02	<20		mg/kg	
		Total Potassium (K)	2006/11/02	<30		mg/kg	
		Total Sodium (Na)	2006/11/02	<50		mg/kg	
		Total Strontium (Sr)	2006/11/02	<10		mg/kg	
		Total Sulphur (S)	2006/11/02	<20		mg/kg	
		Total Aluminum (Al)	2006/11/02	0.05		%	35
		Total Boron (B)	2006/11/02	2.2		%	35
		Total Calcium (Ca)	2006/11/02	0.3		%	35
		Total Iron (Fe)	2006/11/02	0.6		%	35
		Total Lithium (Li)	2006/11/02	NC		%	35
		Total Magnesium (Mg)	2006/11/02	0.2		%	35
		Total Manganese (Mn)	2006/11/02	0.2		%	35
		Total Phosphorus (P)	2006/11/02	1.3		%	35
		Total Potassium (K)	2006/11/02	0.1		%	35
		Total Sodium (Na)	2006/11/02	NC		%	35
		Total Strontium (Sr)	2006/11/02	0.4		%	35
		Total Sulphur (S)	2006/11/02	0.4		%	35

N/A = Not Applicable

NC = Non-calculable

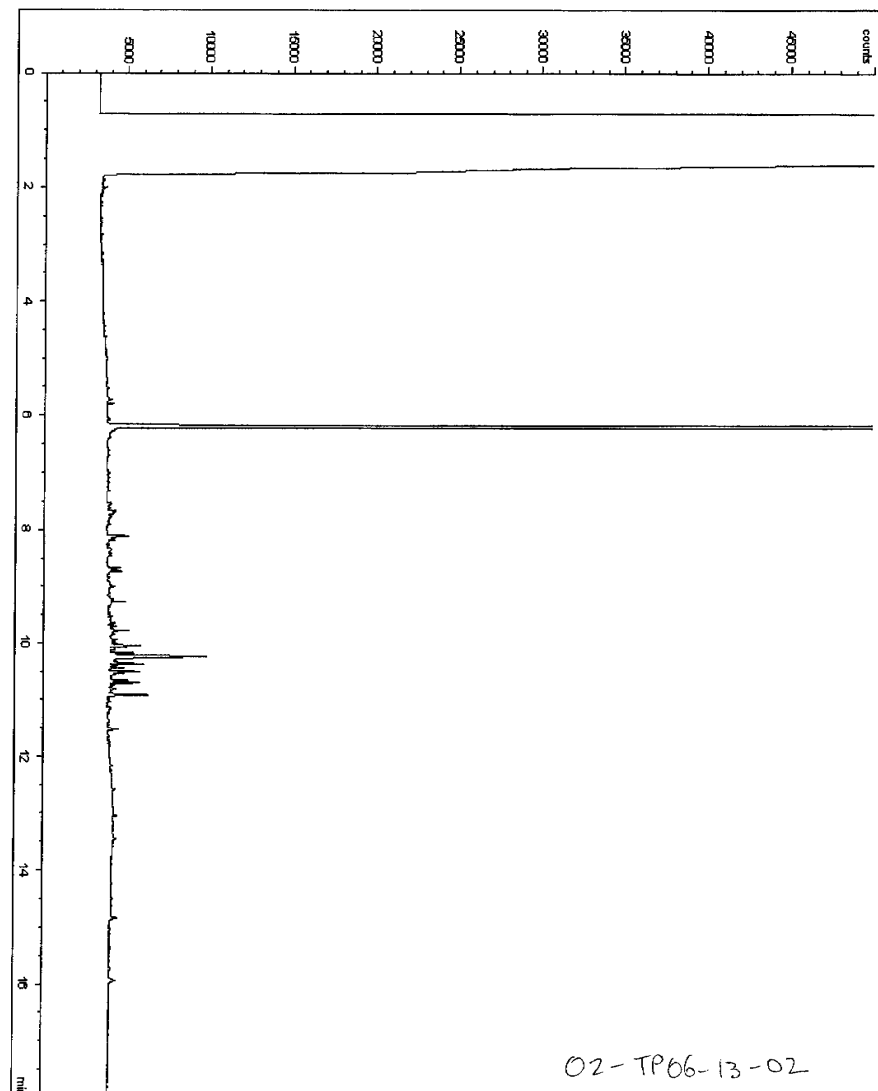
RPD = Relative Percent Difference

(1) Please note that the recovery of some compounds is outside control limits however the overall quality control for this analysis meets our acceptability criteria.

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Data File D:\HPCHEM\1\DATA\GCA0925A\034B3501.D

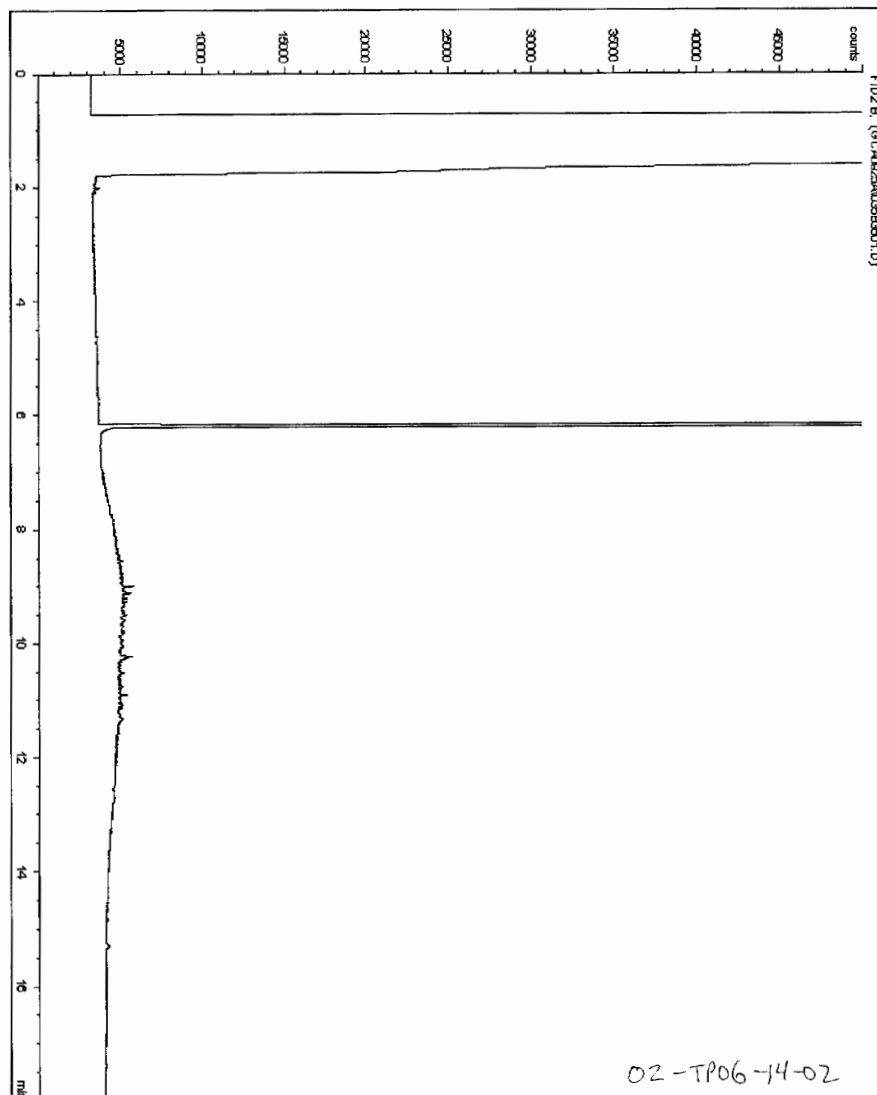
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Sample Name: C87507



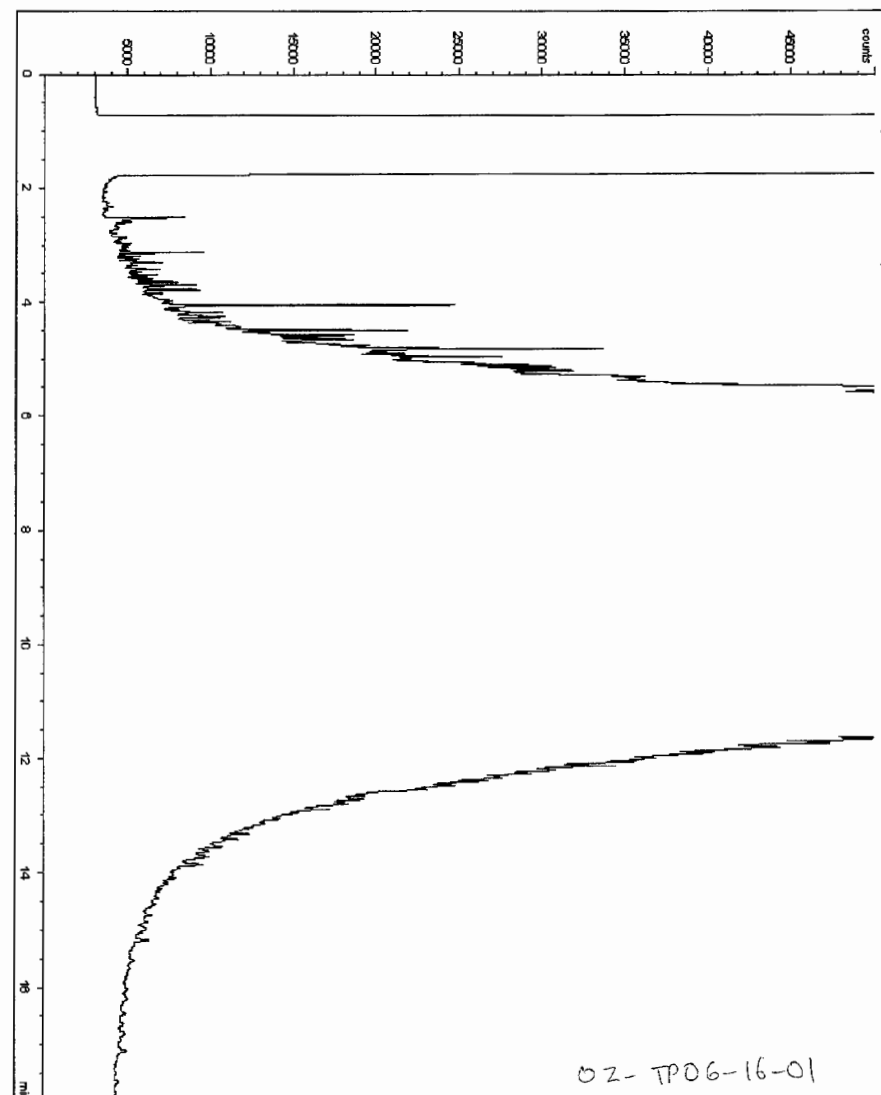
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Instrument 1 2007/01/11 11:02:39 AM KRIS

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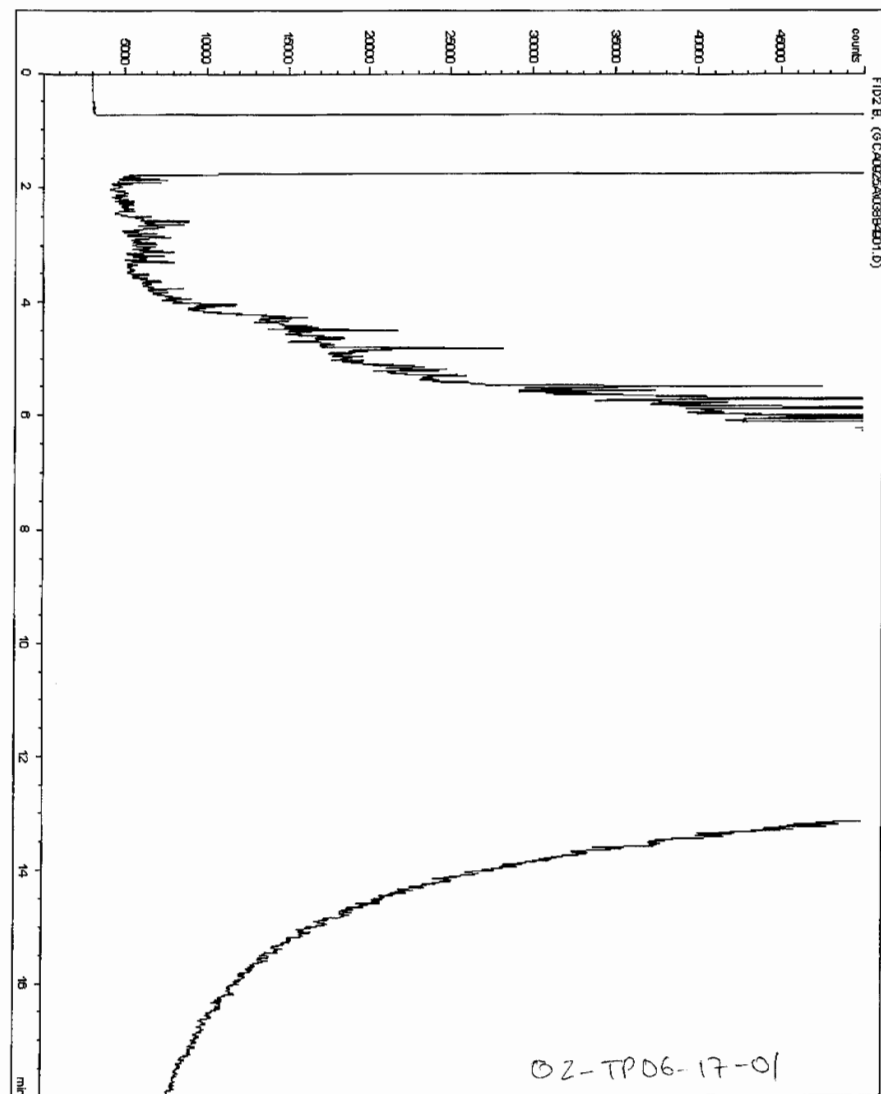
Sample Name: C87515



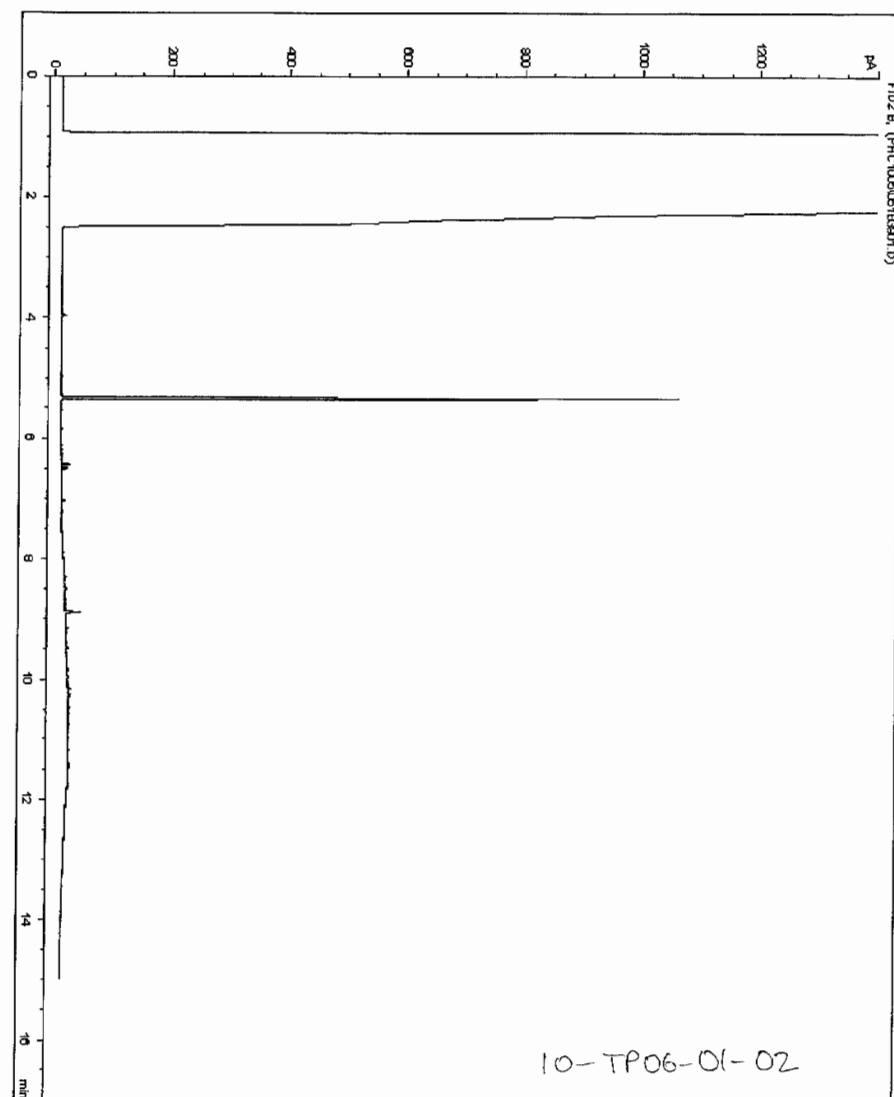
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Instrument 1 2007/01/11 11:03:13 AM KRIS

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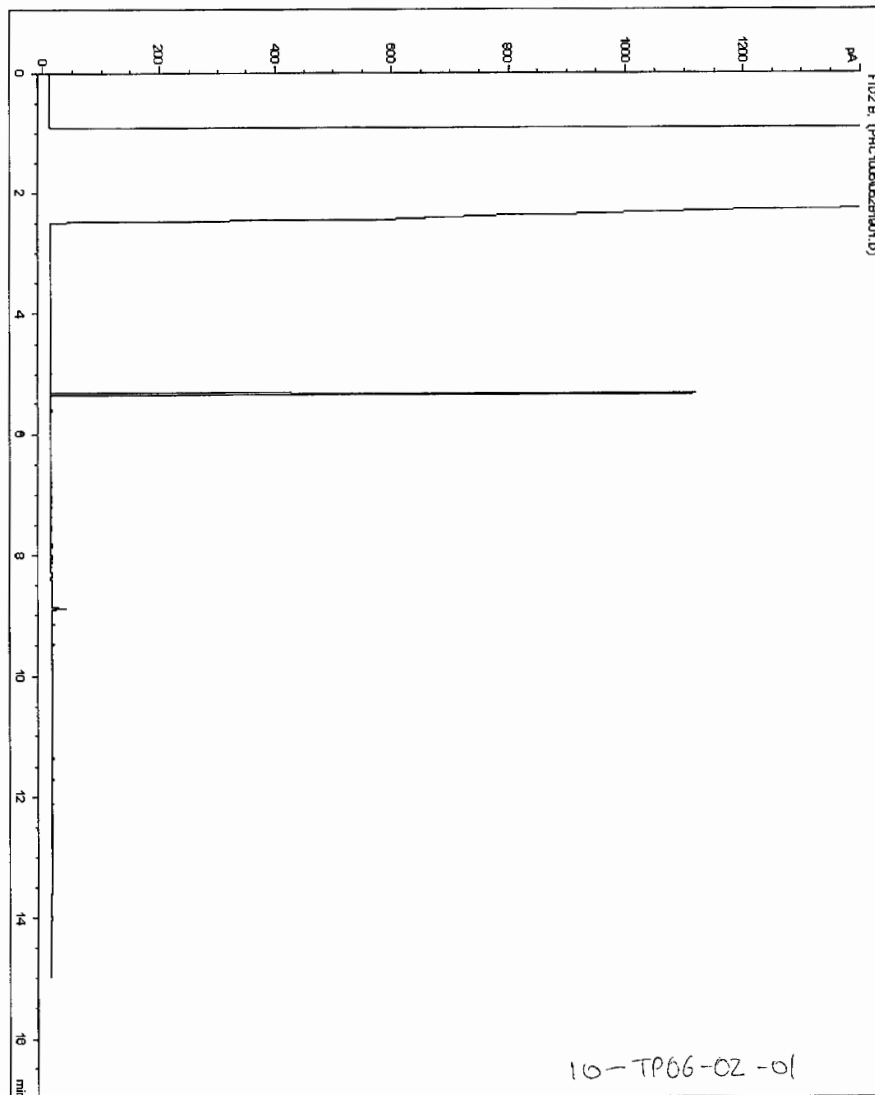
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*** End of Report ***

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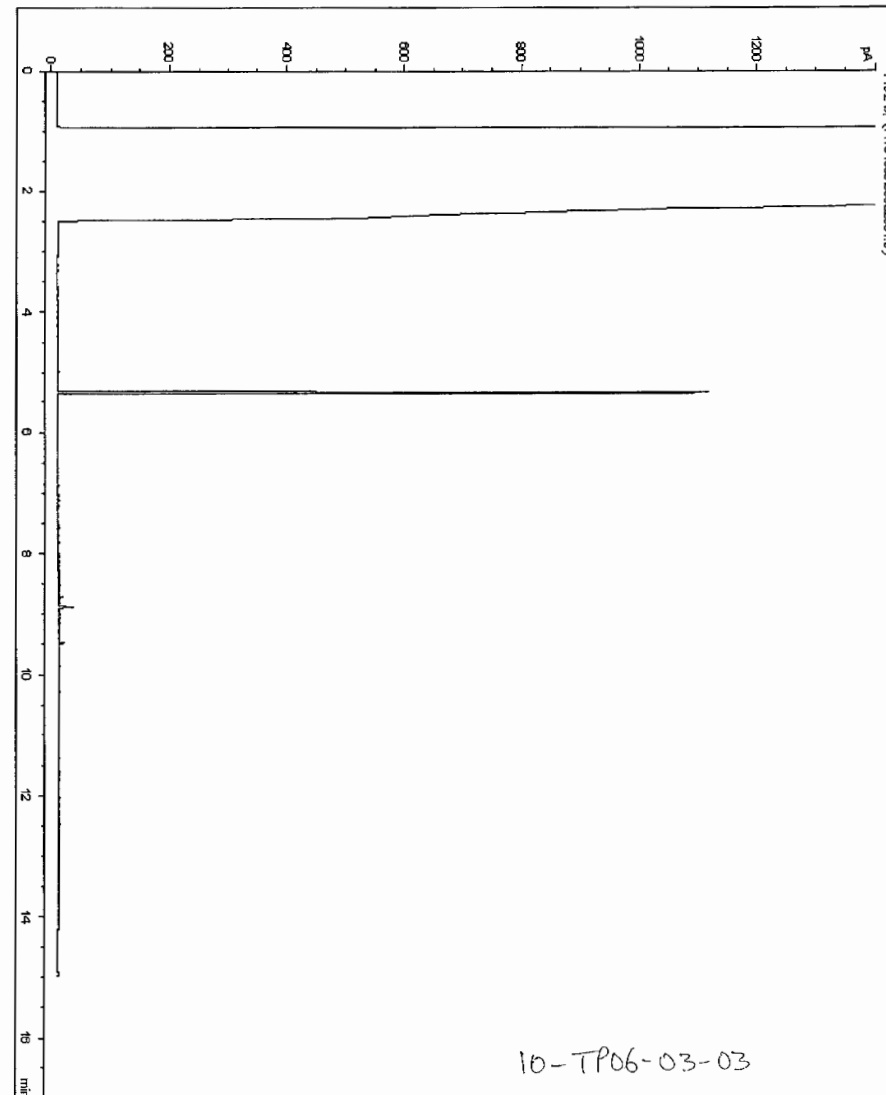
Sample Name: C87524



*** End of Report ***

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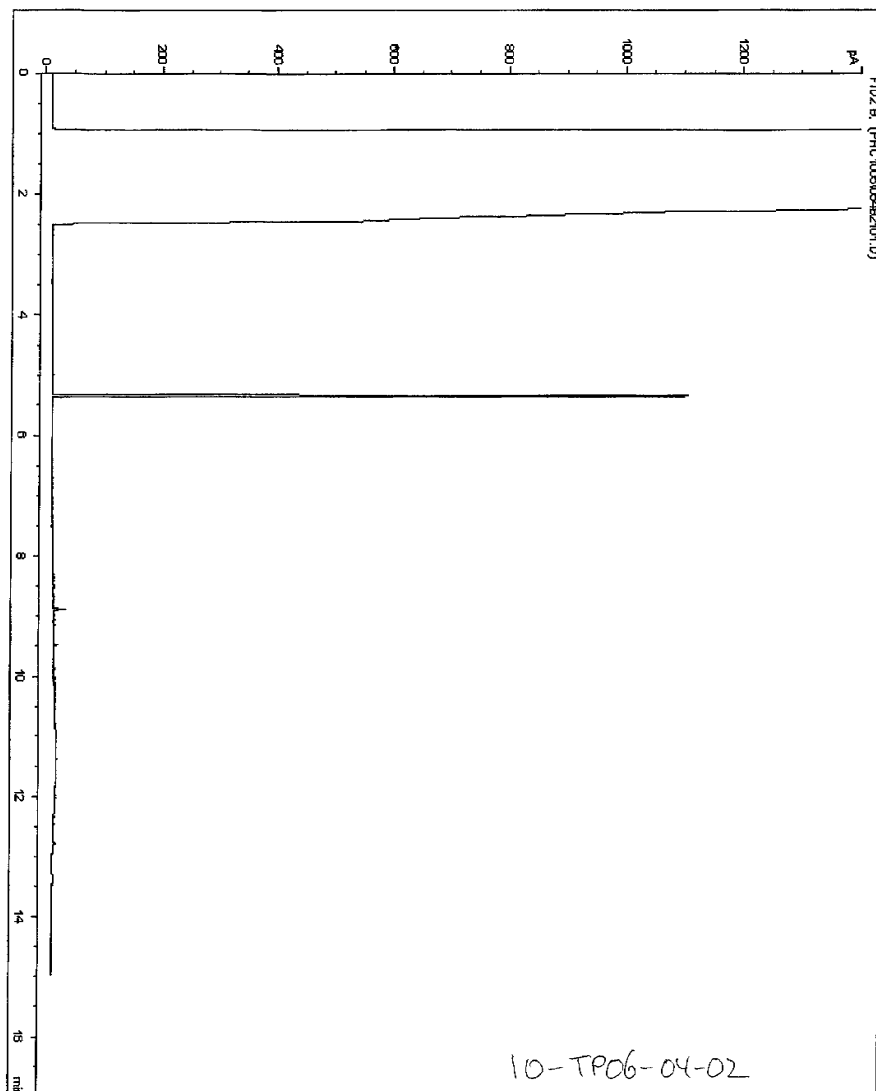
Sample Name: C87531



*** End of Report ***

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Sample Name: C87534



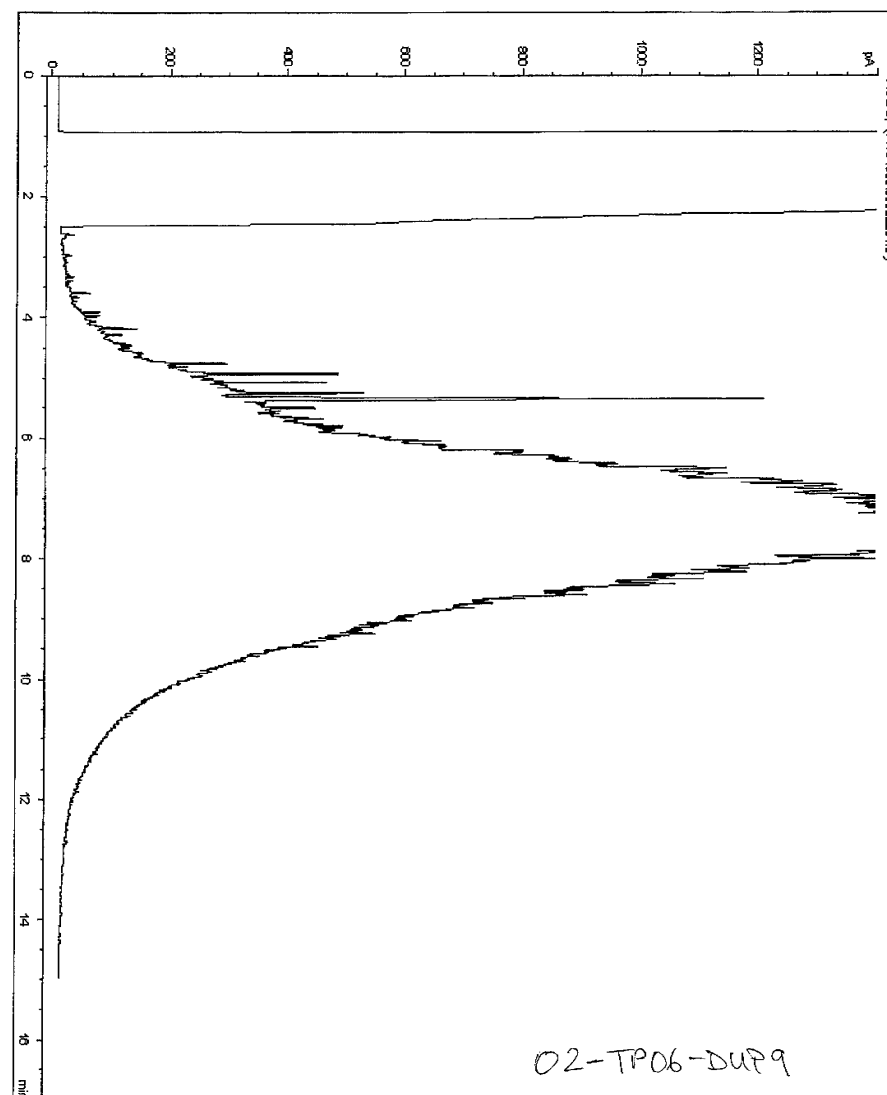
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Instrument 1 2007/01/11 10:53:27 AM KRIS

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Data File C:\HPCHEM\1\DATA\PHC1005\055B2201.D

Sample Name: C87537



*** End of Report ***

Instrument 1 2007/01/11 10:53:30 AM KRIS

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Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115785

Attention: **MICHAEL MUTTERSACH**
FRANZ ENVIRONMENTAL INC.
FRANZEN-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/10/27

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A644374
Received: 2006/09/22, 14:30

Sample Matrix: Leachate
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury (Leachable) ☉	2	2006/10/20	2006/10/20	BRN SOP-00044 V1.0	Based on EPA 245.1
Metals - SWFP undigested ☉	2	2006/10/18	2006/10/19	BRN SOP-00051 V1.0	BC Reg 63/88

Sample Matrix: Soil
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Boron (Hot Water Soluble)	1	N/A	2006/09/25	EENVSOP-00034 v1	Carter SSMA 12.2.2
BTEX by HS GC/MS (MeOH extract)	4	2006/09/23	2006/09/25	EENVSOP-00003 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	1	2006/09/23	2006/09/27	EENVSOP-00005 V.2	EPA 8260B/5021A
BTEX by HS GC/MS (MeOH extract)	1	2006/10/04	2006/10/05	EENVSOP-00005 V.2	EPA 8260B/5021A
Hexavalent Chromium ☉	1	2006/09/26	2006/09/26	EENVSOP-00067 v4	SM 3500-Cr B
Hexavalent Chromium ☉	2	2006/10/24	2006/10/24	EENVSOP-00067 v4	SM 3500-Cr B
P1-BTEX Soil Cal	5	2006/09/23	2006/09/23		
P1-BTEX Soil Cal	2	2006/10/05	2006/10/05		
CCME Hydrocarbons (F1; MeOH; HSGC)	9	2006/09/23	2006/09/25	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F1; MeOH; HSGC)	5	2006/10/05	2006/10/05	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F1; MeOH; HSGC)	1	2006/10/06	2006/10/07	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (P2-P4 in soil)	9	2006/09/26	2006/09/26	EENVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (P2-P4 in soil)	3	2006/10/05	2006/10/05	EENVSOP-00007 v4	CWS PHCS Tier 1
CCME Hydrocarbons (P2-P4 in soil)	2	2006/10/10	2006/10/10	EENVSOP-00007 v4	CWS PHCS Tier 1
Mercury in Soil by CVAA	1	N/A	2006/09/26	EENVSOP-00032 V.1	EPA SW846 7471B
Elements by ICP - Soils	1	N/A	2006/10/10	EENVSOP-00034 v1	EPA 6010C
Elements by ICP - Soils	1	N/A	2006/10/26	EENVSOP-00034 v1	EPA 6010C
Elements by ICP - Soils	2	N/A	2006/10/27	EENVSOP-00034 v1	EPA 6010C
Elements by ICPMS - Soils	1	N/A	2006/09/26	EENVSOP-00123 v2	EPA 6020A
Elements by ICPMS - Soils	1	N/A	2006/10/10	EENVSOP-00123 v2	EPA 6020A
Elements by ICPMS - Soils	2	N/A	2006/10/26	EENVSOP-00123 v2	EPA 6020A
Moisture	4	N/A	2006/09/23	EENVWI-00023 v2	Carter SSMA 51.2
Moisture	5	N/A	2006/09/25	EENVWI-00023 v2	Carter SSMA 51.2
Moisture	5	N/A	2006/10/05	EENVWI-00023 v2	Carter SSMA 51.2
Moisture	2	N/A	2006/10/06	EENVWI-00023 v2	Carter SSMA 51.2
PAH in Soil by GC/MS (Extended)	3	2006/09/25	2006/09/26	EENVSOP-00010 v3	EPA 3510C/8270D
PAH in Soil by GC/MS (Extended)	2	2006/09/29	2006/10/02	EENVSOP-00010 v3	EPA 3510C/8270D
Polychlorinated Biphenyls ☉	2	N/A	2006/10/13	CAL SOP-00149	GC/ECD-EXTRACTION
VOCs in Soil by P&T GC/MS (Std List)	2	N/A	2006/10/05	EENVSOP-00003 V.3	EPA SW845 8260 B

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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 458-4187

.J2



Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115785

Attention: **MICHAEL MUTTERSACH**
FRANZ ENVIRONMENTAL INC.
FRANZEN-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/10/27

CERTIFICATE OF ANALYSIS

-2-

- (1) This test was performed by Maxxam Vancouver
- (2) This test was performed by Maxxam Calgary
- (3) Results reported on a dry weight basis.

Encryption Key

 Jeremy Wakaruk
27 Oct 2006 04:52:48 -0800

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

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ELEMENTS BY ATOMIC SPECTROSCOPY (LEACHATE)

Maxxam ID		C87833	C87836		
Sampling Date		2006/09/20	2006/09/20		
COC Number		115785	115785		
	Units	09-TP06-01-03	09-TP06-02-01	RDL	QC Batch

Elements					
Leachable Mercury (Hg)	ug/L	<0.05	<0.05	0.05	1315909
Leachable Metals					
Leachable (SWEP) Arsenic (As)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Barium (Ba)	mg/L	0.4	0.6	0.1	1314691
Leachable (SWEP) Boron (B)	mg/L	0.1	<0.1	0.1	1314691
Leachable (SWEP) Cadmium (Cd)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Chromium (Cr)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Copper (Cu)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Lead (Pb)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Molybdenum (Mo)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Selenium (Se)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Silver (Ag)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Uranium (U)	mg/L	<0.1	<0.1	0.1	1314691
Leachable (SWEP) Zinc (Zn)	mg/L	0.2	<0.1	0.1	1314691

RDL = Reportable Detection Limit

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C87832	C87833	C87836	C87837		
Sampling Date		2006/09/20	2006/09/20	2006/09/20	2006/09/20		
COC Number		115785	115785	115785	115785		
	Units	09-TP06-01-02	09-TP06-01-03	09-TP06-02-01	09-TP06-02-02	RDL	QC Batch

Elements							
Hex. Chromium (Cr 6+)	mg/kg		<0.2	<0.2		0.2	1318988
Physical Properties							
Moisture	%	5.9	16.4	9.4	17.2	0.3	1296803
RDL = Reportable Detection Limit							

Maxxam ID		C87839	C87842		C87847		
Sampling Date		2006/09/20	2006/09/20		2006/09/20		
COC Number		115785	115785		115785		
	Units	08-TP06-01-01	08-TP06-02-01	QC Batch	08-TP06-03-01	RDL	QC Batch

Elements							
Soluble (Hot water) Boron (B)	mg/kg			1283806	5.9	0.1	1283806
Hex. Chromium (Cr 6+)	mg/kg			1318988	<0.2	0.2	1285447
Mercury (Hg)	mg/kg				0.10	0.05	1284758
Physical Properties							
Moisture	%	12.9	14.8	1282388	26.5	0.3	1282388
RDL = Reportable Detection Limit							

Maxxam ID		C87848		C87851	C87855		
Sampling Date		2006/09/20		2006/09/20	2006/09/20		
COC Number		115785		115785	115785		
	Units	08-TP06-03-02	QC Batch	08-TP06-04-02	08-TP06-05-01	RDL	QC Batch

Physical Properties							
Moisture	%	18.2	1298328	13.7	14.2	0.3	1282947
RDL = Reportable Detection Limit							



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C87858	C87861		C87864		
Sampling Date		2006/09/20	2006/09/20		2006/09/20		
COC Number		115785	115785		115785		
	Units	08-TP06-05-01	08-TP06-07-01	QC Batch	08-TP06-07-04	RDL	QC Batch

Physical Properties							
Moisture	%	18.5	19.9	1282947	17.0	0.3	1282388

RDL = Reportable Detection Limit

Maxxam ID		C87865		C87866			
Sampling Date		2006/09/20		2006/09/20			
COC Number		115785		115785			
	Units	08-TP06-07-05	QC Batch	08-TP06-DUP-10	RDL	QC Batch	

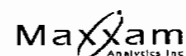
Physical Properties							
Moisture	%	18.7	1298328	12.1	0.3	1296803	

RDL = Reportable Detection Limit

Maxxam ID		C87867					
Sampling Date		2006/09/20					
COC Number		115785					
	Units	08-GRA06-01-01	RDL	QC Batch			

Physical Properties							
Moisture	%	5.4	0.3	1282947			

RDL = Reportable Detection Limit



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87832	C87833	C87836			
Sampling Date		2006/09/20	2006/09/20	2006/09/20			
COC Number		115785	115785	115785			
	Units	09-TP06-01-02	09-TP06-01-03	09-TP06-02-01	RDL	QC Batch	

Ext. Pet. Hydrocarbon							
F1 (C06-C10)	mg/kg	<10	<10	<10	10	1296823	
F1 (C06-C10) - BTEX	mg/kg	<10			10	1296645	
F2 (C10-C16 Hydrocarbons)	mg/kg		<10	<10	10	1296502	
F3 (C16-C34 Hydrocarbons)	mg/kg		132	<10	10	1296502	
F4 (C34-C50 Hydrocarbons)	mg/kg		99	<10	10	1296502	
Reached Baseline at C50	mg/kg		Yes	Yes	1	1296502	
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	91	103	103		1296823	
O-TERPHENYL (sur.)	%		78	79		1296502	

RDL = Reportable Detection Limit

Maxxam ID		C87837		C87839	C87842		
Sampling Date		2006/09/20		2006/09/20	2006/09/20		
COC Number		115785		115785	115785		
	Units	09-TP06-02-02	QC Batch	08-TP06-01-01	08-TP06-02-01	RDL	QC Batch

Ext. Pet. Hydrocarbon							
F1 (C06-C10)	mg/kg	<10	1296823	<10	<10	10	1282387
F1 (C06-C10) - BTEX	mg/kg	<10	1296645	<10	<10	10	1282425
F2 (C10-C16 Hydrocarbons)	mg/kg		1296502	15	14	10	1284284
F3 (C16-C34 Hydrocarbons)	mg/kg		1296502	173	95	10	1284284
F4 (C34-C50 Hydrocarbons)	mg/kg		1296502	277	65	10	1284284
Reached Baseline at C50	mg/kg		1296502	Yes	Yes	1	1284284
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	100	1296823	94	97		1282387
O-TERPHENYL (sur.)	%		1296502	82	84		1284284

RDL = Reportable Detection Limit

PETROLEUM HYDROCARBONS (CCME)

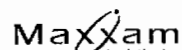
Maxxam ID		C87847		C87848		
Sampling Date		2006/09/20		2006/09/20		
COC Number		115785		115785		
Units 08-TP06-03-01 QC Batch 08-TP06-03-02 RDL QC Batch						
Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	278	1282387		10	1282387
F1 (C06-C10) - BTEX	mg/kg	278	1282425		10	1282425
F2 (C10-C16 Hydrocarbons)	mg/kg	423	1284284	19	10	1300135
F3 (C16-C34 Hydrocarbons)	mg/kg	12800	1284284	73	10	1300135
F4 (C34-C50 Hydrocarbons)	mg/kg	7090	1284284	26	10	1300135
Reached Baseline at C50	mg/kg	No	1284284	Yes	1	1300135
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	90	1282387			
O-TERPHENYL (sur.)	%	85	1284284	89		1300135
RDL = Reportable Detection Limit						

Maxxam ID		C87851	C87855	C87858		
Sampling Date		2006/09/20	2006/09/20	2006/09/20		
COC Number		115785	115785	115785		
Units 08-TP06-04-02 08-TP06-05-01 08-TP06-06-01 RDL QC Batch						
Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	16	<10	<10	10	1282166
F2 (C10-C16 Hydrocarbons)	mg/kg	17	12	<10	10	1284284
F3 (C16-C34 Hydrocarbons)	mg/kg	111	221	23	10	1284284
F4 (C34-C50 Hydrocarbons)	mg/kg	57	113	<10	10	1284284
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	1	1284284
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	93	90	93		1282166
O-TERPHENYL (sur.)	%	84	94	95		1284284
RDL = Reportable Detection Limit						

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87861		C87864		
Sampling Date		2006/09/20		2006/09/20		
COC Number		115785		115785		
Units 08-TP06-07-01 QC Batch 08-TP06-07-04 RDL QC Batch						
Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	85	1282166	901	10	1282387
F1 (C06-C10) - BTEX	mg/kg			900	10	1282425
F2 (C10-C16 Hydrocarbons)	mg/kg	1080	1284284	5020	10	1284284
F3 (C16-C34 Hydrocarbons)	mg/kg	298	1284284	841	10	1284284
F4 (C34-C50 Hydrocarbons)	mg/kg	<10	1284284	<10	10	1284284
Reached Baseline at C50	mg/kg	Yes	1284284	Yes	1	1284284
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	91	1282166	89		1282387
O-TERPHENYL (sur.)	%	82	1284284	100		1284284
RDL = Reportable Detection Limit						

Maxxam ID		C87865		C87866		
Sampling Date		2006/09/20		2006/09/20		
COC Number		115785		115785		
Units 08-TP06-07-05 QC Batch 08-TP06-DUP-10 RDL QC Batch						
Ext. Pet. Hydrocarbon						
F1 (C06-C10)	mg/kg	<10	1296327	<10	10	1296823
F2 (C10-C16 Hydrocarbons)	mg/kg	13	1300135	<10	10	1296502
F3 (C16-C34 Hydrocarbons)	mg/kg	19	1300135	150	10	1296502
F4 (C34-C50 Hydrocarbons)	mg/kg	<10	1300135	75	10	1296502
Reached Baseline at C50	mg/kg	Yes	1300135	Yes	1	1296502
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	111	1296327	112		1296823
O-TERPHENYL (sur.)	%	91	1300135	78		1296502
RDL = Reportable Detection Limit						



Maxxam Job #: A644374
Report Date: 2006/10/27

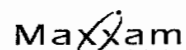
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Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		C87867		
Sampling Date		2006/09/20		
COC Number		115785		
	Units	06-GRAB06-01-01	RDL QC Batch	

Ext. Pet. Hydrocarbon				
F1 (C06-C10)	mg/kg	<10	10	1282166
F1 (C06-C10) - BTEX	mg/kg	<10	10	1282425
F2 (C10-C16 Hydrocarbons)	mg/kg	12	10	1284284
F3 (C16-C34 Hydrocarbons)	mg/kg	199	10	1284284
F4 (C34-C50 Hydrocarbons)	mg/kg	<10	10	1284284
Reached Baseline at C50	mg/kg	Yes	1	1284284
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	94		1282166
O-TERPHENYL (sur.)	%	87		1284284

RDL = Reportable Detection Limit



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID		C87832	C87837		
Sampling Date		2006/09/20	2006/09/20		
COC Number		115785	115785		
	Units	09-TP06-01-02	09-TP06-02-02	RDL QC Batch	

Polychlorinated Biphenyls					
Aroclor 1016	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1221	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1232	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1242	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1248	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1254	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1260	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1262	mg/kg	<0.01	<0.01	0.01	1305653
Aroclor 1268	mg/kg	<0.01	<0.01	0.01	1305653
Total Aroclors	mg/kg	<0.01	<0.01	0.01	1305653
Surrogate Recovery (%)					
NONACHLOROBIPHENYL (sur.)	%	96	93		1305653

RDL = Reportable Detection Limit

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87832	C87837	C87847			
Sampling Date	2006/09/20	2006/09/20	2006/09/20			
COC Number	115785	115785	115785			
	Units	09-TP05-01-02	09-TP05-02-02	QC Batch	08-TP08-03-01	RDL QC Batch
Polycyclic Aromatics						
Naphthalene	mg/kg	<0.05	<0.05	1289491	0.34	0.05 1282944
2-Methylnaphthalene	mg/kg	<0.05	<0.05	1289491	0.71	0.05 1282944
Acenaphthylene	mg/kg	<0.05	<0.05	1289491	0.05	0.05 1282944
Acenaphthene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Fluorene	mg/kg	<0.05	<0.05	1289491	0.08	0.05 1282944
Phenanthrene	mg/kg	<0.05	<0.05	1289491	0.19	0.05 1282944
Anthracene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Fluoranthene	mg/kg	<0.05	<0.05	1289491	0.14	0.05 1282944
Pyrene	mg/kg	<0.05	<0.05	1289491	0.35	0.05 1282944
Benzo(a)anthracene	mg/kg	<0.05	<0.05	1289491	0.08	0.05 1282944
Chrysene	mg/kg	<0.05	<0.05	1289491	0.12	0.05 1282944
Benzo(b&l)fluoranthene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Benzo(a)pyrene	mg/kg	<0.05	<0.05	1289491	0.06	0.05 1282944
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	1289491	<0.05	0.05 1282944
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	91	119	1289491	123	1282944
D12-BENZO(A)PYRENE (sur.)	%	117	86	1289491	111	1282944
D8-ACENAPHTHYLENE (sur.)	%	121	123	1289491	122	1282944
TERPHENYL-D14 (sur.)	%	120	120	1289491	125	1282944
RDL = Reportable Detection Limit						

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87864	C87867				
Sampling Date	2006/09/20	2006/09/20				
COC Number	115785	115785				
	Units	08-TP06-07-04	08-GRAB06-01-01	RDL	QC Batch	
Polycyclic Aromatics						
Naphthalene	mg/kg	<0.05	<0.05	0.05	1282944	
2-Methylnaphthalene	mg/kg	2.2	0.06	0.05	1282944	
Acenaphthylene	mg/kg	0.12	<0.05	0.05	1282944	
Acenaphthene	mg/kg	0.17	<0.05	0.05	1282944	
Fluorene	mg/kg	0.50	<0.05	0.05	1282944	
Phenanthrene	mg/kg	0.60	0.16	0.05	1282944	
Anthracene	mg/kg	<0.05	<0.05	0.05	1282944	
Fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944	
Pyrene	mg/kg	<0.05	<0.05	0.05	1282944	
Benzo(a)anthracene	mg/kg	<0.05	<0.05	0.05	1282944	
Chrysene	mg/kg	<0.05	<0.05	0.05	1282944	
Benzo(b&l)fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944	
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	0.05	1282944	
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.05	1282944	
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	0.05	1282944	
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	0.05	1282944	
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	0.05	1282944	
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	121	123		1282944	
D12-BENZO(A)PYRENE (sur.)	%	112	105		1282944	
D8-ACENAPHTHYLENE (sur.)	%	117	122		1282944	
TERPHENYL-D14 (sur.)	%	123	122		1282944	
RDL = Reportable Detection Limit						



Maxxam Job #: A644374
Report Date: 2006/10/27

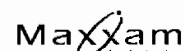
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID	C87833	C87836	C87847		
Sampling Date	2006/09/20	2006/09/20	2006/09/20		
COC Number	115785	115785	115785		
	Units	09-TP06-01-03	09-TP06-02-01	QC Batch	08-TP06-03-01

Elements						
Total Aluminum (Al)	mg/kg	6920	4500	1324731	11000	10 1322914
Total Antimony (Sb)	mg/kg	<1	<1	1323123	2	1 1284161
Total Arsenic (As)	mg/kg	12	10	1323123	30	1 1284161
Total Barium (Ba)	mg/kg	164	143	1323123	216	10 1284161
Total Beryllium (Be)	mg/kg	0.8	0.6	1323123	0.7	0.4 1284161
Total Boron (B)	mg/kg	12	12	1324731	27	2 1322914
Total Cadmium (Cd)	mg/kg	0.9	0.4	1323123	4.1	0.1 1284161
Total Calcium (Ca)	mg/kg	79800	119000	1324731	45700	50 1322914
Total Chromium (Cr)	mg/kg	31	27	1323123	34	1 1284161
Total Cobalt (Co)	mg/kg	13	11	1323123	13	1 1284161
Total Copper (Cu)	mg/kg	31	25	1323123	65	5 1284161
Total Iron (Fe)	mg/kg	37500	17500	1324731	64000	10 1322914
Total Lead (Pb)	mg/kg	28	15	1323123	371	1 1284161
Total Lithium (Li)	mg/kg	11	<10	1324731	15	10 1322914
Total Magnesium (Mg)	mg/kg	37400	65400	1324731	15200	20 1322914
Total Manganese (Mn)	mg/kg	532	771	1324731	1930	10 1322914
Total Molybdenum (Mo)	mg/kg	1.4	0.7	1323123	3.2	0.4 1284161
Total Nickel (Ni)	mg/kg	26	22	1323123	30	1 1284161
Total Phosphorus (P)	mg/kg	517	598	1324731	3000	20 1322914
Total Potassium (K)	mg/kg	793	819	1324731	1400	30 1322914
Total Selenium (Se)	mg/kg	0.7	<0.5	1323123	0.6	0.5 1284161
Total Silver (Ag)	mg/kg	<1	<1	1323123	<1	1 1284161
Total Sodium (Na)	mg/kg	157	158	1324731	225	50 1322914
Total Strontium (Sr)	mg/kg	48	52	1324731	94	10 1322914
Total Sulphur (S)	mg/kg	1480	1260	1324731	3890	20 1322914
Total Thallium (Tl)	mg/kg	<0.3	<0.3	1323123	<0.3	0.3 1284161
Total Tin (Sn)	mg/kg	<1	<1	1323123	6	1 1284161
Total Vanadium (V)	mg/kg	22	15	1323123	31	1 1284161
Total Zinc (Zn)	mg/kg	120	56	1323123	643	10 1284161

RDL = Reportable Detection Limit



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID	C87848		
Sampling Date	2006/09/20		
COC Number	115785		
	Units	08-TP06-03-02	RDL QC Batch

Elements			
Total Aluminum (Al)	mg/kg	9650	10 1300559
Total Antimony (Sb)	mg/kg	<1	1 1300593
Total Arsenic (As)	mg/kg	23	1 1300593
Total Barium (Ba)	mg/kg	327	10 1300593
Total Beryllium (Be)	mg/kg	0.8	0.4 1300593
Total Boron (B)	mg/kg	6	2 1300559
Total Cadmium (Cd)	mg/kg	0.4	0.1 1300593
Total Calcium (Ca)	mg/kg	7600	50 1300559
Total Chromium (Cr)	mg/kg	57	1 1300593
Total Cobalt (Co)	mg/kg	16	1 1300593
Total Copper (Cu)	mg/kg	30	5 1300593
Total Iron (Fe)	mg/kg	30100	10 1300559
Total Lead (Pb)	mg/kg	20	1 1300593
Total Lithium (Li)	mg/kg	21	10 1300559
Total Magnesium (Mg)	mg/kg	3630	20 1300559
Total Manganese (Mn)	mg/kg	298	10 1300559
Total Molybdenum (Mo)	mg/kg	1.2	0.4 1300593
Total Nickel (Ni)	mg/kg	43	1 1300593
Total Phosphorus (P)	mg/kg	2630	20 1300559
Total Potassium (K)	mg/kg	725	30 1300559
Total Selenium (Se)	mg/kg	1.1	0.5 1300593
Total Silver (Ag)	mg/kg	<1	1 1300593
Total Sodium (Na)	mg/kg	132	50 1300559
Total Strontium (Sr)	mg/kg	65	10 1300559
Total Sulphur (S)	mg/kg	241	20 1300559
Total Thallium (Tl)	mg/kg	<0.3	0.3 1300593
Total Tin (Sn)	mg/kg	<1	1 1300593
Total Vanadium (V)	mg/kg	53	1 1300593
Total Zinc (Zn)	mg/kg	144	10 1300593

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87832	C87837		
Sampling Date	2006/09/20	2006/09/20		
COC Number	115785	115785		
	Units	09-TP06-01-02	09-TP06-02-02	RDL QC Batch

Volatiles				
Benzene	mg/kg	<0.005	<0.005	0.005 1296631
Bromodichloromethane	mg/kg	<0.03	<0.03	0.03 1296631
Bromoform	mg/kg	<0.05	<0.05	0.05 1296631
Bromomethane	mg/kg	<0.02	<0.02	0.02 1296631
Carbon tetrachloride	mg/kg	<0.02	<0.02	0.02 1296631
Chlorobenzene	mg/kg	<0.02	<0.02	0.02 1296631
Chlorodibromomethane	mg/kg	<0.02	<0.02	0.02 1296631
Chloroethane	mg/kg	<0.02	<0.02	0.02 1296631
Chloroform	mg/kg	<0.02	<0.02	0.02 1296631
Chloromethane	mg/kg	<0.03	<0.03	0.03 1296631
1,2-dibromoethane	mg/kg	<0.02	<0.02	0.02 1296631
1,2-dichlorobenzene	mg/kg	<0.02	<0.02	0.02 1296631
1,4-dichlorobenzene	mg/kg	<0.02	<0.02	0.02 1296631
1,1-dichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
1,2-dichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
1,1-dichloroethene	mg/kg	<0.02	<0.02	0.02 1296631
cis-1,2-dichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
trans-1,2-dichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
Dichloromethane	mg/kg	<0.1	<0.1	0.1 1296631
1,2-dichloropropane	mg/kg	<0.02	<0.02	0.02 1296631
cis-1,3-dichloropropene	mg/kg	<0.02	<0.02	0.02 1296631
trans-1,3-dichloropropene	mg/kg	<0.02	<0.02	0.02 1296631
Ethylbenzene	mg/kg	<0.01	<0.01	0.01 1296631
Styrene	mg/kg	<0.02	<0.02	0.02 1296631
1,1,1,2-tetrachloroethane	mg/kg	<0.1	<0.1	0.1 1296631
1,1,2,2-tetrachloroethane	mg/kg	<0.1	<0.1	0.1 1296631
Tetrachloroethene	mg/kg	<0.02	<0.02	0.02 1296631
Toluene	mg/kg	<0.02	<0.02	0.02 1296631
1,1,1-trichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
1,1,2-trichloroethane	mg/kg	<0.02	<0.02	0.02 1296631
Trichloroethene	mg/kg	<0.02	<0.02	0.02 1296631
Trichlorofluoromethane	mg/kg	<0.02	<0.02	0.02 1296631

RDL = Reportable Detection Limit

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID	C87832	C87837		
Sampling Date	2006/09/20	2006/09/20		
COC Number	115785	115785		
	Units	09-TP06-01-02	09-TP06-02-02	RDL QC Batch

Vinyl chloride	mg/kg	<0.02	<0.02	0.02 1296631
Xylenes (Total)	mg/kg	<0.04	<0.04	0.04 1296631
m & p-Xylene	mg/kg	<0.04	<0.04	0.04 1296631
o-Xylene	mg/kg	<0.02	<0.02	0.02 1296631
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	102	102	1296631
D10-ETHYLBENZENE (sur.)	%	100	110	1296631
D4-1,2-DICHLOROETHANE (sur.)	%	97	100	1296631
D8-TOLUENE (sur.)	%	101	102	1296631

RDL = Reportable Detection Limit

Maxxam ID	C87839	C87842	C87847		
Sampling Date	2006/09/20	2006/09/20	2006/09/20		
COC Number	115785	115785	115785		
	Units	09-TP06-01-01	08-TP06-02-01	08-TP06-03-01	RDL QC Batch

Volatiles					
Benzene	mg/kg	<0.0050	0.025	0.026	0.0050 1282386
Toluene	mg/kg	<0.020	0.25	0.19	0.020 1282386
Ethylbenzene	mg/kg	<0.010	0.034	0.028	0.010 1282386
Xylenes (Total)	mg/kg	<0.020	0.34	<0.020	0.020 1282386
m & p-Xylene	mg/kg	<0.020	0.26	<0.020	0.020 1282386
o-Xylene	mg/kg	<0.020	0.079	<0.020	0.020 1282386
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	96	96	107	1282386
D10-ETHYLBENZENE (sur.)	%	117	119	130	1282386
D4-1,2-DICHLOROETHANE (sur.)	%	96	90	97	1282386
D8-TOLUENE (sur.)	%	99	98	100	1282386

RDL = Reportable Detection Limit



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C87864		C87866		
Sampling Date		2006/09/20		2006/09/20		
COC Number		115785		115785		
	Units	08-TP06-07-04	QC Batch	06-TP06-DUP-10	RDL	QC Batch

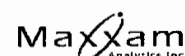
Volatiles						
Benzene	mg/kg	<0.0050	1282386	<0.0050	0.0050	1295794
Toluene	mg/kg	0.074	1282386	<0.020	0.020	1295794
Ethylbenzene	mg/kg	0.069	1282386	<0.010	0.010	1295794
Xylenes (Total)	mg/kg	0.49	1282386	<0.020	0.020	1295794
m & p-Xylene	mg/kg	0.31	1282386	<0.020	0.020	1295794
o-Xylene	mg/kg	0.18	1282386	<0.020	0.020	1295794
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	104	1282386	101		1295794
D10-ETHYLBENZENE (sur.)	%	130	1282386	103		1295794
D4-1,2-DICHLOROETHANE (sur.)	%	96	1282386	103		1295794
D8-TOLUENE (sur.)	%	100	1282386	101		1295794

RDL = Reportable Detection Limit

Maxxam ID		C87867			
Sampling Date		2006/09/20			
COC Number		115785			
	Units	08-GRAB06-01-01	RDL	QC Batch	

Volatiles					
Benzene	mg/kg	<0.0050	0.0050	1282163	
Toluene	mg/kg	0.16	0.020	1282163	
Ethylbenzene	mg/kg	<0.010	0.010	1282163	
Xylenes (Total)	mg/kg	<0.020	0.020	1282163	
m & p-Xylene	mg/kg	<0.020	0.020	1282163	
o-Xylene	mg/kg	<0.020	0.020	1282163	
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	100		1282163	
D10-ETHYLBENZENE (sur.)	%	111		1282163	
D4-1,2-DICHLOROETHANE (sur.)	%	111		1282163	
D8-TOLUENE (sur.)	%	101		1282163	

RDL = Reportable Detection Limit



Maxxam Job #: A644374
Report Date: 2006/10/27

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

General Comments

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report
Maxxam Job Number: EA544374

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282163 LM4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/27	97	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/27	101	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/27	111	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/27	100	%	60 - 140	
		Benzene	2006/09/27	77	%	60 - 140	
		Toluene	2006/09/27	65	%	60 - 140	
		Ethylbenzene	2006/09/27	95	%	60 - 140	
		m & p-Xylene	2006/09/27	77	%	60 - 140	
		o-Xylene	2006/09/27	80	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/27	101	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/27	91	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/27	118	%	60 - 140	
	SPIKE	D8-TOLUENE (sur.)	2006/09/27	127	%	60 - 140	
		Benzene	2006/09/27	88	%	60 - 140	
		Toluene	2006/09/27	98	%	60 - 140	
		Ethylbenzene	2006/09/27	83	%	60 - 140	
		m & p-Xylene	2006/09/27	89	%	60 - 140	
		o-Xylene	2006/09/27	85	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/27	102	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/27	76	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/27	116	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/27	104	%	60 - 140	
		Benzene	2006/09/27	<0.0050		mg/kg	
		Toluene	2006/09/27	<0.020		mg/kg	
		Ethylbenzene	2006/09/27	<0.010		mg/kg	
1282166 KO	MATRIX SPIKE	Xylenes (Total)	2006/09/27	<0.020		mg/kg	
		m & p-Xylene	2006/09/27	<0.020		mg/kg	
		o-Xylene	2006/09/27	<0.020		mg/kg	
		Benzene	2006/09/27	14.3	%	50	
		Toluene	2006/09/27	3.2	%	50	
		Ethylbenzene	2006/09/27	26.8	%	50	
		Xylenes (Total)	2006/09/27	35.2	%	50	
		m & p-Xylene	2006/09/27	35.7	%	50	
		o-Xylene	2006/09/27	32.9	%	50	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	87	%	60 - 130	
		F1 (C06-C10)	2006/09/25	90	%	60 - 130	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	94	%	60 - 130	
		F1 (C06-C10)	2006/09/25	91	%	80 - 120	
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	92	%	60 - 130	
		F1 (C06-C10)	2006/09/25	<10		mg/kg	
		F1 (C06-C10)	2006/09/25	26.6	%	50	
	RPD	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	101	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/25	122	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	90	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/25	101	%	60 - 140	
		Benzene	2006/09/25	111	%	60 - 140	
		Toluene	2006/09/25	104	%	60 - 140	
		Ethylbenzene	2006/09/25	167 (f)	%	60 - 140	
		m & p-Xylene	2006/09/25	130	%	60 - 140	
		o-Xylene	2006/09/25	87	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/25	119	%	60 - 130	
1282386 HW4	MATRIX SPIKE	D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/25	101	%	60 - 140	
		Benzene	2006/09/25	82	%	60 - 140	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/25	119	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/25	101	%	60 - 140	
		Benzene	2006/09/25	82	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/25	119	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/25	101	%	60 - 140	
		Benzene	2006/09/25	82	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	99	%	60 - 140	

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332
Edmonton: 9619 - 42 Avenue T6E 5P2 Telephone(780) 465-1212 FAX(780) 450-4187



FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSBACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA644374

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1282386 HW4	SPIKE	Toluene	2006/09/25	94	%	60 - 140	
		Ethylbenzene	2006/09/25	103	%	60 - 140	
		m & p-Xylene	2006/09/25	102	%	60 - 140	
		o-Xylene	2006/09/25	103	%	60 - 140	
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	100	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/25	121	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/25	92	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/25	100	%	60 - 140	
		Benzene	2006/09/25	<0.0050		mg/kg	
		Toluene	2006/09/25	<0.020		mg/kg	
		Ethylbenzene	2006/09/25	<0.010		mg/kg	
		Xylenes (Total)	2006/09/25	<0.020		mg/kg	
		m & p-Xylene	2006/09/25	<0.020		mg/kg	
		o-Xylene	2006/09/25	<0.020		mg/kg	
1282387 KO	MATRIX SPIKE	Benzene	2006/09/25	6.4	%	50	
		Toluene	2006/09/25	NC	%	50	
		Ethylbenzene	2006/09/25	0.02	%	50	
		Xylenes (Total)	2006/09/25	1.2	%	50	
		m & p-Xylene	2006/09/25	0.2	%	50	
		o-Xylene	2006/09/25	15.0	%	50	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	88	%	60 - 130	
		F1 (C06-C10)	2006/09/25	99	%	60 - 130	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/25	89	%	60 - 130	
		F1 (C06-C10)	2006/09/25	92	%	80 - 120	
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/09/25	86	%	60 - 130	
		F1 (C06-C10)	2006/09/25	<10		mg/kg	
		F1 (C06-C10)	2006/09/25	7.3	%	50	
	RPD	Moisture	2006/09/23	<0.3	%		
		Moisture	2006/09/23	1.1	%	20	
		D10-ANTHRACENE (sur.)	2006/09/26	129	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/09/26	117	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/09/26	121	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/09/26	127	%	30 - 130	
		Naphthalene	2006/09/26	101	%	30 - 130	
		2-Methylnaphthalene	2006/09/26	103	%	30 - 130	
		Acenaphthylene	2006/09/26	107	%	30 - 130	
		Acenaphthene	2006/09/26	97	%	30 - 130	
		Fluorene	2006/09/26	100	%	30 - 130	
1282388 SD7	MATRIX SPIKE	Phenanthrene	2006/09/26	100	%	30 - 130	
		Anthracene	2006/09/26	98	%	30 - 130	
		Fluoranthene	2006/09/26	101	%	30 - 130	
		Pyrene	2006/09/26	100	%	30 - 130	
		Benzo(a)anthracene	2006/09/26	103	%	30 - 130	
		Chrysene	2006/09/26	97	%	30 - 130	
		Benzo(k)fluoranthene	2006/09/26	98	%	30 - 130	
		Benzo(k)fluoranthene	2006/09/26	100	%	30 - 130	
		Benzo(a)pyrene	2006/09/26	102	%	30 - 130	
		Indeno(1,2,3-cd)pyrene	2006/09/26	111	%	30 - 130	
		Dibenz(a,h)anthracene	2006/09/26	124	%	30 - 130	
		Benzo(g,h,i)perylene	2006/09/26	107	%	30 - 130	
1282944 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/09/26	122	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/09/26	103	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/09/26	118	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/09/26	118	%	30 - 130	
		Naphthalene	2006/09/26	105	%	30 - 130	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/26	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/26	119	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/26	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/26	101	%	60 - 140	
		Benzene	2006/09/26	82	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/26	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/26	119	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/26	96	%	60 - 140	
		D8-TOLUENE (sur.)	2006/09/26	101	%	60 - 140	
		Benzene	2006/09/26	82	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/09/26	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/09/26	119	%	60 - 130	

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyy/mm/dd	Value	Recovery	Units	QC Limits
1282944 AK3	SPIKE	2-Methylnaphthalene	2006/09/26		104	%	30 - 130
		Acenaphthylene	2006/09/26		105	%	30 - 130
		Acenaphthene	2006/09/26		101	%	30 - 130
		Fluorene	2006/09/26		100	%	30 - 130
		Phenanthrene	2006/09/26		104	%	30 - 130
		Anthracene	2006/09/26		101	%	30 - 130
		Fluoranthene	2006/09/26		100	%	30 - 130
		Pyrene	2006/09/26		100	%	30 - 130
		Benzo(a)anthracene	2006/09/26		99	%	30 - 130
		Chrysene	2006/09/26		99	%	30 - 130
		Benzo(b&l)fluoranthene	2006/09/26		94	%	30 - 130
		Benzo(k)fluoranthene	2006/09/26		88	%	30 - 130
		Benzo(a)pyrene	2006/09/26		96	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/09/26		107	%	30 - 130
		Dibenz(a,h)anthracene	2006/09/26		104	%	30 - 130
		Benzo(g,h,i)perylene	2006/09/26		108	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/09/26		119	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/26		107	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/26		124	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/26		123	%	30 - 130
		Naphthalene	2006/09/26	<0.05		mg/kg	
		2-Methylnaphthalene	2006/09/26	<0.05		mg/kg	
		Acenaphthylene	2006/09/26	<0.05		mg/kg	
		Acenaphthene	2006/09/26	<0.05		mg/kg	
		Fluorene	2006/09/26	<0.05		mg/kg	
BLANK	BLANK	Phenanthrene	2006/09/26	<0.05		mg/kg	
		Anthracene	2006/09/26	<0.05		mg/kg	
		Fluoranthene	2006/09/26	<0.05		mg/kg	
		Pyrene	2006/09/26	<0.05		mg/kg	
		Benzo(a)anthracene	2006/09/26	<0.05		mg/kg	
		Chrysene	2006/09/26	<0.05		mg/kg	
		Benzo(b&l)fluoranthene	2006/09/26	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/09/26	<0.05		mg/kg	
		Benzo(a)pyrene	2006/09/26	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/09/26	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/09/26	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/09/26	<0.05		mg/kg	
		Naphthalene	2006/09/26	NC		%	50
		2-Methylnaphthalene	2006/09/26	NC		%	50
		Acenaphthylene	2006/09/26	NC		%	50
		Acenaphthene	2006/09/26	NC		%	50
		Fluorene	2006/09/26	NC		%	50
		Phenanthrene	2006/09/26	NC		%	50
		Anthracene	2006/09/26	NC		%	50
		Fluoranthene	2006/09/26	NC		%	50
		Pyrene	2006/09/26	NC		%	50
		Benzo(a)anthracene	2006/09/26	NC		%	50
		Chrysene	2006/09/26	NC		%	50
		Benzo(b&l)fluoranthene	2006/09/26	NC		%	50
		Benzo(k)fluoranthene	2006/09/26	NC		%	50
		Benzo(a)pyrene	2006/09/26	NC		%	50
		Indeno(1,2,3-cd)pyrene	2006/09/26	NC		%	50
		Dibenz(a,h)anthracene	2006/09/26	NC		%	50
		Benzo(g,h,i)perylene	2006/09/26	NC		%	50
1282947 HL2	BLANK	Moisture	2006/09/25	<0.3		%	

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FRANZ ENVIRONMENTAL INC.
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Client Project #: 1256-0601
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Quality Assurance Report (Continued)
Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyy/mm/dd	Value	Recovery	Units	QC Limits
1282947 HL2	RPD	Moisture	2006/09/25	0.7		%	20
		Soluble (Hot water) Boron (B)	2006/09/25		99	%	80 - 120
		Soluble (Hot water) Boron (B)	2006/09/25		106	%	85 - 115
		Soluble (Hot water) Boron (B)	2006/09/25	<0.1		mg/kg	
		Soluble (Hot water) Boron (B)	2006/09/25	NC		%	40
1284161 AC4	Calibration Check	Total Antimony (Sb)	2006/09/26		103	%	80 - 120
		Total Arsenic (As)	2006/09/26		104	%	80 - 120
		Total Barium (Ba)	2006/09/26		101	%	80 - 120
		Total Beryllium (Be)	2006/09/26		106	%	80 - 120
		Total Cadmium (Cd)	2006/09/26		101	%	80 - 120
		Total Chromium (Cr)	2006/09/26		100	%	80 - 120
		Total Cobalt (Co)	2006/09/26		105	%	80 - 120
		Total Copper (Cu)	2006/09/26		104	%	80 - 120
		Total Lead (Pb)	2006/09/26		104	%	80 - 120
		Total Molybdenum (Mo)	2006/09/26		103	%	80 - 120
		Total Nickel (Ni)	2006/09/26		105	%	80 - 120
		Total Selenium (Se)	2006/09/26		104	%	80 - 120
		Total Silver (Ag)	2006/09/26		104	%	80 - 120
		Total Thallium (Tl)	2006/09/26		103	%	80 - 120
		Total Tin (Sn)	2006/09/26		104	%	80 - 120
		Total Vanadium (V)	2006/09/26		103	%	80 - 120
		Total Zinc (Zn)	2006/09/26		104	%	80 - 120
		Total Arsenic (As)	2006/09/26		99	%	80 - 120
		Total Cadmium (Cd)	2006/09/26		93	%	N/A
		Total Selenium (Se)	2006/09/26		104	%	80 - 120
		Total Thallium (Tl)	2006/09/26		94	%	80 - 120
		Total Antimony (Sb)	2006/09/26	<1		mg/kg	
		Total Arsenic (As)	2006/09/26	<1		mg/kg	
		Total Barium (Ba)	2006/09/26	<10		mg/kg	
		Total Beryllium (Be)	2006/09/26	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/09/26	<0.1		mg/kg	
MATRIX SPIKE	MATRIX SPIKE	Total Chromium (Cr)	2006/09/26	<1		mg/kg	
		Total Cobalt (Co)	2006/09/26	<1		mg/kg	
		Total Copper (Cu)	2006/09/26	<5		mg/kg	
		Total Lead (Pb)	2006/09/26	<1		mg/kg	
		Total Molybdenum (Mo)	2006/09/26	<0.4		mg/kg	
		Total Nickel (Ni)	2006/09/26	<1		mg/kg	
		Total Selenium (Se)	2006/09/26	<0.5		mg/kg	
		Total Silver (Ag)	2006/09/26	<1		mg/kg	
		Total Thallium (Tl)	2006/09/26	<0.3		mg/kg	
		Total Tin (Sn)	2006/09/26	<1		mg/kg	
		Total Vanadium (V)	2006/09/26	<1		mg/kg	
		Total Zinc (Zn)	2006/09/26	<10		mg/kg	
		Total Antimony (Sb)	2006/09/26	NC		%	35
		Total Arsenic (As)	2006/09/26	NC		%	35
		Total Barium (Ba)	2006/09/26	10.2		%	35
		Total Beryllium (Be)	2006/09/26	NC		%	35
		Total Cadmium (Cd)	2006/09/26	10.1		%	35
		Total Chromium (Cr)	2006/09/26	11.1		%	35
		Total Cobalt (Co)	2006/09/26	7.2		%	35
		Total Copper (Cu)	2006/09/26	NC		%	35
		Total Lead (Pb)	2006/09/26	9.4		%	35
		Total Molybdenum (Mo)	2006/09/26	NC		%	35
		Total Nickel (Ni)	2006/09/26	8.3		%	35
		Total Selenium (Se)	2006/09/26	NC		%	35

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1284161 AC4	RPD	Total Silver (Ag)	2006/09/26	NC	%		35
		Total Thallium (Tl)	2006/09/26	NC	%		35
		Total Tin (Sn)	2006/09/26	NC	%		35
		Total Vanadium (V)	2006/09/26	7.0	%		35
		Total Zinc (Zn)	2006/09/26	8.2	%		35
1284284 AN1	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/09/26		90	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/26		101	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/09/26		87	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/09/26		82	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2006/09/26		85	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/26		96	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/09/26		90	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/09/26		80	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2006/09/26		87	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/09/26	<10	mg/kg		
		F3 (C16-C34 Hydrocarbons)	2006/09/26	<10	mg/kg		
		F4 (C34-C50 Hydrocarbons)	2006/09/26	<10	mg/kg		
		Reached Baseline at C50	2006/09/26	YES, RDL=1	mg/kg		
	RPD	F2 (C10-C16 Hydrocarbons)	2006/09/26	NC	%		50
		F3 (C16-C34 Hydrocarbons)	2006/09/26	NC	%		50
		F4 (C34-C50 Hydrocarbons)	2006/09/26	NC	%		50
		Reached Baseline at C50	2006/09/26	NC	%		50
1284758 YY1	Calibration Check	Mercury (Hg)	2006/09/26		106	%	85 - 115
	QC STANDARD	Mercury (Hg)	2006/09/26		123	%	N/A
	BLANK	Mercury (Hg)	2006/09/26	<0.05	mg/kg		
	RPD	Mercury (Hg)	2006/09/26	NC	%		35
1285447 DD1	Calibration Check	Hex. Chromium (Cr 6+)	2006/09/26		101	%	75 - 125
	MATRIX SPIKE	Hex. Chromium (Cr 6+)	2006/09/26		69 (l)	%	75 - 125
	BLANK	Hex. Chromium (Cr 6+)	2006/09/26	<0.2	mg/kg		
	RPD	Hex. Chromium (Cr 6+)	2006/09/26	NC	%		35
1289491 AK3	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		125	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		117	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		118	%	30 - 130
		Naphthalene	2006/10/02		105	%	30 - 130
		2-Methylnaphthalene	2006/10/02		100	%	30 - 130
		Acenaphthylene	2006/10/02		102	%	30 - 130
		Acenaphthene	2006/10/02		98	%	30 - 130
		Fluorene	2006/10/02		94	%	30 - 130
		Phenanthrene	2006/10/02		101	%	30 - 130
		Anthracene	2006/10/02		97	%	30 - 130
		Fluoranthene	2006/10/02		97	%	30 - 130
		Pyrene	2006/10/02		97	%	30 - 130
		Benzo(a)anthracene	2006/10/02		96	%	30 - 130
		Chrysene	2006/10/02		98	%	30 - 130
		Benzo(b&j)fluoranthene	2006/10/02		98	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		104	%	30 - 130
		Benzo(a)pyrene	2006/10/02		103	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		102	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		122	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/02		99	%	30 - 130
	SPIKE	D10-ANTHRACENE (sur.)	2006/10/02		122	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		103	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		118	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		118	%	30 - 130

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Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
1289491 AK3	SPIKE	Naphthalene	2006/10/02		105	%	30 - 130
		2-Methylnaphthalene	2006/10/02		104	%	30 - 130
		Acenaphthylene	2006/10/02		105	%	30 - 130
		Acenaphthene	2006/10/02		101	%	30 - 130
		Fluorene	2006/10/02		100	%	30 - 130
		Phenanthrene	2006/10/02		104	%	30 - 130
		Anthracene	2006/10/02		101	%	30 - 130
		Fluoranthene	2006/10/02		100	%	30 - 130
		Pyrene	2006/10/02		100	%	30 - 130
		Benzo(a)anthracene	2006/10/02		99	%	30 - 130
		Chrysene	2006/10/02		99	%	30 - 130
		Benzo(b&j)fluoranthene	2006/10/02		94	%	30 - 130
		Benzo(k)fluoranthene	2006/10/02		98	%	30 - 130
		Benzo(a)pyrene	2006/10/02		98	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/02		107	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/02		124	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/10/02		108	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/02		119	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/02		107	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/02		124	%	30 - 130
		Naphthalene	2006/10/02	<0.05	mg/kg		
		2-Methylnaphthalene	2006/10/02	<0.05	mg/kg		
		Acenaphthylene	2006/10/02	<0.05	mg/kg		
		Acenaphthene	2006/10/02	<0.05	mg/kg		
		Fluorene	2006/10/02	<0.05	mg/kg		
		Phenanthrene	2006/10/02	<0.05	mg/kg		
		Anthracene	2006/10/02	<0.05	mg/kg		
		Fluoranthene	2006/10/02	<0.05	mg/kg		
		Pyrene	2006/10/02	<0.05	mg/kg		
		Benzo(a)anthracene	2006/10/02	<0.05	mg/kg		
		Chrysene	2006/10/02	<0.05	mg/kg		
		Benzo(b&j)fluoranthene	2006/10/02	<0.05	mg/kg		
		Benzo(k)fluoranthene	2006/10/02	<0.05	mg/kg		
		Benzo(a)pyrene	2006/10/02	<0.05	mg/kg		
		Indeno(1,2,3-cd)pyrene	2006/10/02	<0.05	mg/kg		
		Dibenz(a,h)anthracene	2006/10/02	<0.05	mg/kg		
		Benzo(g,h,i)perylene	2006/10/02	<0.05	mg/kg		
	RPD	Naphthalene	2006/10/02	NC	%		50
		2-Methylnaphthalene	2006/10/02	NC	%		50
		Acenaphthylene	2006/10/02	NC	%		50
		Acenaphthene	2006/10/02	NC	%		50
		Fluorene	2006/10/02	NC	%		50
		Phenanthrene	2006/10/02	NC	%		50
		Anthracene	2006/10/02	NC	%		50
		Fluoranthene	2006/10/02	NC	%		50
		Pyrene	2006/10/02	NC	%		50
		Benzo(a)anthracene	2006/10/02	NC	%		50
		Chrysene	2006/10/02	NC	%		50
		Benzo(b&j)fluoranthene	2006/10/02	NC	%		50
		Benzo(k)fluoranthene	2006/10/02	NC	%		50
		Benzo(a)pyrene	2006/10/02	NC	%		50
		Indeno(1,2,3-cd)pyrene	2006/10/02	NC	%		50
		Dibenz(a,h)anthracene	2006/10/02	NC	%		50
		Benzo(g,h,i)perylene	2006/10/02	NC	%		50

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Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1295794 CD1	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	102	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	107	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	104	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	104	%	60 - 140	
		Benzene	2006/10/05	97	%	60 - 140	
		Toluene	2006/10/05	103	%	60 - 140	
		Ethylbenzene	2006/10/05	100	%	60 - 140	
		m & p-Xylene	2006/10/05	100	%	60 - 140	
		o-Xylene	2006/10/05	100	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	100	%	60 - 140	
	SPIKE	D10-ETHYLBENZENE (sur.)	2006/10/05	105	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	100	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	103	%	60 - 140	
		Benzene	2006/10/05	96	%	60 - 140	
		Toluene	2006/10/05	100	%	60 - 140	
		Ethylbenzene	2006/10/05	99	%	60 - 140	
		m & p-Xylene	2006/10/05	100	%	60 - 140	
		o-Xylene	2006/10/05	100	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	100	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	100	%	60 - 130	
	BLANK	D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	99	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	103	%	60 - 140	
		Benzene	2006/10/05	<0.0050		mg/kg	
		Toluene	2006/10/05	<0.020		mg/kg	
		Ethylbenzene	2006/10/05	<0.010		mg/kg	
		Xylenes (Total)	2006/10/05	<0.020		mg/kg	
		m & p-Xylene	2006/10/05	<0.020		mg/kg	
		o-Xylene	2006/10/05	<0.020		mg/kg	
		RPD	2006/10/05	NC		%	50
		Benzene	2006/10/05	NC		%	50
		Toluene	2006/10/05	NC		%	50
		Ethylbenzene	2006/10/05	NC		%	50
		Xylenes (Total)	2006/10/05	NC		%	50
		m & p-Xylene	2006/10/05	NC		%	50
		o-Xylene	2006/10/05	NC		%	50
1296502 KB4	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/05	80	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/05	101	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/10/05	96	%	50 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/10/05	105	%	50 - 130	
		O-TERPHENYL (sur.)	2006/10/05	80	%	30 - 130	
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/10/05	101	%	50 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/10/05	102	%	80 - 120	
		F4 (C34-C50 Hydrocarbons)	2006/10/05	113	%	80 - 120	
		O-TERPHENYL (sur.)	2006/10/05	83	%	30 - 130	
		F2 (C10-C16 Hydrocarbons)	2006/10/05	<10		mg/kg	
	BLANK	F3 (C16-C34 Hydrocarbons)	2006/10/05	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/05	<10		mg/kg	
		Reached Baseline at C50	2006/10/05	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/05	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/05	NC		%	50
	RPD	F4 (C34-C50 Hydrocarbons)	2006/10/05	NC		%	50
		Reached Baseline at C50	2006/10/05	NC		%	50
1296631 LM4	MATRIX SPIKE [C87837-01]	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	100	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	107	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	103	%	60 - 140	

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	MATRIX SPIKE [C87837-01]	D8-TOLUENE (sur.)	2006/10/05	97	%	60 - 140	
		Benzene	2006/10/05	93	%	60 - 140	
		Bromodichloromethane	2006/10/05	96	%	60 - 140	
		Bromoform	2006/10/05	88	%	60 - 140	
		Bromomethane	2006/10/05	112	%	60 - 140	
		Carbon tetrachloride	2006/10/05	90	%	60 - 140	
		Chlorobenzene	2006/10/05	93	%	60 - 140	
		Chlorodibromomethane	2006/10/05	89	%	60 - 140	
		Chloroethane	2006/10/05	101	%	60 - 140	
		Chloroform	2006/10/05	111	%	60 - 140	
		Chloromethane	2006/10/05	95	%	60 - 140	
		1,2-dibromoethane	2006/10/05	88	%	60 - 140	
		1,3-dichlorobenzene	2006/10/05	89	%	60 - 140	
		1,4-dichlorobenzene	2006/10/05	88	%	60 - 140	
		1,1-dichloroethane	2006/10/05	95	%	60 - 140	
		1,2-dichloroethane	2006/10/05	97	%	60 - 140	
		1,1-dichloroethane	2006/10/05	102	%	60 - 140	
		cis-1,2-dichloroethane	2006/10/05	113	%	60 - 140	
		trans-1,2-dichloroethane	2006/10/05	102	%	60 - 140	
		Dichloromethane	2006/10/05	98	%	60 - 140	
		1,2-dichloropropane	2006/10/05	95	%	60 - 140	
		cis-1,3-dichloropropane	2006/10/05	90	%	60 - 140	
		trans-1,3-dichloropropane	2006/10/05	93	%	60 - 140	
		Ethylbenzene	2006/10/05	88	%	60 - 140	
		Styrene	2006/10/05	75	%	60 - 140	
		1,1,1,2-tetrachloroethane	2006/10/05	67	%	60 - 140	
		1,1,2,2-tetrachloroethane	2006/10/05	97	%	60 - 140	
		Tetrachloroethane	2006/10/05	88	%	60 - 140	
		Toluene	2006/10/05	92	%	60 - 140	
		1,1,1-trichloroethane	2006/10/05	98	%	60 - 140	
		1,1,2-trichloroethane	2006/10/05	94	%	60 - 140	
		Trichloroethane	2006/10/05	96	%	60 - 140	
		Trichlorofluoromethane	2006/10/05	97	%	60 - 140	
		Vinyl chloride	2006/10/05	77	%	60 - 140	
		m & p-Xylene	2006/10/05	93	%	60 - 140	
		o-Xylene	2006/10/05	97	%	60 - 140	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05	99	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	94	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	98	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	97	%	60 - 140	
		Benzene	2006/10/05	91	%	60 - 140	
		Bromodichloromethane	2006/10/05	93	%	60 - 140	
		Bromoform	2006/10/05	91	%	60 - 140	
		Bromomethane	2006/10/05	107	%	60 - 140	
		Carbon tetrachloride	2006/10/05	91	%	60 - 140	
		Chlorobenzene	2006/10/05	90	%	60 - 140	
		Chlorodibromomethane	2006/10/05	87	%	60 - 140	
		Chloroethane	2006/10/05	99	%	60 - 140	
		Chloroform	2006/10/05	95	%	60 - 140	
		Chloromethane	2006/10/05	102	%	60 - 140	
		1,2-dibromoethane	2006/10/05	88	%	60 - 140	
		1,2-dichlorobenzene	2006/10/05	91	%	60 - 140	
		1,3-dichlorobenzene	2006/10/05	88	%	60 - 140	

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Quality Assurance Report (Continued)

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	SPIKE	1,4-dichlorobenzene	2006/10/05	96	%	60 - 140	
		1,1-dichloroethane	2006/10/05	98	%	60 - 140	
		1,2-dichloroethane	2006/10/05	96	%	60 - 140	
		1,1-dichloroethane	2006/10/05	101	%	60 - 140	
		cis-1,2-dichloroethane	2006/10/05	98	%	60 - 140	
		trans-1,2-dichloroethane	2006/10/05	97	%	60 - 140	
		Dichloromethane	2006/10/05	95	%	60 - 140	
		1,2-dichloropropane	2006/10/05	92	%	60 - 140	
		cis-1,3-dichloropropene	2006/10/05	93	%	60 - 140	
		trans-1,3-dichloropropene	2006/10/05	93	%	60 - 140	
		Ethylbenzene	2006/10/05	88	%	60 - 140	
		Styrene	2006/10/05	92	%	60 - 140	
		1,1,1,2-tetrachloroethane	2006/10/05	89	%	60 - 140	
		1,1,2,2-tetrachloroethane	2006/10/05	98	%	60 - 140	
		Tetrachloroethane	2006/10/05	91	%	60 - 140	
		Toluene	2006/10/05	93	%	60 - 140	
		1,1,1-trichloroethane	2006/10/05	97	%	60 - 140	
		1,1,2-trichloroethane	2006/10/05	90	%	60 - 140	
		Trichloroethene	2006/10/05	94	%	60 - 140	
		Trichlorofluoromethane	2006/10/05	98	%	60 - 140	
		Vinyl chloride	2006/10/05	67	%	60 - 140	
		m & p-Xylene	2006/10/05	95	%	60 - 140	
		o-Xylene	2006/10/05	95	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2006/10/05	103	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/05	101	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/05	100	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/05	102	%	60 - 140	
		Benzene	2006/10/05	<0.005	mg/kg		
		Bromodichloromethane	2006/10/05	<0.03	mg/kg		
		Bromoform	2006/10/05	<0.05	mg/kg		
		Bromomethane	2006/10/05	<0.02	mg/kg		
		Carbon tetrachloride	2006/10/05	<0.02	mg/kg		
		Chlorobenzene	2006/10/05	<0.02	mg/kg		
		Chlorodibromomethane	2006/10/05	<0.02	mg/kg		
		Chloroethane	2006/10/05	<0.02	mg/kg		
		Chloroform	2006/10/05	<0.02	mg/kg		
		Chloromethane	2006/10/05	<0.03	mg/kg		
		1,2-dibromoethane	2006/10/05	<0.02	mg/kg		
		1,2-dichlorobenzene	2006/10/05	<0.02	mg/kg		
		1,3-dichlorobenzene	2006/10/05	<0.02	mg/kg		
		1,4-dichlorobenzene	2006/10/05	<0.02	mg/kg		
		1,1-dichloroethane	2006/10/05	<0.02	mg/kg		
		1,2-dichloroethane	2006/10/05	<0.02	mg/kg		
		1,1-dichloroethane	2006/10/05	<0.02	mg/kg		
		cis-1,2-dichloroethane	2006/10/05	<0.02	mg/kg		
		trans-1,2-dichloroethane	2006/10/05	<0.02	mg/kg		
		Dichloromethane	2006/10/05	<0.1	mg/kg		
		1,2-dichloropropane	2006/10/05	<0.02	mg/kg		
		cis-1,3-dichloropropene	2006/10/05	<0.02	mg/kg		
		trans-1,3-dichloropropene	2006/10/05	<0.02	mg/kg		
		Ethylbenzene	2006/10/05	<0.01	mg/kg		
		Styrene	2006/10/05	<0.02	mg/kg		
		1,1,1,2-tetrachloroethane	2006/10/05	<0.1	mg/kg		
		1,1,2,2-tetrachloroethane	2006/10/05	<0.1	mg/kg		
		Tetrachloroethane	2006/10/05	<0.02	mg/kg		

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FRANZ ENVIRONMENTAL INC.
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Quality Assurance Report (Continued)

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296631 LM4	BLANK	Toluene	2006/10/05	<0.02		mg/kg	
		1,1,1-trichloroethane	2006/10/05	<0.02		mg/kg	
		1,1,2-trichloroethane	2006/10/05	<0.02		mg/kg	
		Trichloroethene	2006/10/05	<0.02		mg/kg	
		Trichlorofluoromethane	2006/10/05	<0.02		mg/kg	
		Vinyl chloride	2006/10/05	<0.02		mg/kg	
		Xylenes (Total)	2006/10/05	<0.04		mg/kg	
		m & p-Xylene	2006/10/05	<0.04		mg/kg	
		o-Xylene	2006/10/05	<0.02		mg/kg	
	RPD [C87837-01]	Benzene	2006/10/05	NC	%		50
		Bromodichloromethane	2006/10/05	NC	%		50
		Bromoform	2006/10/05	NC	%		50
		Bromomethane	2006/10/05	NC	%		50
		Carbon tetrachloride	2006/10/05	NC	%		50
		Chlorobenzene	2006/10/05	NC	%		50
		Chlorodibromomethane	2006/10/05	NC	%		50
		Chloroethane	2006/10/05	NC	%		50
		Chloroform	2006/10/05	NC	%		50
		Chloromethane	2006/10/05	NC	%		50
		1,2-dibromoethane	2006/10/05	NC	%		50
		1,2-dichlorobenzene	2006/10/05	NC	%		50
		1,3-dichlorobenzene	2006/10/05	NC	%		50
		1,4-dichlorobenzene	2006/10/05	NC	%		50
		1,1-dichloroethane	2006/10/05	NC	%		50
		1,2-dichloroethane	2006/10/05	NC	%		50
		1,1-dichloroethane	2006/10/05	NC	%		50
		cis-1,2-dichloroethane	2006/10/05	NC	%		50
		trans-1,2-dichloroethane	2006/10/05	NC	%		50
		Dichloromethane	2006/10/05	NC	%		50
		1,2-dichloropropane	2006/10/05	NC	%		50
		cis-1,3-dichloropropene	2006/10/05	NC	%		50
		trans-1,3-dichloropropene	2006/10/05	NC	%		50
		Ethylbenzene	2006/10/05	NC	%		50
		Styrene	2006/10/05	NC	%		50
		1,1,1,2-tetrachloroethane	2006/10/05	NC	%		50
		1,1,2,2-tetrachloroethane	2006/10/05	NC	%		50
		Tetrachloroethane	2006/10/05	NC	%		50
		Toluene	2006/10/05	NC	%		50
		1,1,1-trichloroethane	2006/10/05	NC	%		50
		1,1,2-trichloroethane	2006/10/05	NC	%		50
		Trichloroethene	2006/10/05	NC	%		50
		Trichlorofluoromethane	2006/10/05	NC	%		50
		Vinyl chloride	2006/10/05	NC	%		50
		Xylenes (Total)	2006/10/05	NC	%		50
		m & p-Xylene	2006/10/05	NC	%		50
		o-Xylene	2006/10/05	NC	%		50
		Moisture	2006/10/05	<0.3	%		50
1296803 HL2	BLANK	Moisture	2006/10/05	1.7	%		20
1296823 RI2	MATRIX SPIKE [C87837-01]	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		93	%	60 - 130
		F1 (C06-C10)	2006/10/05		99	%	60 - 130
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		94	%	60 - 130
		F1 (C06-C10)	2006/10/05		108	%	80 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/05		95	%	60 - 130
		F1 (C06-C10)	2006/10/05	<10	mg/kg		

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1296823 RI2	RPD (C87837-01)	F1 (C06-C10)	2006/10/05	NC		%	50
1298327 KO	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/07		80	%	60 - 130
		F1 (C06-C10)	2006/10/07		87	%	60 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/10/07		96	%	60 - 130
		F1 (C06-C10)	2006/10/07		100	%	80 - 120
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/07		116	%	60 - 130
		F1 (C06-C10)	2006/10/07	<10		mg/kg	
		F1 (C06-C10)	2006/10/07	NC		%	50
1298328 MD1	BLANK	Moisture	2006/10/06	<0.3		%	
	RPD	Moisture	2006/10/06	0		%	20
1300135 AN1	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/10		77	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10		84	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/10/10		84	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/10/10		78	%	50 - 130
		O-TERPHENYL (sur.)	2006/10/10		86	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10		104	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/10/10		103	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/10/10		103	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2006/10/10		83	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/10/10	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/10	<10		mg/kg	
		Reached Baseline at C50	2006/10/10	YES, RDL=1		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2006/10/10	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/10	60.1 (I)		%	50
		F4 (C34-C50 Hydrocarbons)	2006/10/10	62.1 (I)		%	50
		Reached Baseline at C50	2006/10/10	NC		%	50
1300559 MC3	Calibration Check	Total Aluminum (Al)	2006/10/10		103	%	80 - 120
		Total Boron (B)	2006/10/10		97	%	80 - 120
		Total Calcium (Ca)	2006/10/10		99	%	80 - 120
		Total Iron (Fe)	2006/10/10		101	%	80 - 120
		Total Lithium (Li)	2006/10/10		95	%	80 - 120
		Total Magnesium (Mg)	2006/10/10		102	%	80 - 120
		Total Manganese (Mn)	2006/10/10		99	%	80 - 120
		Total Phosphorus (P)	2006/10/10		98	%	80 - 120
		Total Potassium (K)	2006/10/10		99	%	80 - 120
		Total Sodium (Na)	2006/10/10		103	%	80 - 120
		Total Strontium (Sr)	2006/10/10		95	%	80 - 120
		Total Aluminum (Al)	2006/10/10		111	%	75 - 125
		Total Boron (B)	2006/10/10		108	%	80 - 120
		Total Calcium (Ca)	2006/10/10		102	%	75 - 125
		Total Iron (Fe)	2006/10/10		108	%	75 - 125
		Total Lithium (Li)	2006/10/10		101	%	75 - 125
		Total Magnesium (Mg)	2006/10/10		110	%	75 - 125
		Total Manganese (Mn)	2006/10/10		105	%	75 - 125
		Total Phosphorus (P)	2006/10/10		104	%	75 - 125
		Total Potassium (K)	2006/10/10		104	%	75 - 125
		Total Sodium (Na)	2006/10/10		115	%	75 - 125
		Total Strontium (Sr)	2006/10/10		100	%	75 - 125
	BLANK	Total Aluminum (Al)	2006/10/10	<10		mg/kg	
		Total Boron (B)	2006/10/10	<2		mg/kg	
		Total Calcium (Ca)	2006/10/10	<50		mg/kg	
		Total Iron (Fe)	2006/10/10	<10		mg/kg	
		Total Lithium (Li)	2006/10/10	<10		mg/kg	
		Total Magnesium (Mg)	2006/10/10	<20		mg/kg	

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1300559 MC3	BLANK	Total Manganese (Mn)	2006/10/10	<10		mg/kg	
		Total Phosphorus (P)	2006/10/10	<20		mg/kg	
		Total Potassium (K)	2006/10/10	<30		mg/kg	
		Total Sodium (Na)	2006/10/10	<50		mg/kg	
		Total Strontium (Sr)	2006/10/10	<10		mg/kg	
		Total Sulphur (S)	2006/10/10	<20		mg/kg	
	RPD (C87848-01)	Total Aluminum (Al)	2006/10/10	0.1		%	35
		Total Boron (B)	2006/10/10	NC		%	35
		Total Calcium (Ca)	2006/10/10	0.2		%	35
		Total Iron (Fe)	2006/10/10	0.3		%	35
		Total Lithium (Li)	2006/10/10	NC		%	35
		Total Magnesium (Mg)	2006/10/10	0.3		%	35
		Total Manganese (Mn)	2006/10/10	0.3		%	35
		Total Phosphorus (P)	2006/10/10	0.2		%	35
		Total Potassium (K)	2006/10/10	0.5		%	35
		Total Sodium (Na)	2006/10/10	NC		%	35
		Total Strontium (Sr)	2006/10/10	0.09		%	35
		Total Sulphur (S)	2006/10/10	0.9		%	35
1300593 AC4	Calibration Check	Total Antimony (Sb)	2006/10/10		99	%	80 - 120
		Total Arsenic (As)	2006/10/10		104	%	80 - 120
		Total Barium (Ba)	2006/10/10		102	%	80 - 120
		Total Beryllium (Be)	2006/10/10		106	%	80 - 120
		Total Cadmium (Cd)	2006/10/10		100	%	80 - 120
		Total Chromium (Cr)	2006/10/10		99	%	80 - 120
		Total Cobalt (Co)	2006/10/10		103	%	80 - 120
		Total Copper (Cu)	2006/10/10		102	%	80 - 120
		Total Lead (Pb)	2006/10/10		104	%	80 - 120
		Total Molybdenum (Mo)	2006/10/10		101	%	80 - 120
		Total Nickel (Ni)	2006/10/10		102	%	80 - 120
		Total Selenium (Se)	2006/10/10		102	%	80 - 120
		Total Silver (Ag)	2006/10/10		103	%	80 - 120
		Total Thallium (Tl)	2006/10/10		101	%	80 - 120
		Total Tin (Sn)	2006/10/10		101	%	80 - 120
		Total Vanadium (V)	2006/10/10		102	%	80 - 120
		Total Zinc (Zn)	2006/10/10		101	%	80 - 120
	MATRIX SPIKE	Total Arsenic (As)	2006/10/10		101	%	80 - 120
		Total Cadmium (Cd)	2006/10/10		102	%	N/A
		Total Lead (Pb)	2006/10/10		96	%	N/A
		Total Selenium (Se)	2006/10/10		109	%	80 - 120
		Total Thallium (Tl)	2006/10/10		103	%	80 - 120
	BLANK	Total Antimony (Sb)	2006/10/10	<1		mg/kg	
		Total Arsenic (As)	2006/10/10	<1		mg/kg	
		Total Barium (Ba)	2006/10/10	<10		mg/kg	
		Total Beryllium (Be)	2006/10/10	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/10/10	<0.1		mg/kg	
		Total Chromium (Cr)	2006/10/10	<1		mg/kg	
		Total Cobalt (Co)	2006/10/10	<1		mg/kg	
		Total Copper (Cu)	2006/10/10	<5		mg/kg	
		Total Lead (Pb)	2006/10/10	<1		mg/kg	
		Total Molybdenum (Mo)	2006/10/10	<0.4		mg/kg	
		Total Nickel (Ni)	2006/10/10	<1		mg/kg	
		Total Selenium (Se)	2006/10/10	<0.5		mg/kg	
		Total Silver (Ag)	2006/10/10	<1		mg/kg	
		Total Thallium (Tl)	2006/10/10	<0.3		mg/kg	
		Total Tin (Sn)	2006/10/10	<1		mg/kg	

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1300593 AC4	BLANK	Total Vanadium (V)	2006/10/10	<1		mg/kg	
		Total Zinc (Zn)	2006/10/10	<10		mg/kg	
		Total Antimony (Sb)	2006/10/10	NC		%	35
		Total Arsenic (As)	2006/10/10	18.9		%	35
		Total Barium (Ba)	2006/10/10	25.9		%	35
		Total Beryllium (Be)	2006/10/10	NC		%	35
		Total Cadmium (Cd)	2006/10/10	NC		%	35
		Total Chromium (Cr)	2006/10/10	17.6		%	35
		Total Cobalt (Co)	2006/10/10	14.4		%	35
		Total Copper (Cu)	2006/10/10	NC		%	35
		Total Lead (Pb)	2006/10/10	14.0		%	35
		Total Molybdenum (Mo)	2006/10/10	NC		%	35
		Total Nickel (Ni)	2006/10/10	14.0		%	35
		Total Selenium (Se)	2006/10/10	NC		%	35
		Total Silver (Ag)	2006/10/10	NC		%	35
		Total Thallium (Tl)	2006/10/10	NC		%	35
		Total Tin (Sn)	2006/10/10	NC		%	35
		Total Vanadium (V)	2006/10/10	34.4		%	35
		Total Zinc (Zn)	2006/10/10	13.9		%	35
1305653 RTA	Calibration Check	NONACHLOROBIPHENYL (sur.)	2006/10/13		91	%	53 - 127
		Aroclor 1254	2006/10/13		94	%	80 - 132
		Aroclor 1260	2006/10/13		68	%	80 - 117
		NONACHLOROBIPHENYL (sur.)	2006/10/13		97	%	53 - 127
		Aroclor 1260	2006/10/13		80	%	64 - 128
		NONACHLOROBIPHENYL (sur.)	2006/10/13		81	%	53 - 127
		Aroclor 1016	2006/10/13	<0.01		mg/kg	
		Aroclor 1221	2006/10/13	<0.01		mg/kg	
		Aroclor 1232	2006/10/13	<0.01		mg/kg	
		Aroclor 1242	2006/10/13	<0.01		mg/kg	
		Aroclor 1248	2006/10/13	<0.01		mg/kg	
		Aroclor 1254	2006/10/13	<0.01		mg/kg	
		Aroclor 1260	2006/10/13	<0.01		mg/kg	
		Aroclor 1262	2006/10/13	<0.01		mg/kg	
		Aroclor 1268	2006/10/13	<0.01		mg/kg	
		Total Aroclors	2006/10/13	<0.01		mg/kg	
		Aroclor 1016	2006/10/13	NC		%	N/A
		Aroclor 1221	2006/10/13	NC		%	N/A
		Aroclor 1232	2006/10/13	NC		%	N/A
		Aroclor 1242	2006/10/13	NC		%	N/A
1314691 DJ	BLANK	Leachable (SWEF) Arsenic (As)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Barium (Ba)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Boron (B)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Cadmium (Cd)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Chromium (Cr)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Copper (Cu)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Lead (Pb)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Molybdenum (Mo)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Selenium (Se)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Silver (Ag)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Uranium (U)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Zinc (Zn)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Arsenic (As)	2006/10/19	NC		%	35
		Leachable (SWEF) Barium (Ba)	2006/10/19	NC		%	35
		Leachable (SWEF) Boron (B)	2006/10/19	NC		%	35
		Leachable (SWEF) Cadmium (Cd)	2006/10/19	NC		%	35
		Leachable (SWEF) Chromium (Cr)	2006/10/19	NC		%	35
		Leachable (SWEF) Copper (Cu)	2006/10/19	NC		%	35
		Leachable (SWEF) Lead (Pb)	2006/10/19	NC		%	35
		Leachable (SWEF) Molybdenum (Mo)	2006/10/19	NC		%	35

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1314691 DJ	BLANK	Leachable (SWEF) Uranium (U)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Zinc (Zn)	2006/10/19	<0.1		mg/L	
		Leachable (SWEF) Arsenic (As)	2006/10/19	NC		%	35
		Leachable (SWEF) Barium (Ba)	2006/10/19	NC		%	35
		Leachable (SWEF) Boron (B)	2006/10/19	NC		%	35
		Leachable (SWEF) Cadmium (Cd)	2006/10/19	NC		%	35
		Leachable (SWEF) Chromium (Cr)	2006/10/19	NC		%	35
		Leachable (SWEF) Copper (Cu)	2006/10/19	NC		%	35
		Leachable (SWEF) Lead (Pb)	2006/10/19	NC		%	35
		Leachable (SWEF) Molybdenum (Mo)	2006/10/19	NC		%	35
		Leachable (SWEF) Selenium (Se)	2006/10/19	NC		%	35
		Leachable (SWEF) Silver (Ag)	2006/10/19	NC		%	35
		Leachable (SWEF) Uranium (U)	2006/10/19	NC		%	35
		Leachable (SWEF) Zinc (Zn)	2006/10/19	NC		%	35
		Leachable Mercury (Hg)	2006/10/20	<0.05		ug/L	
		Leachable Mercury (Hg)	2006/10/20	NC		%	35
		Hex. Chromium (Cr 6+)	2006/10/24		98	%	75 - 125
		MATRIX SPIKE	2006/10/24		98	%	75 - 125
		Hex. Chromium (Cr 6+)	2006/10/24	<0.2		mg/kg	
		Hex. Chromium (Cr 6+)	2006/10/24	NC		%	35
1322914 MC3	Calibration Check	Total Aluminum (Al)	2006/10/26		104	%	80 - 120
		Total Boron (B)	2006/10/26		100	%	80 - 120
		Total Calcium (Ca)	2006/10/26		95	%	80 - 120
		Total Iron (Fe)	2006/10/26		97	%	80 - 120
		Total Lithium (Li)	2006/10/26		102	%	80 - 120
		Total Magnesium (Mg)	2006/10/26		99	%	80 - 120
		Total Manganese (Mn)	2006/10/26		100	%	80 - 120
		Total Phosphorus (P)	2006/10/26		97	%	80 - 120
		Total Potassium (K)	2006/10/26		103	%	80 - 120
		Total Sodium (Na)	2006/10/26		106	%	80 - 120
		Total Strontium (Sr)	2006/10/26		97	%	80 - 120
		Total Aluminum (Al)	2006/10/26		107	%	75 - 125
		Total Boron (B)	2006/10/26		102	%	80 - 120
		Total Calcium (Ca)	2006/10/26		98	%	75 - 125
		Total Iron (Fe)	2006/10/26		99	%	75 - 125
		Total Lithium (Li)	2006/10/26		102	%	75 - 125
		Total Magnesium (Mg)	2006/10/26		103	%	75 - 125
		Total Manganese (Mn)	2006/10/26		104	%	75 - 125
		Total Phosphorus (P)	2006/10/26		101	%	75 - 125
		Total Potassium (K)	2006/10/26		103	%	75 - 125
1314691 DJ	BLANK	Total Sodium (Na)	2006/10/26		110	%	75 - 125
		Total Strontium (Sr)	2006/10/26		98	%	75 - 125
		Total Aluminum (Al)	2006/10/26	<10		mg/kg	
		Total Boron (B)	2006/10/26	<2		mg/kg	
		Total Calcium (Ca)	2006/10/26	<50		mg/kg	
		Total Iron (Fe)	2006/10/26	<10		mg/kg	
		Total Lithium (Li)	2006/10/26	<10		mg/kg	
		Total Magnesium (Mg)	2006/10/26	<20		mg/kg	
		Total Manganese (Mn)	2006/10/26	<10		mg/kg	
		Total Phosphorus (P)	2006/10/26	<20		mg/kg	
		Total Potassium (K)	2006/10/26	<30		mg/kg	
		Total Sodium (Na)	2006/10/26	<50		mg/kg	
		Total Strontium (Sr)	2006/10/26	<10		mg/kg	
		Total Sulphur (S)	2006/10/26	<20		mg/kg	
		Total Aluminum (Al)	2006/10/26	0.7		%	35
		Leachable (SWEF) Arsenic (As)	2006/10/26	<0.1		mg/L	
		Leachable (SWEF) Barium (Ba)	2006/10/26	<0.1		mg/L	
		Leachable (SWEF) Boron (B)	2006/10/26	<0.1		mg/L	
		Leachable (SWEF) Cadmium (Cd)	2006/10/26	<0.1		mg/L	
		Leachable (SWEF) Chromium (Cr)	2006/10/26	<0.1		mg/L	

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FRANZ ENVIRONMENTAL INC.
Attention: MICHAEL MUTTERSACH
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1322014 MC3	RPD	Total Boron (B)	2006/10/26	2.4	%		35
		Total Calcium (Ca)	2006/10/26	1.3	%		35
		Total Iron (Fe)	2006/10/26	1.4	%		35
		Total Lithium (Li)	2006/10/26	NC	%		35
		Total Magnesium (Mg)	2006/10/26	0.6	%		35
		Total Manganese (Mn)	2006/10/26	1.4	%		35
		Total Phosphorus (P)	2006/10/26	0.7	%		35
		Total Potassium (K)	2006/10/26	0.5	%		35
		Total Sodium (Na)	2006/10/26	NC	%		35
		Total Strontium (Sr)	2006/10/26	0.1	%		35
		Total Sulphur (S)	2006/10/26	0.5	%		35
		Total Antimony (Sb)	2006/10/26		110	%	80 - 120
		Total Arsenic (As)	2006/10/26		103	%	80 - 120
		Total Barium (Ba)	2006/10/26		100	%	80 - 120
1323123 AC4	Calibration Check	Total Beryllium (Be)	2006/10/26		106	%	80 - 120
		Total Cadmium (Cd)	2006/10/26		98	%	80 - 120
		Total Chromium (Cr)	2006/10/26		101	%	80 - 120
		Total Cobalt (Co)	2006/10/26		102	%	80 - 120
		Total Copper (Cu)	2006/10/26		105	%	80 - 120
		Total Lead (Pb)	2006/10/26		98	%	80 - 120
		Total Molybdenum (Mo)	2006/10/26		101	%	80 - 120
		Total Nickel (Ni)	2006/10/26		104	%	80 - 120
		Total Selenium (Se)	2006/10/26		106	%	80 - 120
		Total Silver (Ag)	2006/10/26		101	%	80 - 120
		Total Thallium (Tl)	2006/10/26		98	%	80 - 120
		Total Tin (Sn)	2006/10/26		103	%	80 - 120
		Total Vanadium (V)	2006/10/26		105	%	80 - 120
		Total Zinc (Zn)	2006/10/26		101	%	80 - 120
	MATRIX SPIKE	Total Arsenic (As)	2006/10/26		93	%	75 - 125
		Total Cadmium (Cd)	2006/10/26		94	%	75 - 125
		Total Lead (Pb)	2006/10/26		79	%	75 - 125
		Total Selenium (Se)	2006/10/26		104	%	75 - 125
		Total Thallium (Tl)	2006/10/26		93	%	75 - 125
		Total Antimony (Sb)	2006/10/26	<1		mg/kg	
		Total Arsenic (As)	2006/10/26	<1		mg/kg	
		Total Barium (Ba)	2006/10/26	<10		mg/kg	
		Total Beryllium (Be)	2006/10/26	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/10/26	<0.1		mg/kg	
		Total Chromium (Cr)	2006/10/26	<1		mg/kg	
		Total Cobalt (Co)	2006/10/26	<1		mg/kg	
		Total Copper (Cu)	2006/10/26	<5		mg/kg	
		Total Lead (Pb)	2006/10/26	<1		mg/kg	
	BLANK	Total Molybdenum (Mo)	2006/10/26	<0.4		mg/kg	
		Total Nickel (Ni)	2006/10/26	<1		mg/kg	
		Total Selenium (Se)	2006/10/26	<0.5		mg/kg	
		Total Silver (Ag)	2006/10/26	<1		mg/kg	
		Total Thallium (Tl)	2006/10/26	<0.3		mg/kg	
		Total Tin (Sn)	2006/10/26	<1		mg/kg	
		Total Vanadium (V)	2006/10/26	<1		mg/kg	
		Total Zinc (Zn)	2006/10/26	<10		mg/kg	
		Total Antimony (Sb)	2006/10/26	NC		%	35
		Total Arsenic (As)	2006/10/26	11.6		%	35
		Total Barium (Ba)	2006/10/26	9.4		%	35
		Total Beryllium (Be)	2006/10/26	NC		%	35
		Total Cadmium (Cd)	2006/10/26	NC		%	35
	RPD						

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FRANZ ENVIRONMENTAL INC.
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Quality Assurance Report (Continued)

Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1323123 AC4	RPD	Total Chromium (Cr)	2006/10/26	19.0	%		35
		Total Cobalt (Co)	2006/10/26	2.8	%		35
		Total Copper (Cu)	2006/10/26	NC	%		35
		Total Lead (Pb)	2006/10/26	10.7	%		35
		Total Molybdenum (Mo)	2006/10/26	NC	%		35
		Total Nickel (Ni)	2006/10/26	8.1	%		35
		Total Selenium (Se)	2006/10/26	NC	%		35
		Total Silver (Ag)	2006/10/26	NC	%		35
		Total Thallium (Tl)	2006/10/26	NC	%		35
		Total Tin (Sn)	2006/10/26	NC	%		35
		Total Vanadium (V)	2006/10/26	30.8	%		35
		Total Zinc (Zn)	2006/10/26	10.5	%		35
1324731 MC3	Calibration Check	Total Aluminum (Al)	2006/10/27		105	%	80 - 120
		Total Boron (B)	2006/10/27		100	%	80 - 120
		Total Calcium (Ca)	2006/10/27		92	%	80 - 120
		Total Iron (Fe)	2006/10/27		93	%	80 - 120
		Total Lithium (Li)	2006/10/27		104	%	80 - 120
		Total Magnesium (Mg)	2006/10/27		101	%	80 - 120
		Total Manganese (Mn)	2006/10/27		99	%	80 - 120
		Total Phosphorus (P)	2006/10/27		99	%	80 - 120
		Total Potassium (K)	2006/10/27		104	%	80 - 120
		Total Sodium (Na)	2006/10/27		106	%	80 - 120
		Total Strontium (Sr)	2006/10/27		98	%	80 - 120
		Total Aluminum (Al)	2006/10/27		108	%	75 - 125
		Total Boron (B)	2006/10/27		102	%	80 - 120
		Total Calcium (Ca)	2006/10/27		93	%	75 - 125
	SPIKE	Total Iron (Fe)	2006/10/27		93	%	75 - 125
		Total Lithium (Li)	2006/10/27		106	%	75 - 125
		Total Magnesium (Mg)	2006/10/27		106	%	75 - 125
		Total Manganese (Mn)	2006/10/27		100	%	75 - 125
		Total Phosphorus (P)	2006/10/27		101	%	75 - 125
		Total Potassium (K)	2006/10/27		105	%	75 - 125
		Total Sodium (Na)	2006/10/27		111	%	75 - 125
		Total Strontium (Sr)	2006/10/27		99	%	75 - 125
		Total Aluminum (Al)	2006/10/27	<10		mg/kg	
		Total Boron (B)	2006/10/27	<2		mg/kg	
		Total Calcium (Ca)	2006/10/27	<50		mg/kg	
		Total Iron (Fe)	2006/10/27	<10		mg/kg	
		Total Lithium (Li)	2006/10/27	<10		mg/kg	
		Total Magnesium (Mg)	2006/10/27	<20		mg/kg	
	BLANK	Total Manganese (Mn)	2006/10/27	<10		mg/kg	
		Total Phosphorus (P)	2006/10/27	<20		mg/kg	
		Total Potassium (K)	2006/10/27	<50		mg/kg	
		Total Strontium (Sr)	2006/10/27	<10		mg/kg	
		Total Sulphur (S)	2006/10/27	<20		mg/kg	
		Total Aluminum (Al)	2006/10/27	0.1		%	35
		Total Boron (B)	2006/10/27	0.2		%	35
		Total Calcium (Ca)	2006/10/27	0.3		%	35
		Total Iron (Fe)	2006/10/27	0.007		%	35
		Total Lithium (Li)	2006/10/27	NC		%	35
		Total Magnesium (Mg)	2006/10/27	0.4		%	35
		Total Manganese (Mn)	2006/10/27	0.3		%	35
		Total Phosphorus (P)	2006/10/27	0.5		%	35
		Total Potassium (K)	2006/10/27	0.4		%	35
RPD [C87833-01]							

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Quality Assurance Report (Continued)
Maxxam Job Number: EA644374

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1324731 MC3	RPD [C87833-01]	Total Sodium (Na)	2006/10/27	NC		%	35
		Total Strontium (Sr)	2006/10/27	NC		%	35
		Total Sulphur (S)	2006/10/27	0.04		%	35

N/A = Not Applicable

NC = Non-calculable

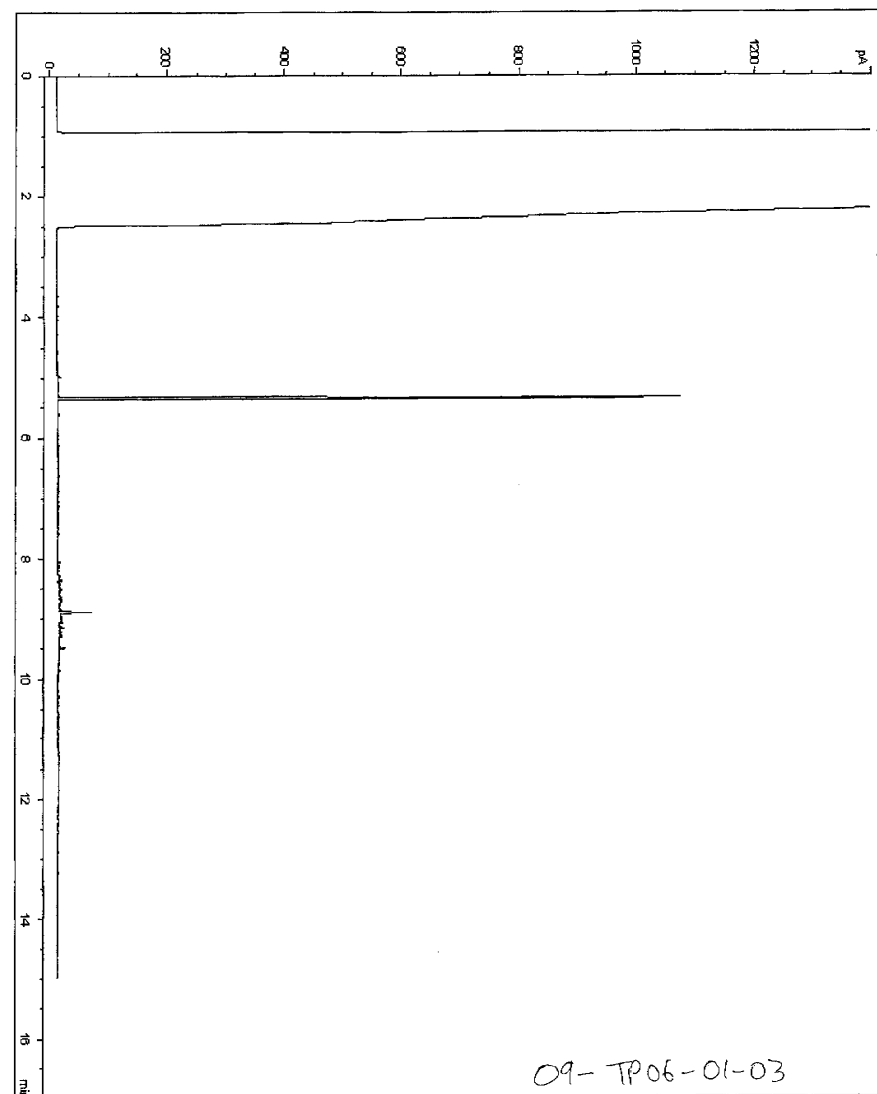
RPD = Relative Percent Difference

(1) Please note that the recovery of some compounds are outside control limits however the overall quality control for this analysis meets our acceptability criteria.

Edmonton: 9331 - 48th Street T6B 2R4 Telephone(780) 468-3500 FAX(780) 466-3332
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Data File C:\HPCHEM\1\DATA\PHC1005\009B0501.D

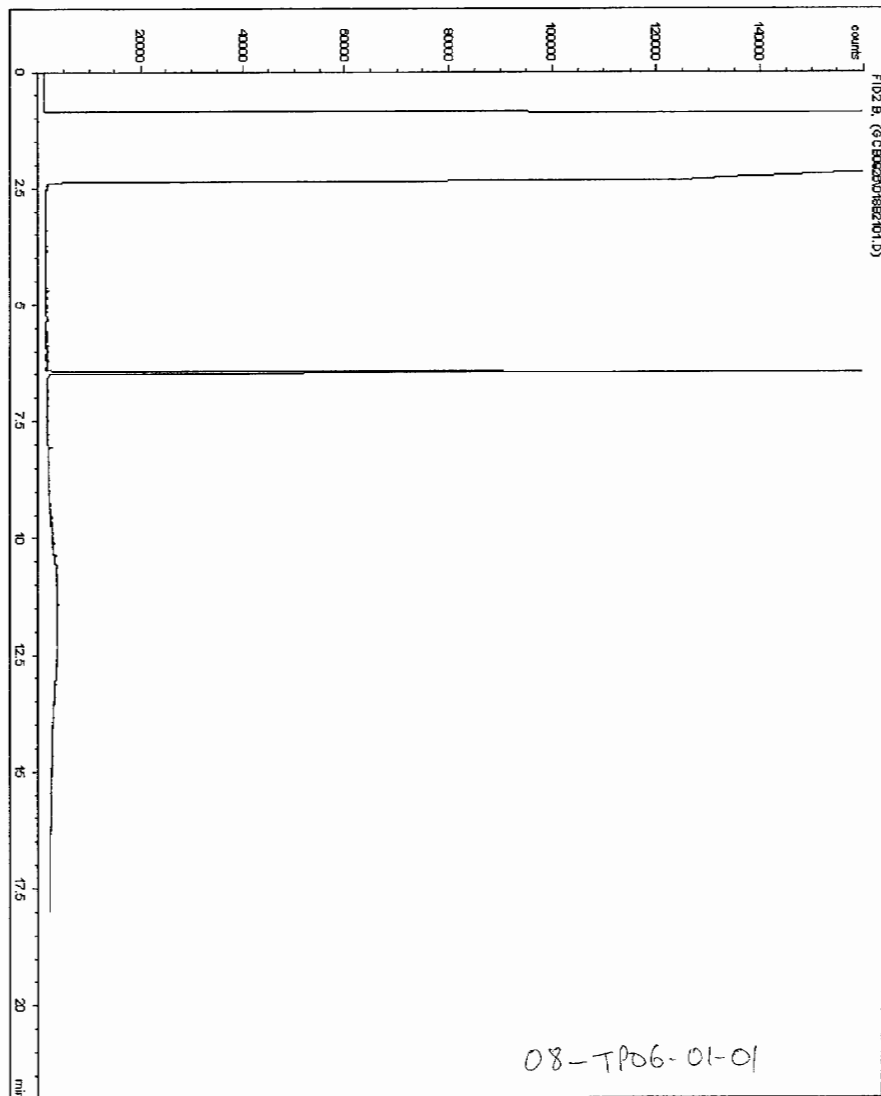
Sample Name: C87833



*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0926\018E2101.D

Sample Name: C87839



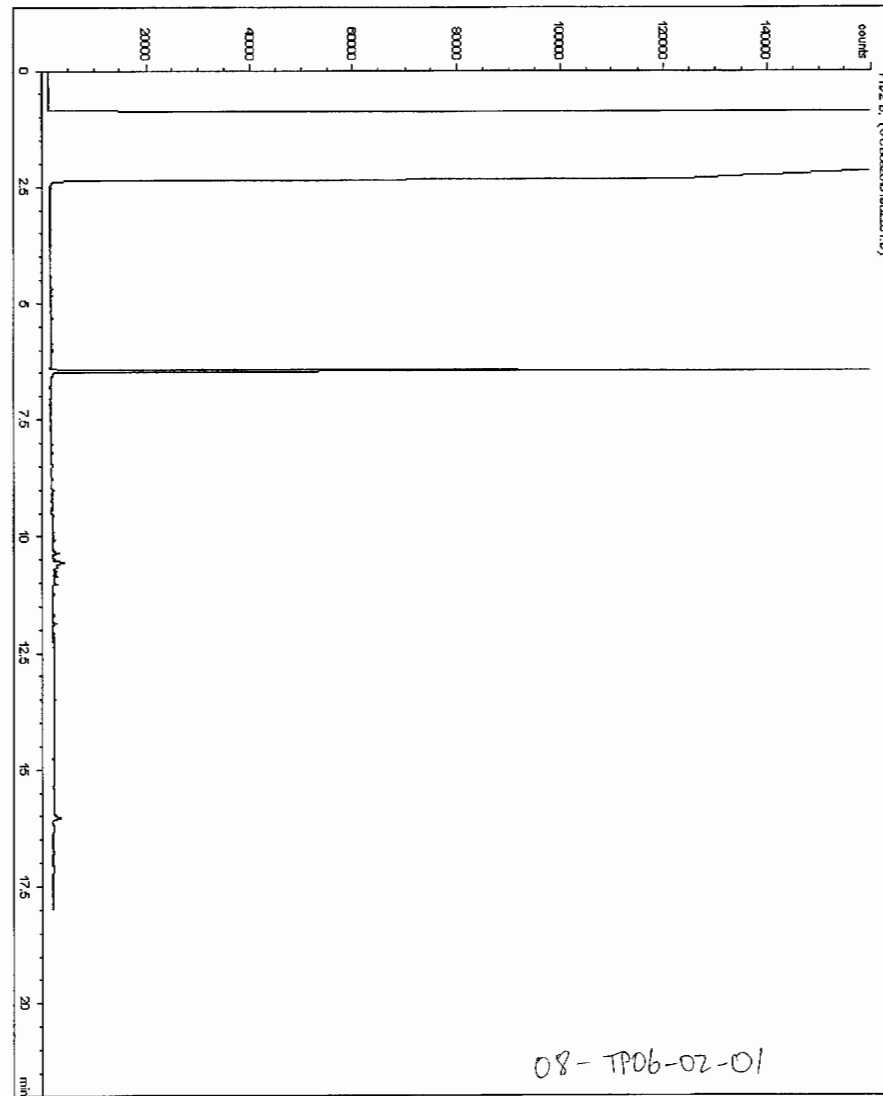
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Instrument 1 2007/01/11 11:08:37 AM AM

Page 1 of 1

Data File C:\HPCHEM\1\DATA\GCB0926\019E2201.D

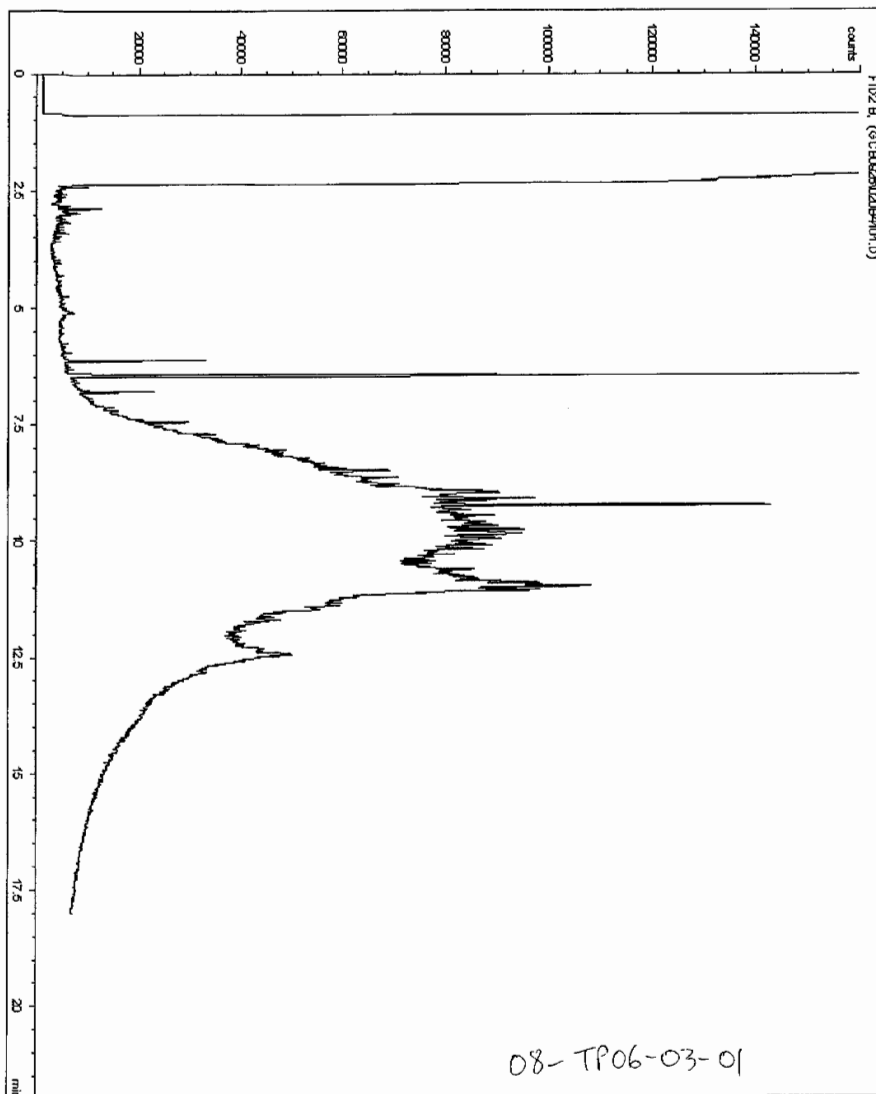
Sample Name: C87842



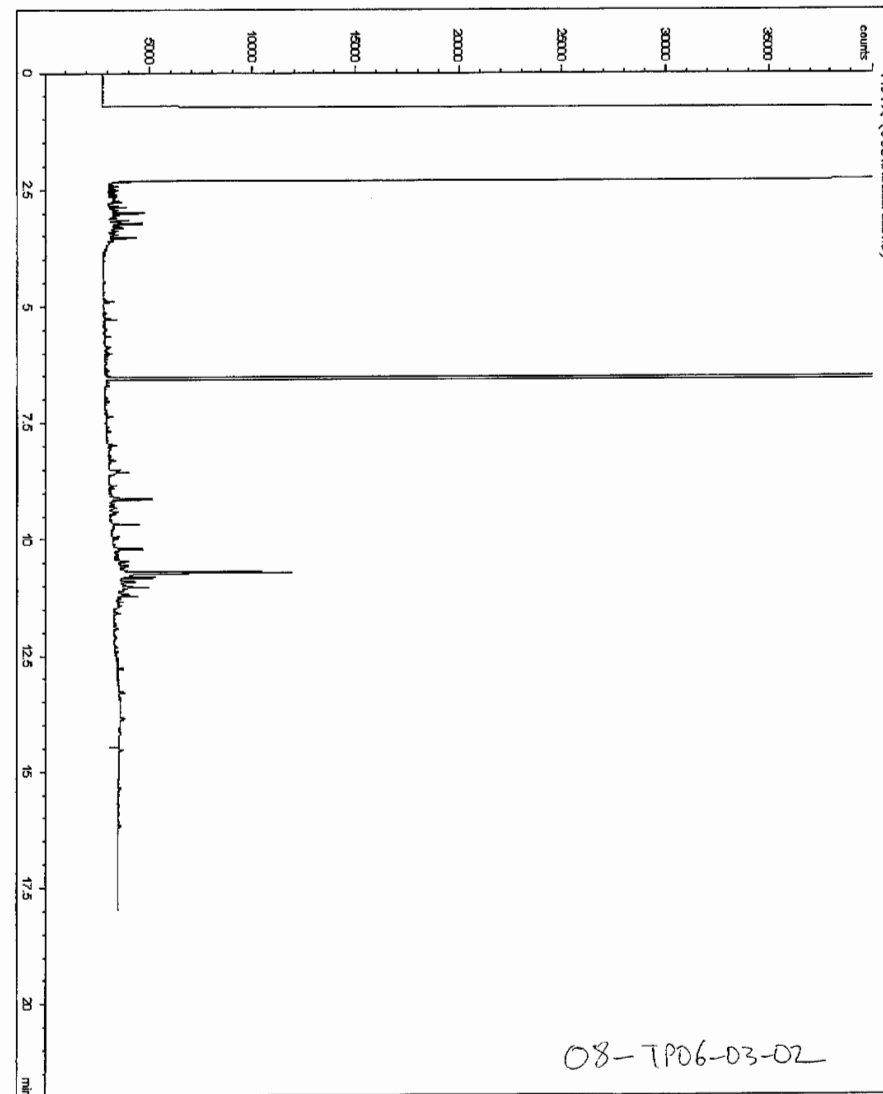
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Instrument 1 2007/01/11 11:08:40 AM AM

Page 1 of 1



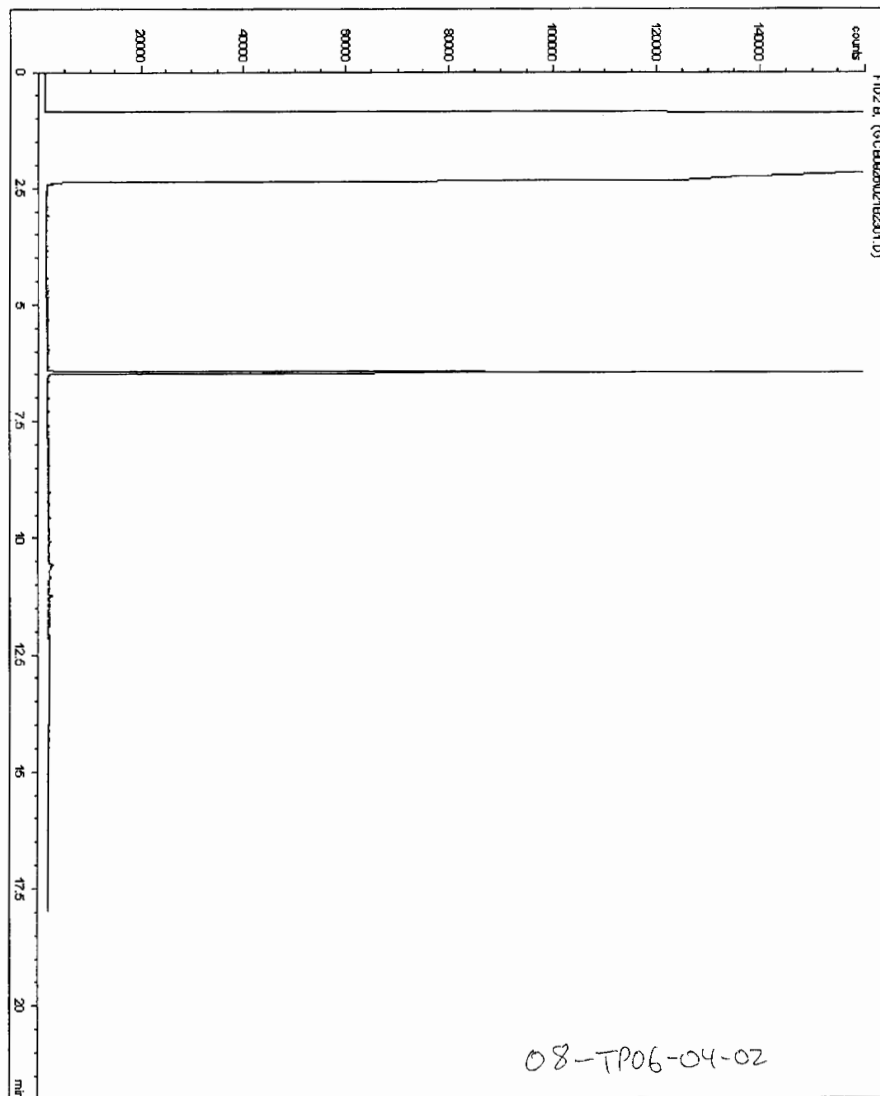
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*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0926\021B2301.D

Sample Name: C87851

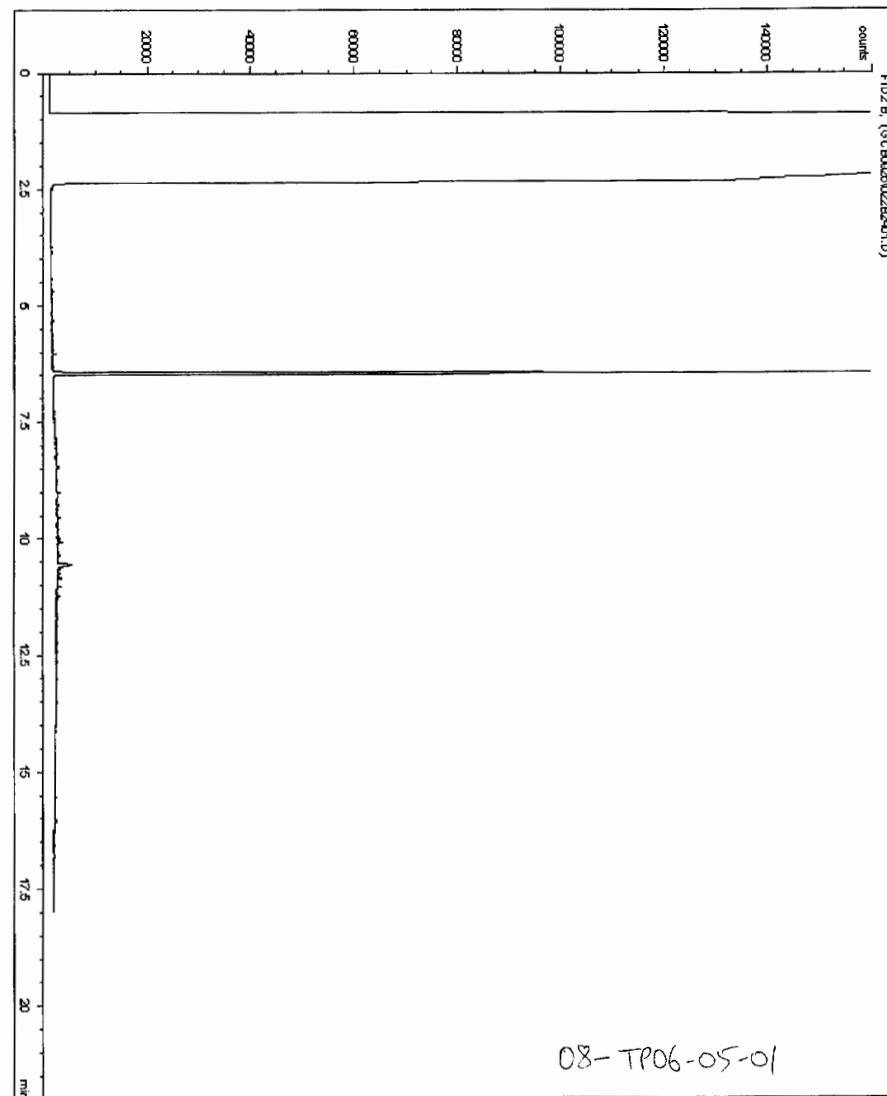


08-TP06-04-02

*** End of Report ***

Data File C:\HPCHEM\1\DATA\GCB0926\022B2401.D

Sample Name: C87855

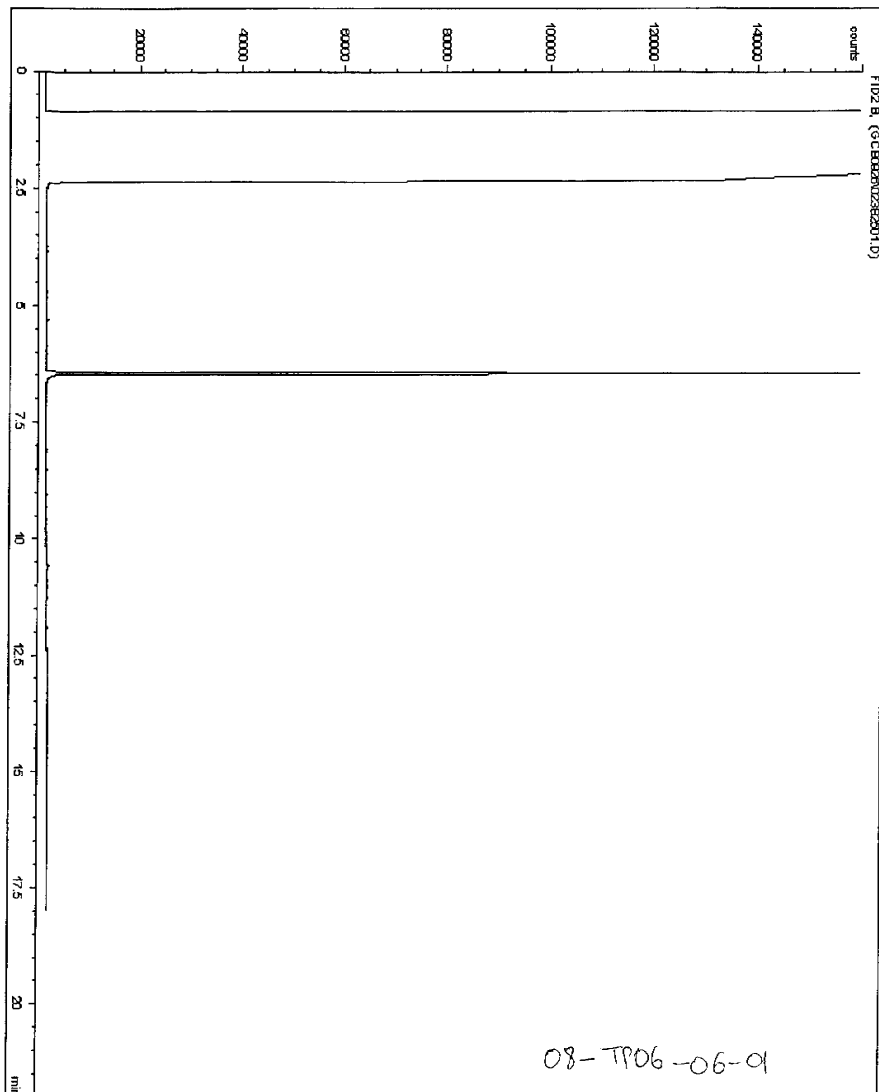


08-TP06-05-01

*** End of Report ***

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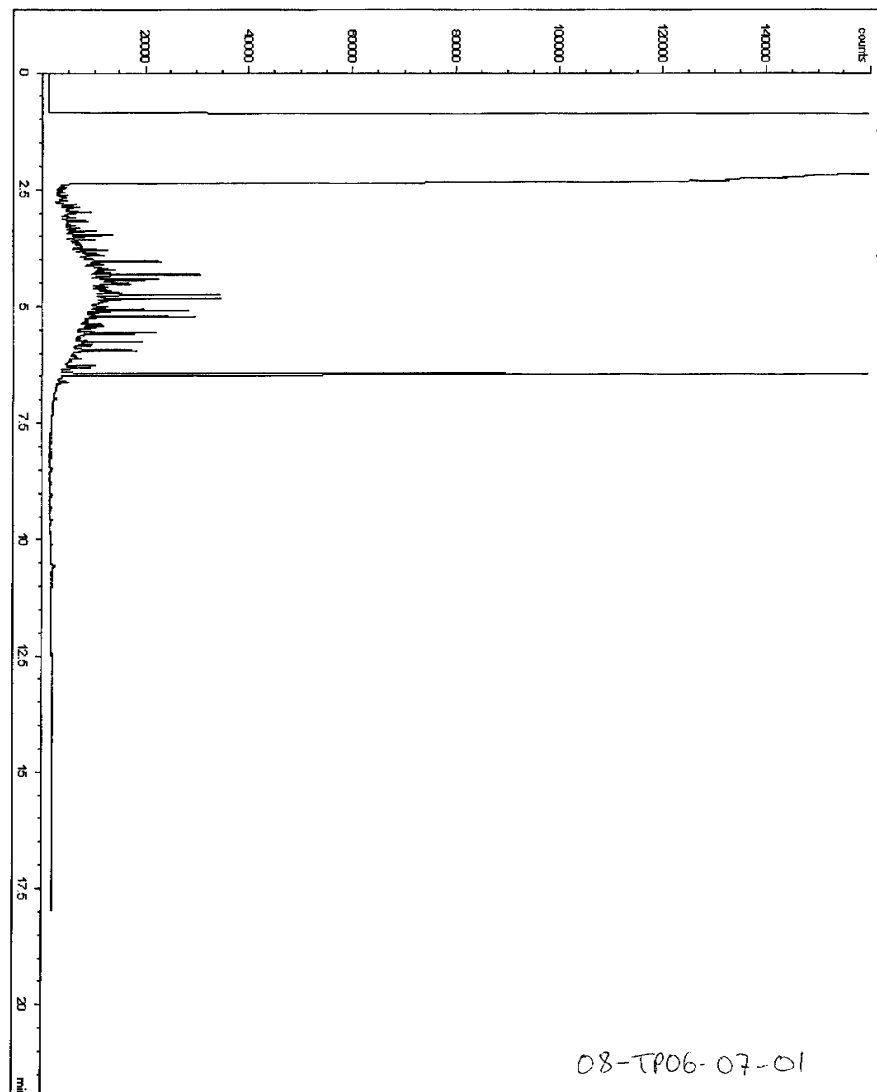
Sample Name: C87858



*** End of Report ***

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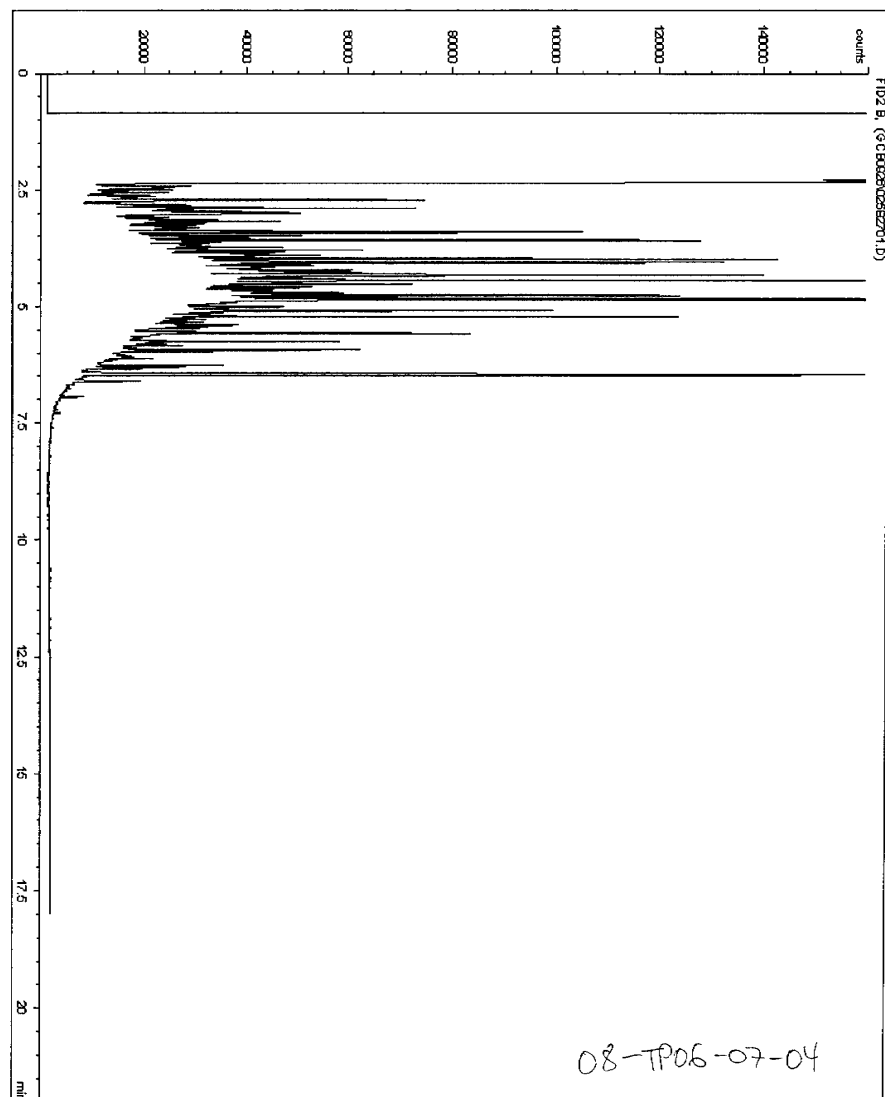
Sample Name: C87861



*** End of Report ***

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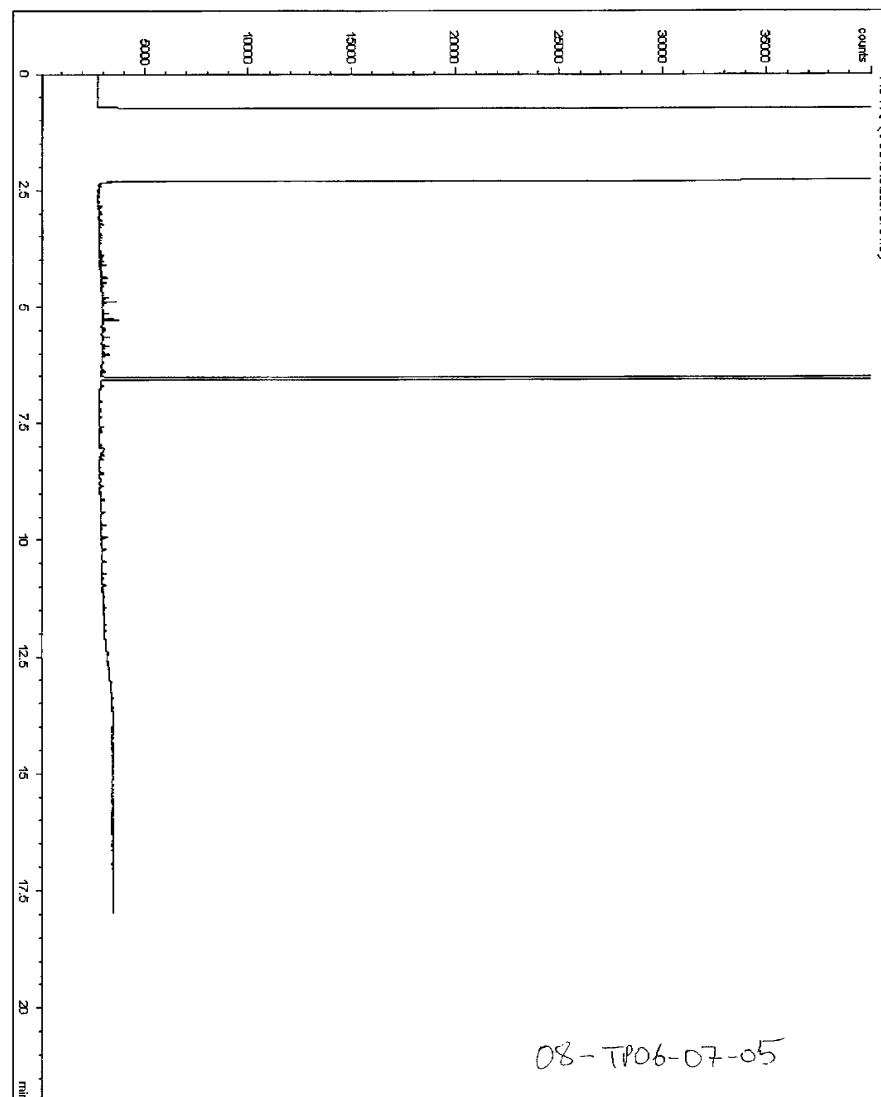
Sample Name: C87864



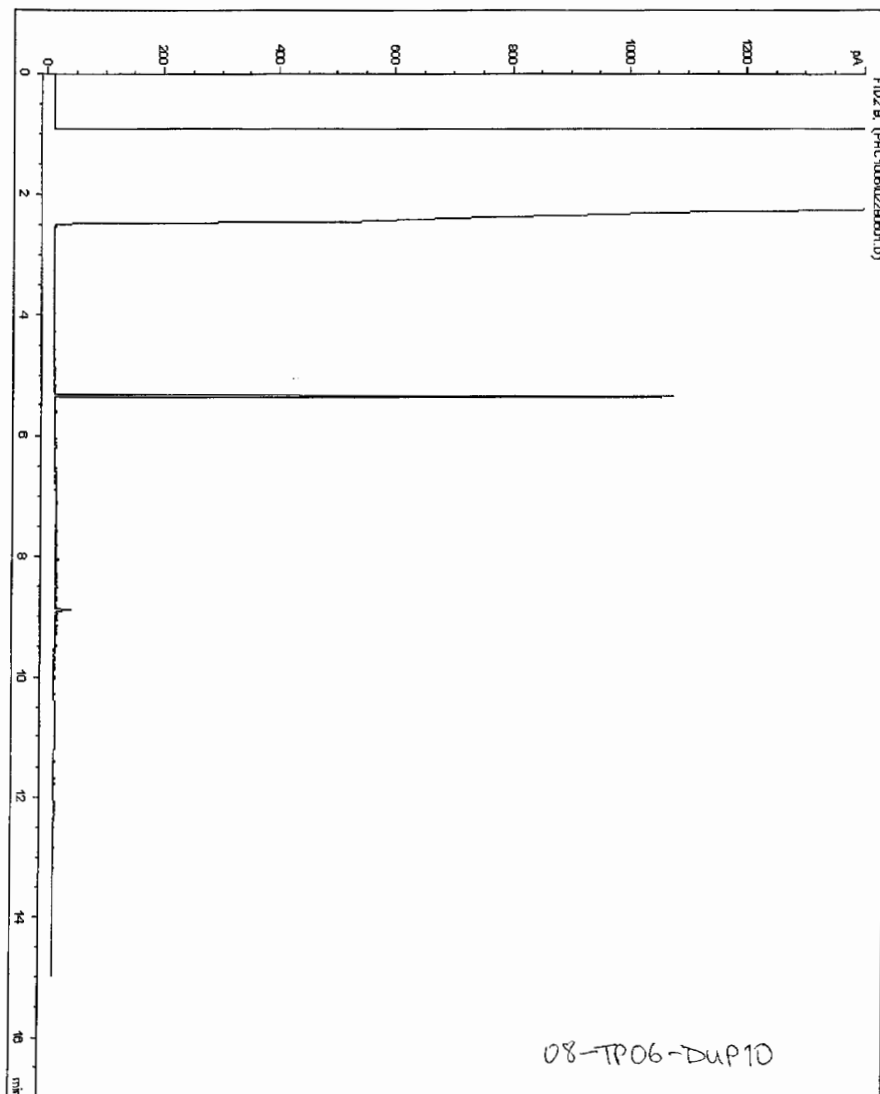
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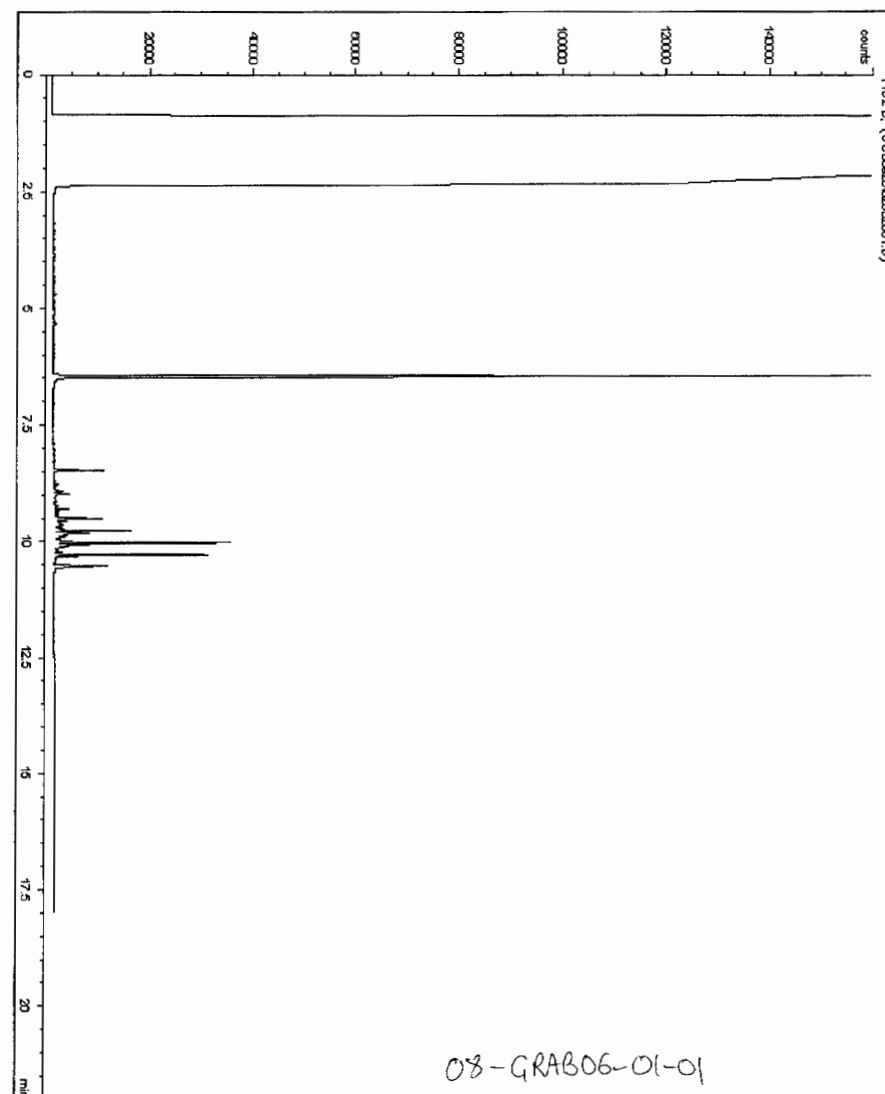
Sample Name: C87865



*** End of Report ***



*** End of Report ***



*** End of Report ***



Your Project #: 1256-0601 INUVIK
Your C.O.C. #: 115786

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA

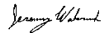
Report Date: 2006/10/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A644756
Received: 2006/09/23, 15:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX in Water by HS GC/MS	1	2006/09/28	2006/09/28	EENVSOP-00004 V.2	EPA SW 846 8260 B
F1-BTEX Water Calc	1	2006/09/26	2006/09/26		
CCME Hydrocarbons (F1; HSGC/MS)	1	2006/09/26	2006/09/26	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in water)	1	2006/10/19	2006/10/20	EENVSOP-00009 v5	EPA 8015D SW846
CCME Hydrocarbons in Water (F2; C10-C16)	1	2006/09/27	2006/09/27	EENVSOP-00009 v5	EPA 8015D SW846
Elements by ICP - Dissolved	1	N/A	2006/09/26	EENVSOP-00034 v1	EPA 6010C
Elements by ICPMS - Dissolved	1	N/A	2006/09/27	EENVSOP-00123 v2	EPA 6020A
PAH in Water by GC/MS (Extended)	1	2006/09/26	2006/09/27	EENVSOP-00010 v3	EPA 3510C/8270D

Encryption Key  Jeremy Wakaruk
20 Oct 2006 04:11:18 -06:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 468-3500 Ext:223

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CABAF have approved this reporting process and electronic report format.

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Page 2 of 12



Maxxam Job #: A644756
Report Date: 2006/10/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID	C90102		
Sampling Date	2006/09/20		
COC Number	115786		
Units	08-TP06-03	RDL	QC Batch

Hydrocarbons			
F1 (C06-C10) - BTEX ug/L	<100	100	1284175
RDL = Reportable Detection Limit			

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID	C90102		
Sampling Date	2006/09/20		
COC Number	115786		
Units	08-TP06-03	RDL	QC Batch

Extractable Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	mg/L	0.4	0.1	1314892
F3 (C18-C34 Hydrocarbons)	mg/L	0.2	0.1	1314892
F4 (C34-C50 Hydrocarbons)	mg/L	<0.1	0.1	1314892
Reached Baseline at C50	mg/L	Yes	1	1314892
Hydrocarbons				
F1 (C08-C10)	ug/L	<100	100	1285169
F2 (C10-C16 Hydrocarbons)	mg/L	0.2	0.1	1286398
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	105		1314892
4-BROMOFLUOROBENZENE (sur.)	%	83		1285169
O-TERPHENYL (sur.)	%	113		1286398
RDL = Reportable Detection Limit				

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID	C90102		
Sampling Date	2006/09/20		
COC Number	115786		
Units	08-TP06-03	RDL	QC Batch

Polycyclic Aromatics				
Naphthalene	ug/L	<1	1	1284304
Quinoline	ug/L	<0.1	0.1	1284304
Acenaphthylene	ug/L	<0.1	0.1	1284304
Acenaphthene	ug/L	<0.1	0.1	1284304
Fluorene	ug/L	<0.1	0.1	1284304
Phenanthrene	ug/L	<0.3	0.3	1284304
Anthracene	ug/L	<0.1	0.1	1284304
Acridine	ug/L	<0.1	0.1	1284304
Fluoranthene	ug/L	<0.1	0.1	1284304
Pyrene	ug/L	<0.1	0.1	1284304
Benzo(a)anthracene	ug/L	<0.1	0.1	1284304
Chrysene	ug/L	<0.1	0.1	1284304
Benzo(b,j)fluoranthene	ug/L	<0.1	0.1	1284304
Benzo(k)fluoranthene	ug/L	<0.1	0.1	1284304
Benzo(a)pyrene	ug/L	<0.01	0.01	1284304
Indeno(1,2,3-cd)pyrene	ug/L	<0.1	0.1	1284304
Dibenz(a,h)anthracene	ug/L	<0.1	0.1	1284304
Benzo(g,h,i)perylene	ug/L	<0.1	0.1	1284304
Surrogate Recovery (%)				
D10-ANTHRACENE (sur.)	%	38		1284304
D12-BENZO(A)PYRENE (sur.)	%	40		1284304
D8-ACENAPHTHYLENE (sur.)	%	37		1284304
TERPHENYL-D14 (sur.)	%	37		1284304
RDL = Reportable Detection Limit				



Maxxam Job #: A644756
Report Date: 2006/10/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID	C90102		
Sampling Date	2006/09/20		
COC Number	115786		
	Units	08-TP06-03	RDL QC Batch

Elements				
Dissolved Aluminum (Al)	mg/L	<0.04	0.04	1284364
Dissolved Antimony (Sb)	mg/L	0.0008	0.0002	1286408
Dissolved Arsenic (As)	mg/L	0.003	0.001	1286408
Dissolved Barium (Ba)	mg/L	0.09	0.01	1284364
Dissolved Beryllium (Be)	mg/L	<0.001	0.001	1286408
Dissolved Boron (B)	mg/L	0.22	0.02	1284364
Dissolved Cadmium (Cd)	mg/L	<0.0002	0.0002	1286408
Dissolved Calcium (Ca)	mg/L	321	0.3	1284364
Dissolved Chromium (Cr)	mg/L	<0.01	0.01	1284364
Dissolved Cobalt (Co)	mg/L	0.0078	0.0003	1286408
Dissolved Copper (Cu)	mg/L	0.0015	0.0002	1286408
Dissolved Iron (Fe)	mg/L	2.47	0.08	1284364
Dissolved Lead (Pb)	mg/L	0.0022	0.0002	1286408
Dissolved Lithium (Li)	mg/L	0.02	0.02	1284364
Dissolved Magnesium (Mg)	mg/L	84.1	0.2	1284364
Dissolved Manganese (Mn)	mg/L	8.89	0.004	1284364
Dissolved Molybdenum (Mo)	mg/L	0.0025	0.0002	1286408
Dissolved Nickel (Ni)	mg/L	0.0185	0.0005	1286408
Dissolved Phosphorus (P)	mg/L	0.2	0.1	1284364
Dissolved Potassium (K)	mg/L	5.2	0.3	1284364
Dissolved Selenium (Se)	mg/L	0.002	0.001	1286408
Dissolved Silicon (Si)	mg/L	7.8	0.1	1284364
Dissolved Silver (Ag)	mg/L	<0.0001	0.0001	1286408
Dissolved Sodium (Na)	mg/L	32.6	0.5	1284364
Dissolved Strontium (Sr)	mg/L	0.78	0.02	1284364
Dissolved Sulphur (S)	mg/L	140	0.2	1284364
Dissolved Thallium (Tl)	mg/L	<0.0002	0.0002	1286408
Dissolved Tin (Sn)	mg/L	<0.001	0.001	1286408
Dissolved Titanium (Ti)	mg/L	0.007	0.001	1286408
Dissolved Uranium (U)	mg/L	0.0021	0.0001	1286408
Dissolved Vanadium (V)	mg/L	0.038	0.001	1286408
Dissolved Zinc (Zn)	mg/L	0.025	0.003	1286408

RDL = Reportable Detection Limit



Maxxam Job #: A644756
Report Date: 2006/10/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID	C90102		
Sampling Date	2006/09/20		
COC Number	115786		
	Units	08-TP06-03	RDL QC Batch

Volatiles				
Benzene	ug/L	<0.5	0.5	1287542
Toluene	ug/L	<0.5	0.5	1287542
Ethylbenzene	ug/L	<0.5	0.5	1287542
o-Xylene	ug/L	<0.5	0.5	1287542
m & p-Xylene	ug/L	<1	1	1287542
Xylenes (Total)	ug/L	<1	1	1287542
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	92		1287542
D4-1,2-DICHLOROETHANE (sur.)	%	84		1287542
D8-TOLUENE (sur.)	%	103		1287542

RDL = Reportable Detection Limit



Maxxam Job #: A644756
Report Date: 2006/10/20

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601 INUVIK
Site Reference:
Sampler Initials:

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER) Comments

Sample C90102-02 Elements by ICP - Dissolved: Sample filtered and preserved in lab for dissolved metals - 2006/09/23

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANN PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report Maxxam Job Number: EA644756

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1284304 AK3	SPIKE	D10-ANTHRACENE (sur.)	2006/09/27		89	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/27		83	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/27		88	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/27		95	%	30 - 130
		Naphthalene	2006/09/27		81	%	30 - 130
		Quinoline	2006/09/27		69	%	30 - 130
		Acenaphthylene	2006/09/27		83	%	30 - 130
		Acenaphthene	2006/09/27		79	%	30 - 130
		Fluorene	2006/09/27		80	%	30 - 130
		Phenanthrene	2006/09/27		83	%	30 - 130
		Anthracene	2006/09/27		83	%	30 - 130
		Acridine	2006/09/27		62	%	30 - 130
		Fluoranthene	2006/09/27		84	%	30 - 130
		Pyrene	2006/09/27		83	%	30 - 130
		Benzo(a)anthracene	2006/09/27		87	%	30 - 130
		Chrysene	2006/09/27		80	%	30 - 130
		Benzo(b,k)fluoranthene	2006/09/27		81	%	30 - 130
		Benzo(k)fluoranthene	2006/09/27		86	%	30 - 130
		Benzo(a)pyrene	2006/09/27		84	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/09/27		90	%	30 - 130
		Dibenz(a,h)anthracene	2006/09/27		84	%	30 - 130
		Benzo(g,h,i)perylene	2006/09/27		87	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/09/27		88	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/09/27		89	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/09/27		91	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/09/27		96	%	30 - 130
		Naphthalene	2006/09/27	<1		ug/L	
		Quinoline	2006/09/27	<0.1		ug/L	
		Acenaphthylene	2006/09/27	<0.1		ug/L	
		Acenaphthene	2006/09/27	<0.1		ug/L	
		Fluorene	2006/09/27	<0.1		ug/L	
		Phenanthrene	2006/09/27	<0.3		ug/L	
		Anthracene	2006/09/27	<0.1		ug/L	
		Acridine	2006/09/27	<0.1		ug/L	
		Fluoranthene	2006/09/27	<0.1		ug/L	
		Pyrene	2006/09/27	<0.1		ug/L	
		Benzo(a)anthracene	2006/09/27	<0.1		ug/L	
		Chrysene	2006/09/27	<0.1		ug/L	
		Benzo(b,k)fluoranthene	2006/09/27	<0.1		ug/L	
		Benzo(k)fluoranthene	2006/09/27	<0.1		ug/L	
		Benzo(a)pyrene	2006/09/27	<0.01		ug/L	
		Indeno(1,2,3-cd)pyrene	2006/09/27	<0.1		ug/L	
		Dibenz(a,h)anthracene	2006/09/27	<0.1		ug/L	
		Benzo(g,h,i)perylene	2006/09/27	<0.1		ug/L	
1284364 MC3	Calibration Check	Dissolved Aluminum (Al)	2006/09/26		103	%	90 - 110
		Dissolved Barium (Ba)	2006/09/26		97	%	90 - 110
		Dissolved Boron (B)	2006/09/26		99	%	90 - 110
		Dissolved Calcium (Ca)	2006/09/26		98	%	90 - 110
		Dissolved Chromium (Cr)	2006/09/26		96	%	90 - 110
		Dissolved Iron (Fe)	2006/09/26		92	%	90 - 110
		Dissolved Lithium (Li)	2006/09/26		103	%	90 - 110
		Dissolved Magnesium (Mg)	2006/09/26		102	%	90 - 110
		Dissolved Manganese (Mn)	2006/09/26		98	%	90 - 110
		Dissolved Phosphorus (P)	2006/09/26		101	%	90 - 110
		Dissolved Potassium (K)	2006/09/26		101	%	90 - 110

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Edmonton: 9619 - 42 Avenue T6E 5H6 Telephone(780) 465-1212 FAX(780) 450-4187



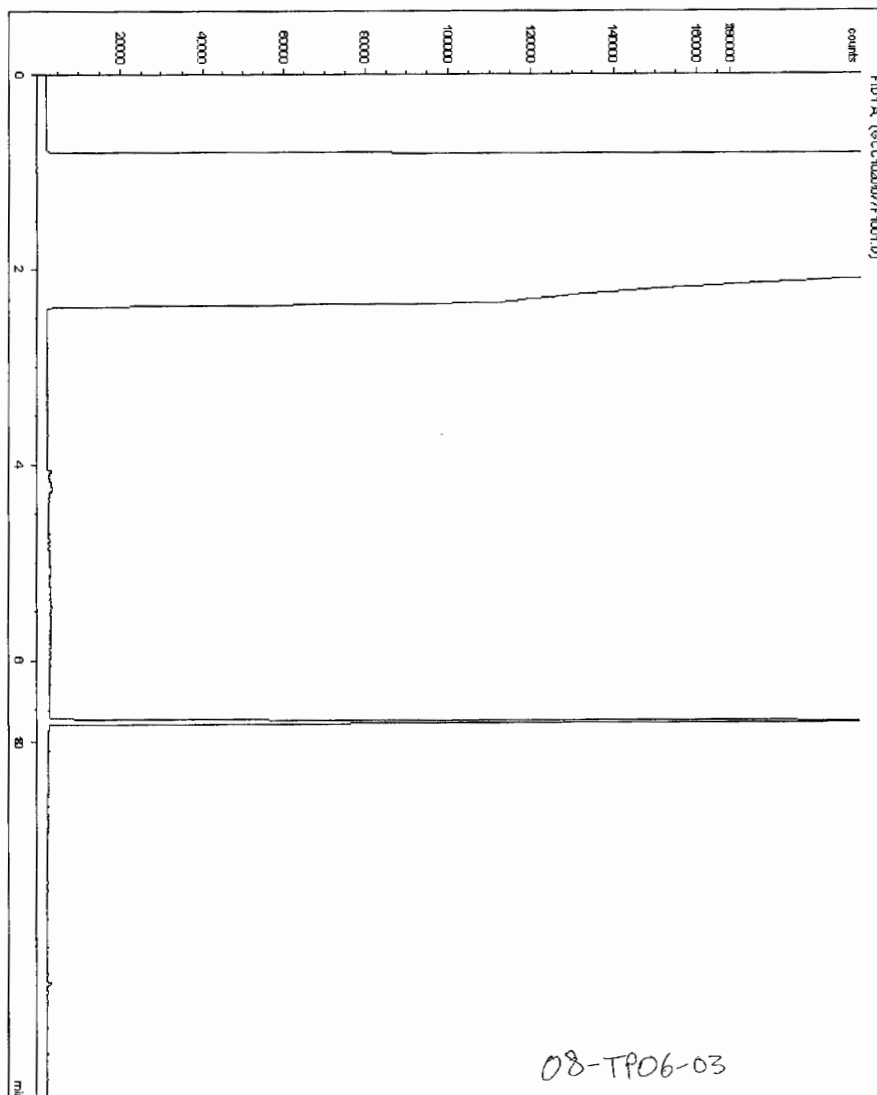
FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601 INUVIK
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: EA644756

QA/QC Batch Num Init	QC Type	Parameter	Date				QC Limits	
			Analyzed yyyy/mm/dd	Value	Recovery	Units		
1284364 MC3	Calibration Check	Dissolved Silicon (Si)	2006/09/26		99	%	N/A	
		Dissolved Sodium (Na)	2006/09/26		98	%	90 - 110	
		Dissolved Strontium (Sr)	2006/09/26		97	%	90 - 110	
	MATRIX SPIKE	Dissolved Sulphur (S)	2006/09/26		0.00000	%	N/A	
		Dissolved Barium (Ba)	2006/09/26		102	%	80 - 120	
		Dissolved Boron (B)	2005/09/26		116	%	80 - 120	
		Dissolved Chromium (Cr)	2006/09/26		101	%	80 - 120	
		Dissolved Lithium (Li)	2006/09/26		111	%	80 - 120	
		Dissolved Manganese (Mn)	2006/09/26		103	%	80 - 120	
		Dissolved Silicon (Si)	2006/09/26		99	%	N/A	
		Dissolved Strontium (Sr)	2006/09/26		101	%	80 - 120	
	BLANK	Dissolved Aluminum (Al)	2006/09/26	<0.04		mg/L		
		Dissolved Barium (Ba)	2006/09/26	<0.01		mg/L		
		Dissolved Boron (B)	2006/09/26	<0.02		mg/L		
		Dissolved Calcium (Ca)	2006/09/26	<0.3		mg/L		
		Dissolved Chromium (Cr)	2006/09/26	<0.01		mg/L		
		Dissolved Iron (Fe)	2006/09/26	<0.06		mg/L		
		Dissolved Lithium (Li)	2006/09/26	<0.02		mg/L		
		Dissolved Magnesium (Mg)	2006/09/26	<0.2		mg/L		
		Dissolved Manganese (Mn)	2006/09/26	<0.004		mg/L		
		Dissolved Phosphorus (P)	2006/09/26	<0.1		mg/L		
		Dissolved Potassium (K)	2006/09/26	<0.3		mg/L		
		Dissolved Silicon (Si)	2006/09/26	<0.1		mg/L		
		Dissolved Sodium (Na)	2006/09/26	<0.5		mg/L		
		Dissolved Strontium (Sr)	2006/09/26	<0.02		mg/L		
		Dissolved Sulphur (S)	2006/09/26	<0.2		mg/L		
		RPD	Dissolved Barium (Ba)	2006/09/26	NC		%	20
			Dissolved Chromium (Cr)	2006/09/26	NC		%	20
	1285189 RI2	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/26		75	%	70 - 130
			F1 (C08-C10)	2006/09/26		70	%	70 - 130
		SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/26		94	%	70 - 130
			F1 (C08-C10)	2006/09/26		89	%	80 - 120
BLANK		4-BROMOFLUOROBENZENE (sur.)	2006/09/26		95	%	70 - 130	
		F1 (C08-C10)	2006/09/26	<100		ug/L		
1286398 JM5	MATRIX SPIKE	F1 (C08-C10)	2006/09/26	NC		%	40	
		O-TERPHENYL (sur.)	2006/09/27		101	%	70 - 130	
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/27		84	%	70 - 130	
		O-TERPHENYL (sur.)	2006/09/27		102	%	70 - 130	
	BLANK	F2 (C10-C16 Hydrocarbons)	2006/09/27		86	%	80 - 120	
		O-TERPHENYL (sur.)	2006/09/27		103	%	70 - 130	
RPD	F2 (C10-C16 Hydrocarbons)	2006/09/27			mg/L			
	F2 (C10-C16 Hydrocarbons)	2006/09/27	NC			40		
1286408 MS2	Calibration Check	Dissolved Antimony (Sb)	2006/09/27		99	%	65 - 117	
		Dissolved Arsenic (As)	2006/09/27		101	%	77 - 113	
		Dissolved Beryllium (Be)	2006/09/27		103	%	80 - 116	
	MATRIX SPIKE	Dissolved Cadmium (Cd)	2006/09/27		102	%	84 - 110	
		Dissolved Cobalt (Co)	2006/09/27		101	%	83 - 110	
		Dissolved Copper (Cu)	2006/09/27		101	%	83 - 113	
		Dissolved Lead (Pb)	2006/09/27		103	%	82 - 107	
		Dissolved Molybdenum (Mo)	2006/09/27		100	%	85 - 109	
		Dissolved Nickel (Ni)	2006/09/27		100	%	81 - 111	
		Dissolved Selenium (Se)	2006/09/27		102	%	74 - 119	
		Dissolved Silver (Ag)	2006/09/27		109	%	85 - 109	
		Dissolved Thallium (Tl)	2006/09/27		104	%	84 - 109	
		Dissolved Tin (Sn)	2006/09/27		102	%	79 - 110	
	BLANK	Dissolved Titanium (Ti)	2006/09/27		98	%	84 - 114	
		Dissolved Uranium (U)	2006/09/27		102	%	82 - 110	
		Dissolved Vanadium (V)	2006/09/27		102	%	85 - 111	
Dissolved Zinc (Zn)		2006/09/27		99	%	80 - 117		
Dissolved Arsenic (As)		2006/09/27		101	%	80 - 120		
Dissolved Cadmium (Cd)		2006/09/27		110	%	80 - 120		

Data File C:\HPCHEM\1\DATA\GCC1020\077F1001.D

Sample Name: C90102



*** End of Report ***



Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115790

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
308-1080-MAINLAND STREET
VANCOUVER, BC
CANADA

Report Date: 2007/01/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A645218
Received: 2006/09/26, 11:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
CCME Hydrocarbons (F1; HSGC/MS)	1	2006/09/28	2006/09/29		
CCME Hydrocarbons (F2-F4 in water)	1	2006/09/29	2006/09/30		
Elements by ICP - Dissolved	1	N/A	2006/09/28	CAL SOP# 0068	ICP
Elements by ICPMS - Dissolved	1	N/A	2006/09/28	CAL SOP# 0068	ICP-MS
PAH in Water by GC/MS (Extended)	1	2006/10/02	2006/10/03		
VOCs in Water by P&T GC/MS (Std List)	1	N/A	2006/09/28		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key  03 Jan 2007 08:48:55 -07:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, B.Sc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Total cover pages: 1

Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187

Page 1 of 13



Maxxam Job #: A645218
Report Date: 2007/01/03

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID	C93139		
Sampling Date	2006/09/23		
COC Number	115790		
	Units	OL-CULVERT	RDL QC Batch

Extractable Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	mg/L	<0.1	0.1	1290014
F3 (C16-C34 Hydrocarbons)	mg/L	<0.1	0.1	1290014
F4 (C34-C50 Hydrocarbons)	mg/L	<0.1	0.1	1290014
Reached Baseline at C50	mg/L	Yes	1	1290014
Hydrocarbons				
F1 (C05-C10)	ug/L	<100	100	1287646
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	106		1290014
4-BROMOFLUOROBENZENE (sur.)	%	115		1287646

RDL = Reportable Detection Limit

Page 2 of 13



Maxxam Job #: A645218
Report Date: 2007/01/03

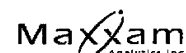
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

SEMIVOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID	C93139		
Sampling Date	2006/09/23		
COC Number	115790		
	Units	OI-CULVERT	RDL QC Batch

Polycyclic Aromatics			
Naphthalene	ug/L	<1	1 1291387
Quinoline	ug/L	<0.1	0.1 1291387
2-Methylnaphthalene	ug/L	0.0096	N/A 1291387
Acenaphthylene	ug/L	<0.1	0.1 1291387
Acenaphthene	ug/L	<0.1	0.1 1291387
Fluorene	ug/L	<0.1	0.1 1291387
Phenanthrene	ug/L	<0.3	0.3 1291387
Anthracene	ug/L	<0.01	0.01 1291387
Acridine	ug/L	<0.1	0.1 1291387
Fluoranthene	ug/L	<0.04	0.04 1291387
Pyrene	ug/L	<0.02	0.02 1291387
Benzo(c)phenanthrene	ug/L	0	N/A 1291387
Benzo(a)anthracene	ug/L	<0.01	0.01 1291387
Chrysene	ug/L	<0.1	0.1 1291387
Benzo(b&j)fluoranthene	ug/L	<0.1	0.1 1291387
7,12-Dimethylbenz(a)anthracene	ug/L	0	N/A 1291387
Benzo(k)fluoranthene	ug/L	<0.1	0.1 1291387
Benzo(a)pyrene	ug/L	<0.01	0.01 1291387
Indeno(1,2,3-cd)pyrene	ug/L	<0.1	0.1 1291387
Dibenz(a,h)anthracene	ug/L	<0.1	0.1 1291387
Benzo(g,h,i)perylene	ug/L	<0.1	0.1 1291387
Dibenzo(a,h)pyrene	ug/L	0	N/A 1291387
Dibenzo(a,i)pyrene	ug/L	0	N/A 1291387
Dibenzo(a,j)pyrene	ug/L	0	N/A 1291387
Surrogate Recovery (%)			
D10-ANTHRACENE (sur.)	%	76	1291387
D12-BENZO(A)PYRENE (sur.)	%	68	1291387
D8-ACENAPHTHYLENE (sur.)	%	90	1291387
TERPHENYL-D14 (sur.)	%	70	1291387

RDL = Reportable Detection Limit



Maxxam Job #: A645218
Report Date: 2007/01/03

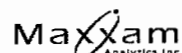
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID	C93139		
Sampling Date	2006/09/23		
COC Number	115790		
	Units	OI-CULVERT	RDL QC Batch

Elements			
Dissolved Aluminum (Al)	mg/L	<0.04	0.04 1287649
Dissolved Antimony (Sb)	mg/L	0.0005	0.0002 1288439
Dissolved Arsenic (As)	mg/L	<0.001	0.001 1288439
Dissolved Barium (Ba)	mg/L	0.03	0.01 1287649
Dissolved Beryllium (Be)	mg/L	<0.001	0.001 1288439
Dissolved Boron (B)	mg/L	0.22	0.02 1287649
Dissolved Cadmium (Cd)	mg/L	<0.0002	0.0002 1288439
Dissolved Calcium (Ca)	mg/L	55.4	0.3 1287649
Dissolved Chromium (Cr)	mg/L	<0.01	0.01 1287649
Dissolved Cobalt (Co)	mg/L	0.0007	0.0003 1288439
Dissolved Copper (Cu)	mg/L	0.0008	0.0002 1288439
Dissolved Iron (Fe)	mg/L	<0.06	0.06 1287649
Dissolved Lead (Pb)	mg/L	0.0005	0.0002 1288439
Dissolved Lithium (Li)	mg/L	<0.02	0.02 1287649
Dissolved Magnesium (Mg)	mg/L	25.1	0.2 1287649
Dissolved Manganese (Mn)	mg/L	0.032	0.004 1287649
Dissolved Molybdenum (Mo)	mg/L	0.0006	0.0002 1288439
Dissolved Nickel (Ni)	mg/L	0.0044	0.0005 1288439
Dissolved Phosphorus (P)	mg/L	<0.1	0.1 1287649
Dissolved Potassium (K)	mg/L	3.8	0.3 1287649
Dissolved Selenium (Se)	mg/L	<0.001	0.001 1288439
Dissolved Silicon (Si)	mg/L	1.0	0.1 1287649
Dissolved Silver (Ag)	mg/L	<0.0001	0.0001 1288439
Dissolved Sodium (Na)	mg/L	6.8	0.5 1287649
Dissolved Strontium (Sr)	mg/L	0.33	0.02 1287649
Dissolved Sulphur (S)	mg/L	49.8	0.2 1287649
Dissolved Thallium (Tl)	mg/L	<0.0002	0.0002 1288439
Dissolved Tin (Sn)	mg/L	<0.001	0.001 1288439
Dissolved Titanium (Ti)	mg/L	0.003	0.001 1288439
Dissolved Uranium (U)	mg/L	0.0007	0.0001 1288439
Dissolved Vanadium (V)	mg/L	<0.001	0.001 1288439
Dissolved Zinc (Zn)	mg/L	2.96	0.003 1288439

RDL = Reportable Detection Limit

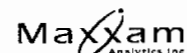


Maxxam Job #: A645218
Report Date: 2007/01/03

FRANZ ENVIRONMENTAL INC.
Client Project #: 1258-0601
Site Reference: INUVIK
Sampler Initials: AL

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		C93139		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	OL-CULVERT	RDL	QC Batch
Volatiles				
Benzene	ug/L	<0.4	0.4	1287630
Bromodichloromethane	ug/L	<0.5	0.5	1287630
Bromoform	ug/L	<0.5	0.5	1287630
Bromomethane	ug/L	<2	2	1287630
Carbon tetrachloride	ug/L	<0.5	0.5	1287630
Chlorobenzene	ug/L	<0.5	0.5	1287630
Chlorodibromomethane	ug/L	<1	1	1287630
Chloroethane	ug/L	<1	1	1287630
Chloroform	ug/L	<0.5	0.5	1287630
Chloromethane	ug/L	<2	2	1287630
1,2-dibromoethane	ug/L	<0.5	0.5	1287630
1,2-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,3-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,4-dichlorobenzene	ug/L	<0.5	0.5	1287630
1,1-dichloroethane	ug/L	<0.5	0.5	1287630
1,2-dichloroethane	ug/L	<0.5	0.5	1287630
1,1-dichloroethene	ug/L	<0.5	0.5	1287630
cis-1,2-dichloroethane	ug/L	<0.5	0.5	1287630
trans-1,2-dichloroethane	ug/L	<0.5	0.5	1287630
Dichloromethane	ug/L	<2	2	1287630
1,2-dichloropropane	ug/L	<0.5	0.5	1287630
cis-1,3-dichloropropane	ug/L	<0.5	0.5	1287630
trans-1,3-dichloropropane	ug/L	<0.5	0.5	1287630
Ethylbenzene	ug/L	<0.4	0.4	1287630
Styrene	ug/L	<0.5	0.5	1287630
1,1,1,2-tetrachloroethane	ug/L	<2	2	1287630
1,1,1,2,2-tetrachloroethane	ug/L	<2	2	1287630
Tetrachloroethene	ug/L	<0.5	0.5	1287630
Toluene	ug/L	<0.4	0.4	1287630
1,1,1-trichloroethane	ug/L	<0.5	0.5	1287630
1,1,2-trichloroethane	ug/L	<0.5	0.5	1287630
Trichloroethene	ug/L	<0.5	0.5	1287630
Trichlorofluoromethane	ug/L	<0.5	0.5	1287630
RDL = Reportable Detection Limit				



Maxxam Job #: A645218
Report Date: 2007/01/03

FRANZ ENVIRONMENTAL INC.
Client Project #: 1258-0601
Site Reference: INUVIK
Sampler Initials: AL

VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		C93139		
Sampling Date		2006/09/23		
COC Number		115790		
	Units	OL-CULVERT	RDL	QC Batch
Vinyl chloride	ug/L	<0.5	0.5	1287630
Xylenes (Total)	ug/L	<0.8	0.8	1287630
m & p-Xylene	ug/L	<0.8	0.8	1287630
o-Xylene	ug/L	<0.4	0.4	1287630
Total Trihalomethanes	ug/L	<0.5	0.5	1287630
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	101		1287630
D4-1,2-DICHLOROETHANE (sur.)	%	118		1287630
D8-TOLUENE (sur.)	%	103		1287630
RDL = Reportable Detection Limit				

General Comments

Results relate only to the items tested.

Quality Assurance Report
Maxxam Job Number: EA645218

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287630 LM4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/28	97	%	70 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28	120	%	70 - 130	
		D8-TOLUENE (sur.)	2006/09/28	101	%	70 - 130	
		Benzene	2006/09/28	86	%	70 - 130	
		Bromodichloromethane	2006/09/28	100	%	70 - 130	
		Bromolorm	2006/09/28	106	%	70 - 130	
		Bromomethane	2006/09/28	83	%	70 - 130	
		Carbon tetrachloride	2006/09/28	112	%	70 - 130	
		Chlorobenzene	2006/09/28	93	%	70 - 130	
		Chlorodibromomethane	2006/09/28	113	%	70 - 130	
		Chloroethane	2006/09/28	84	%	70 - 130	
		Chloroform	2006/09/28	91	%	70 - 130	
		Chloromethane	2006/09/28	74	%	70 - 130	
		1,2-dibromoethane	2006/09/28	100	%	70 - 130	
		1,2-dichlorobenzene	2006/09/28	94	%	70 - 130	
		1,3-dichlorobenzene	2006/09/28	91	%	70 - 130	
		1,4-dichlorobenzene	2006/09/28	91	%	70 - 130	
		1,1-dichloroethane	2006/09/28	89	%	70 - 130	
		1,2-dichloroethane	2006/09/28	111	%	70 - 130	
		1,1-dichloroethene	2006/09/28	84	%	70 - 130	
		cis-1,2-dichloroethene	2006/09/28	86	%	70 - 130	
		trans-1,2-dichloroethene	2006/09/28	85	%	70 - 130	
		Dichloromethane	2006/09/28	76	%	70 - 130	
		1,2-dichloropropane	2006/09/28	92	%	70 - 130	
		cis-1,3-dichloropropene	2006/09/28	91	%	70 - 130	
		trans-1,3-dichloropropene	2006/09/28	100	%	70 - 130	
		Ethylbenzene	2006/09/28	91	%	70 - 130	
		Styrene	2006/09/28	92	%	70 - 130	
		1,1,1,2-tetrachloroethane	2006/09/28	107	%	70 - 130	
		1,1,2,2-tetrachloroethane	2006/09/28	103	%	70 - 130	
		Tetrachloroethane	2006/09/28	98	%	70 - 130	
		Toluene	2006/09/28	90	%	70 - 130	
		1,1,1-trichloroethane	2006/09/28	112	%	70 - 130	
		1,1,2-trichloroethane	2006/09/28	97	%	70 - 130	
		Trichloroethane	2006/09/28	94	%	70 - 130	
		Trichlorofluoromethane	2006/09/28	99	%	70 - 130	
		Vinyl chloride	2006/09/28	95	%	70 - 130	
		m & p-Xylene	2006/09/28	93	%	70 - 130	
		o-Xylene	2006/09/28	93	%	70 - 130	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/09/28	99	%	70 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28	111	%	70 - 130	
		D8-TOLUENE (sur.)	2006/09/28	106	%	70 - 130	
		Benzene	2006/09/28	82	%	70 - 130	
		Bromodichloromethane	2006/09/28	94	%	70 - 130	
		Bromolorm	2006/09/28	103	%	70 - 130	
		Bromomethane	2006/09/28	81	%	70 - 130	
		Carbon tetrachloride	2006/09/28	109	%	70 - 130	
		Chlorobenzene	2006/09/28	92	%	70 - 130	
		Chlorodibromomethane	2006/09/28	111	%	70 - 130	
		Chloroethane	2006/09/28	84	%	70 - 130	
		Chloroform	2006/09/28	89	%	70 - 130	
		Chloromethane	2006/09/28	82	%	70 - 130	
		1,2-dibromoethane	2006/09/28	95	%	70 - 130	
		1,2-dichlorobenzene	2006/09/28	90	%	70 - 130	
		1,3-dichlorobenzene	2006/09/28	91	%	70 - 130	



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA645218

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287630 LM4	SPIKE	1,4-dichlorobenzene	2006/09/28		88	%	70 - 130
		1,1-dichloroethane	2006/09/28		89	%	70 - 130
		1,2-dichloroethane	2006/09/28		100	%	70 - 130
		1,1-dichloroethene	2006/09/28		84	%	70 - 130
		cis-1,2-dichloroethene	2006/09/28		89	%	70 - 130
		trans-1,2-dichloroethene	2006/09/28		85	%	70 - 130
		Dichloromethane	2006/09/28		78	%	70 - 130
		1,2-dichloropropane	2006/09/28		88	%	70 - 130
		cis-1,3-dichloropropene	2006/09/28		101	%	70 - 130
		trans-1,3-dichloropropene	2006/09/28		92	%	70 - 130
		Ethylbenzene	2006/09/28		91	%	70 - 130
		Styrene	2006/09/28		93	%	70 - 130
		1,1,1,2-tetrachloroethane	2006/09/28		107	%	70 - 130
		1,1,2,2-tetrachloroethane	2006/09/28		93	%	70 - 130
		Tetrachloroethane	2006/09/28		97	%	70 - 130
		Toluene	2006/09/28		90	%	70 - 130
		1,1,1-trichloroethane	2006/09/28		99	%	70 - 130
		1,1,2-trichloroethane	2006/09/28		84	%	70 - 130
		Trichloroethane	2006/09/28		88	%	70 - 130
		Trichlorofluoromethane	2006/09/28		94	%	70 - 130
		Vinyl chloride	2006/09/28		97	%	70 - 130
		m & p-Xylene	2006/09/28		93	%	70 - 130
		o-Xylene	2006/09/28		94	%	70 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/09/28		104	%	70 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/09/28		112	%	70 - 130
		D8-TOLUENE (sur.)	2006/09/28		104	%	70 - 130
		Benzene	2006/09/28	<0.4		ug/L	
		Bromodichloromethane	2006/09/28	<0.5		ug/L	
		Bromoform	2006/09/28	<0.5		ug/L	
		Bromomethane	2006/09/28	<2		ug/L	
		Carbon tetrachloride	2006/09/28	<0.5		ug/L	
		Chlorobenzene	2006/09/28	<0.5		ug/L	
		Chlorodibromomethane	2006/09/28	<1		ug/L	
		Chloroethane	2006/09/28	<1		ug/L	
		Chloroform	2006/09/28	<0.5		ug/L	
		Chloromethane	2006/09/28	<2		ug/L	
		1,2-dibromoethane	2006/09/28	<0.5		ug/L	
		1,2-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,3-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,4-dichlorobenzene	2006/09/28	<0.5		ug/L	
		1,1-dichloroethane	2006/09/28	<0.5		ug/L	
		1,2-dichloroethane	2006/09/28	<0.5		ug/L	
		1,1-dichloroethene	2006/09/28	<0.5		ug/L	
		cis-1,2-dichloroethene	2006/09/28	<0.5		ug/L	
		trans-1,2-dichloroethene	2006/09/28	<0.5		ug/L	
		Dichloromethane	2006/09/28	<2		ug/L	
		1,2-dichloropropane	2006/09/28	<0.5		ug/L	
		cis-1,3-dichloropropene	2006/09/28	<0.5		ug/L	
		trans-1,3-dichloropropene	2006/09/28	<0.5		ug/L	
		Ethylbenzene	2006/09/28	<0.4		ug/L	
		Styrene	2006/09/28	<0.5		ug/L	
		1,1,1,2-tetrachloroethane	2006/09/28	<2		ug/L	
		1,1,2,2-tetrachloroethane	2006/09/28	<2		ug/L	
		Tetrachloroethane	2006/09/28	<0.5		ug/L	
		Toluene	2006/09/28	<0.4		ug/L	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA645218

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287630 LM4	BLANK	1,1,1-trichloroethane	2006/09/28	<0.5		ug/L	
		1,1,2-trichloroethane	2006/09/28	<0.5		ug/L	
		Trichloroethane	2006/09/28	<0.5		ug/L	
		Trichlorofluoromethane	2006/09/28	<0.5		ug/L	
		Vinyl chloride	2006/09/28	<0.5		ug/L	
		Xylenes (Total)	2006/09/28	<0.8		ug/L	
		m & p-Xylene	2006/09/28	<0.8		ug/L	
		o-Xylene	2006/09/28	<0.4		ug/L	
		Vinyl chloride	2006/09/28	NC		%	40
		4-BROMOFLUOROBENZENE (sur.)	2006/09/28		87	%	70 - 130
		F1 (C06-C10)	2006/09/28		80	%	70 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/09/28		106	%	70 - 130
		F1 (C06-C10)	2006/09/28		96	%	80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2006/09/28		109	%	70 - 130
		F1 (C06-C10)	2006/09/28	<100		ug/L	
1287648 MA	RPD	F1 (C06-C10)	2006/09/28	NC		%	40
		Calibration Check	2006/09/28		107	%	90 - 110
		Dissolved Aluminum (Al)	2006/09/28		100	%	90 - 110
		Dissolved Barium (Ba)	2006/09/28		101	%	90 - 110
		Dissolved Boron (B)	2006/09/28		96	%	90 - 110
		Dissolved Calcium (Ca)	2006/09/28		96	%	90 - 110
		Dissolved Chromium (Cr)	2006/09/28		99	%	90 - 110
		Dissolved Iron (Fe)	2006/09/28		100	%	90 - 110
		Dissolved Lithium (Li)	2006/09/28		105	%	90 - 110
		Dissolved Magnesium (Mg)	2006/09/28		101	%	90 - 110
		Dissolved Manganese (Mn)	2006/09/28		100	%	90 - 110
		Dissolved Phosphorus (P)	2006/09/28		100	%	90 - 110
		Dissolved Potassium (K)	2006/09/28		101	%	90 - 110
		Dissolved Silicon (Si)	2006/09/28		101	%	N/A
		Dissolved Sodium (Na)	2006/09/28		101	%	90 - 110
1287649 MC6	MATRIX SPIKE	Dissolved Strontium (Sr)	2006/09/28		100	%	90 - 110
		Dissolved Barium (Ba)	2006/09/28		98	%	80 - 120
		Dissolved Boron (B)	2006/09/28		101	%	80 - 120
		Dissolved Calcium (Ca)	2006/09/28		109	%	80 - 120
		Dissolved Chromium (Cr)	2006/09/28		96	%	80 - 120
		Dissolved Lithium (Li)	2006/09/28		110	%	80 - 120
		Dissolved Manganese (Mn)	2006/09/28		101	%	N/A
		Dissolved Silicon (Si)	2006/09/28		110	%	80 - 120
		Dissolved Strontium (Sr)	2006/09/28		101	%	N/A
		Dissolved Aluminum (Al)	2006/09/28	<0.04		mg/L	
		Dissolved Barium (Ba)	2006/09/28	<0.01		mg/L	
		Dissolved Boron (B)	2006/09/28	<0.02		mg/L	
		Dissolved Calcium (Ca)	2006/09/28	<0.3		mg/L	
		Dissolved Chromium (Cr)	2006/09/28	<0.01		mg/L	
		Dissolved Iron (Fe)	2006/09/28	<0.06		mg/L	
1287649 MC6	RPD	Dissolved Lithium (Li)	2006/09/28	<0.02		mg/L	
		Dissolved Magnesium (Mg)	2006/09/28	<0.2		mg/L	
		Dissolved Manganese (Mn)	2006/09/28	<0.004		mg/L	
		Dissolved Phosphorus (P)	2006/09/28	<0.1		mg/L	
		Dissolved Potassium (K)	2006/09/28	<0.1		mg/L	
		Dissolved Silicon (Si)	2006/09/28	<0.1		mg/L	
		Dissolved Sodium (Na)	2006/09/28	<0.1		mg/L	
		Dissolved Strontium (Sr)	2006/09/28	<0.5		mg/L	
		Dissolved Sulphur (S)	2006/09/28	<0.02		mg/L	
		Dissolved Calcium (Ca)	2006/09/28	0.07		%	20
		Dissolved Iron (Fe)	2006/09/28	1.4		%	20
		Dissolved Magnesium (Mg)	2006/09/28	1.4		%	20

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANN PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch	QC Type	Parameter	Data Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1287649 MC6	RPD	Dissolved Manganese (Mn)	2006/09/28	0.7	%		20
		Dissolved Potassium (K)	2006/09/28	1.6	%		20
		Dissolved Sodium (Na)	2006/09/28	0.2	%		20
1289439 MS2	Calibration Check	Dissolved Antimony (Sb)	2006/09/28	99	%	85 - 115	
		Dissolved Arsenic (As)	2006/09/28	101	%	85 - 115	
		Dissolved Beryllium (Be)	2006/09/28	98	%	85 - 115	
		Dissolved Cadmium (Cd)	2006/09/28	98	%	85 - 115	
		Dissolved Cobalt (Co)	2006/09/28	98	%	85 - 115	
		Dissolved Copper (Cu)	2006/09/28	95	%	85 - 115	
		Dissolved Lead (Pb)	2006/09/28	105	%	85 - 115	
		Dissolved Molybdenum (Mo)	2006/09/28	102	%	85 - 115	
		Dissolved Nickel (Ni)	2006/09/28	97	%	85 - 115	
		Dissolved Selenium (Se)	2006/09/28	99	%	85 - 115	
		Dissolved Silver (Ag)	2006/09/28	105	%	85 - 115	
		Dissolved Thallium (Tl)	2006/09/28	103	%	85 - 115	
		Dissolved Tin (Sn)	2006/09/28	102	%	85 - 115	
		Dissolved Uranium (U)	2006/09/28	103	%	85 - 115	
		Dissolved Vanadium (V)	2006/09/28	99	%	85 - 115	
		Dissolved Zinc (Zn)	2006/09/28	97	%	85 - 115	
	MATRIX SPIKE [C93139-02]	Dissolved Arsenic (As)	2006/09/28	98	%	80 - 120	
		Dissolved Cadmium (Cd)	2006/09/28	98	%	80 - 120	
		Dissolved Lead (Pb)	2006/09/28	103	%	80 - 120	
		Dissolved Selenium (Se)	2006/09/28	101	%	80 - 120	
		Dissolved Thallium (Tl)	2006/09/28	104	%	80 - 120	
	BLANK	Dissolved Antimony (Sb)	2006/09/28	<0.0002		mg/L	
		Dissolved Arsenic (As)	2006/09/28	<0.001		mg/L	
		Dissolved Beryllium (Be)	2006/09/28	<0.001		mg/L	
		Dissolved Cadmium (Cd)	2006/09/28	<0.0002		mg/L	
		Dissolved Cobalt (Co)	2006/09/28	<0.0003		mg/L	
		Dissolved Copper (Cu)	2006/09/28	<0.0002		mg/L	
		Dissolved Lead (Pb)	2006/09/28	<0.0002		mg/L	
		Dissolved Molybdenum (Mo)	2006/09/28	<0.0002		mg/L	
		Dissolved Nickel (Ni)	2006/09/28	<0.0005		mg/L	
		Dissolved Selenium (Se)	2006/09/28	<0.001		mg/L	
		Dissolved Silver (Ag)	2006/09/28	<0.0001		mg/L	
		Dissolved Thallium (Tl)	2006/09/28	<0.0002		mg/L	
		Dissolved Tin (Sn)	2006/09/28	<0.001		mg/L	
		Dissolved Titanium (Ti)	2006/09/28	<0.001		mg/L	
		Dissolved Uranium (U)	2006/09/28	<0.0001		mg/L	
		Dissolved Vanadium (V)	2006/09/28	<0.001		mg/L	
	RPD [C93139-02]	Dissolved Zinc (Zn)	2006/09/28	NC	%		20
		Dissolved Antimony (Sb)	2006/09/28	NC	%		20
		Dissolved Arsenic (As)	2006/09/28	NC	%		20
		Dissolved Beryllium (Be)	2006/09/28	NC	%		20
		Dissolved Cadmium (Cd)	2006/09/28	NC	%		20
		Dissolved Cobalt (Co)	2006/09/28	NC	%		20
		Dissolved Copper (Cu)	2006/09/28	NC	%		20
		Dissolved Lead (Pb)	2006/09/28	NC	%		20
		Dissolved Molybdenum (Mo)	2006/09/28	NC	%		20
		Dissolved Nickel (Ni)	2006/09/28	10.8	%		20
		Dissolved Selenium (Se)	2006/09/28	NC	%		20
		Dissolved Silver (Ag)	2006/09/28	NC	%		20
		Dissolved Thallium (Tl)	2006/09/28	NC	%		20
		Dissolved Tin (Sn)	2006/09/28	NC	%		20

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANN PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645218

QA/QC Batch	QC Type	Parameter	Data Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1288439 MS2	RPD [C93139-02]	Dissolved Titanium (Ti)	2006/09/28	NC	%		20
		Dissolved Uranium (U)	2006/09/28	1.5	%		20
		Dissolved Vanadium (V)	2006/09/28	NC	%		20
		Dissolved Zinc (Zn)	2006/09/28	1.0	%		20
1290014 JM5	MATRIX SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/30	111	%	70 - 130	
		F3 (C16-C34 Hydrocarbons)	2006/09/30	98	%	70 - 130	
		F4 (C34-C50 Hydrocarbons)	2006/09/30	133	%	70 - 130	
		O-TERPHENYL (sur.)	2006/09/30	97	%	70 - 130	
	SPIKE	F2 (C10-C16 Hydrocarbons)	2006/09/30	93	%	85 - 115	
		F3 (C16-C34 Hydrocarbons)	2006/09/30	80	%	85 - 115	
		F4 (C34-C50 Hydrocarbons)	2006/09/30	80	%	85 - 115	
		O-TERPHENYL (sur.)	2006/09/30	105	%	70 - 130	
	BLANK	F2 (C10-C16 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		F3 (C16-C34 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		F4 (C34-C50 Hydrocarbons)	2006/09/30	<0.1		mg/L	
		O-TERPHENYL (sur.)	2006/09/30	YES, RDL=1		mg/L	70 - 130
	RPD	Reached Baseline at C50	2006/09/30	NC	%		40
		F2 (C10-C16 Hydrocarbons)	2006/09/30	NC	%		40
		F3 (C16-C34 Hydrocarbons)	2006/09/30	NC	%		40
		F4 (C34-C50 Hydrocarbons)	2006/09/30	NC	%		40
		Reached Baseline at C50	2006/09/30	NC	%		40
1291387 AK3	SPIKE	D10-ANTHRACENE (sur.)	2006/10/03	77	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/10/03	70	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/10/03	61	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/10/03	78	%	30 - 130	
		Naphthalene	2006/10/03	59	%	30 - 130	
		Quinoline	2006/10/03	62	%	30 - 130	
		Acenaphthylene	2006/10/03	61	%	30 - 130	
		Acenaphthene	2006/10/03	58	%	30 - 130	
		Fluorene	2006/10/03	59	%	30 - 130	
		Phenanthrene	2006/10/03	63	%	30 - 130	
		Anthracene	2006/10/03	63	%	30 - 130	
		Acridine	2006/10/03	62	%	30 - 130	
		Fluoranthene	2006/10/03	62	%	30 - 130	
		Pyrene	2006/10/03	61	%	30 - 130	
		Benzo(a)anthracene	2006/10/03	63	%	30 - 130	
		Chrysene	2006/10/03	64	%	30 - 130	
		Benzo(b)fluoranthene	2006/10/03	64	%	30 - 130	
		Benzo(k)fluoranthene	2006/10/03	69	%	30 - 130	
		Benzo(a)pyrene	2006/10/03	69	%	30 - 130	
		Indeno(1,2,3-cd)pyrene	2006/10/03	71	%	30 - 130	
		Dibenz(a,h)anthracene	2006/10/03	106	%	30 - 130	
		Benzo(g,h,i)perylene	2006/10/03	68	%	30 - 130	
	BLANK	D10-ANTHRACENE (sur.)	2006/10/03	69	%	30 - 130	
		D12-BENZO(A)PYRENE (sur.)	2006/10/03	77	%	30 - 130	
		D8-ACENAPHTHYLENE (sur.)	2006/10/03	68	%	30 - 130	
		TERPHENYL-D14 (sur.)	2006/10/03	70	%	30 - 130	
		Naphthalene	2006/10/03	<1		ug/L	
		Quinoline	2006/10/03	<0.1		ug/L	
		2-Methylnaphthalene	2006/10/03	0.0077		ug/L	
		Acenaphthylene	2006/10/03	<0.1		ug/L	
		Acenaphthene	2006/10/03	<0.1		ug/L	
		Fluorene	2006/10/03	<0.1		ug/L	
		Phenanthrene	2006/10/03	<0.3		ug/L	
		Anthracene	2006/10/03	<0.1		ug/L	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA545218

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1291387 AK3	BLANK	Acridine	2006/10/03	<0.1		ug/L	
		Fluoranthene	2006/10/03	<0.04		ug/L	
		Pyrene	2006/10/03	<0.02		ug/L	
		Benzo(c)phenanthrene	2006/10/03	0		ug/L	
		Benzo(a)anthracene	2006/10/03	<0.01		ug/L	
		Chrysene	2006/10/03	<0.1		ug/L	
		Benzo(b&j)fluoranthene	2006/10/03	<0.1		ug/L	
		7,12-Dimethylbenz(a)anthracene	2006/10/03	0		ug/L	
		Benzo(k)fluoranthene	2006/10/03	<0.1		ug/L	
		Benzo(a)pyrene	2006/10/03	<0.01		ug/L	
		Indeno(1,2,3-cd)pyrene	2006/10/03	<0.1		ug/L	
		Dibenz(a,h)anthracene	2006/10/03	<0.1		ug/L	
		Benzo(g,h,i)perylene	2006/10/03	<0.1		ug/L	
		Dibenzo(a,h)pyrene	2006/10/03	0		ug/L	
		Dibenzo(a,i)pyrene	2006/10/03	0		ug/L	
		Dibenzo(a,j)pyrene	2006/10/03	0		ug/L	

N/A = Not Applicable
NC = Non-calculable
RPD = Relative Percent Difference

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Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115788

Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
FRANZEN-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/10/24

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A645233

Received: 2006/09/26, 11:00

Sample Matrix: Leachate
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Mercury (Leachable) ☉	1	2006/10/20	2006/10/20	ING143 Rev 6.2	Based on EPA 245.1
Metals - SWEP undigested ☉	1	2006/10/18	2006/10/19	BRN SOP-00051	BC Reg 63/88

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
BTEX by HS GC/MS (MeOH extract)	1	2006/10/06	2006/10/06	EENVSOP-00005 V.2	EPA 8260B/5021A
CCME Hydrocarbons (F1; MeOH; HSOC)	1	2006/10/06	2006/10/07	EENVSOP-00002 v8	CCME CWS for PHC
CCME Hydrocarbons (F2-F4 in soil)	2	2006/10/10	2006/10/10	EENVSOP-00007 v4	CWS PHCS Tier 1
Elements by ICP - Soils	1	N/A	2006/10/10	EENVSOP-00034 v1	EPA 6010C
Elements by ICPMS - Soils	1	N/A	2006/10/10	EENVSOP-00123 v2	EPA 6020A
Moisture	5	N/A	2006/10/06	EENVSOP-00023 v2	Carter SSMA 51.2
PAH in Soil by GC/MS (Extended)	2	2006/10/10	2006/10/11	EENVSOP-00010 v3	EPA 3510C/8270D
Polychlorinated Biphenyls ☉	1	N/A	2006/10/10	CAL SOP-00149	GC/ECD-EXTRACTION
VOCs in Soil by P&T GC/MS (Std List)	1	N/A	2006/10/10	EENVSOP-00003 V.3	EPA SW843 8260 B

- (1) This test was performed by Maxxam Vancouver
(2) This test was performed by Maxxam Calgary

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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187



Your Project #: 1256-0601
Site: INUVIK
Your C.O.C. #: 115788

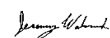
Attention: JOHANNE PARADIS
FRANZ ENVIRONMENTAL INC.
FRANZEN-VAN
1080 MAINLAND STREET
308
VANCOUVER, BC
Canada V6B 2T4

Report Date: 2006/10/24

CERTIFICATE OF ANALYSIS

-2-

Encryption Key

 Jeremy Wakaruk
24 Oct 2006 11:21:29 -06:00

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

JEREMY WAKARUK, BSc., Senior Project Manager
Email: jwakaruk@maxxamanalytics.com
Phone# (780) 577-7105

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CAEAL have approved this reporting process and electronic report format.

Total cover pages: 2
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Edmonton: 9619 - 42 Avenue T6E 5R2 Telephone(780) 465-1212 FAX(780) 450-4187

ELEMENTS BY ATOMIC SPECTROSCOPY (LEACHATE)

Maxxam ID		C93206		
Sampling Date		2006/09/22		
COC Number		115788		
Units 10-TP06-06-01 RDL QC Batch				

Elements				
Leachable Mercury (Hg)	ug/L	<0.05	0.05	1315909
Leachable Metals				
Leachable (SWEP) Arsenic (As)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Barium (Ba)	mg/L	0.2	0.1	1314691
Leachable (SWEP) Boron (B)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Cadmium (Cd)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Chromium (Cr)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Copper (Cu)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Lead (Pb)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Molybdenum (Mo)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Selenium (Se)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Silver (Ag)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Uranium (U)	mg/L	<0.1	0.1	1314691
Leachable (SWEP) Zinc (Zn)	mg/L	<0.1	0.1	1314691

RDL = Reportable Detection Limit

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		C93205	C93206	C93207	C93208		
Sampling Date		2006/09/22	2006/09/22	2006/09/22	2006/09/22		
COC Number		115788	115788	115788	115788		
Units 10-TP06-06-02 10-TP06-06-01 10-TP06-07-01 10-TP06-08-01 RDL QC Batch							

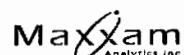
Physical Properties							
Moisture	%	69.7	21.0	24.1	19.4	0.3	1298328

RDL = Reportable Detection Limit

Maxxam ID		C93209		
Sampling Date		2006/09/22		
COC Number		115788		
Units 10-TP06-09-01 RDL QC Batch				

Physical Properties				
Moisture	%	17.9	0.3	1298328

RDL = Reportable Detection Limit



Maxxam Job #: A645233
Report Date: 2006/10/24

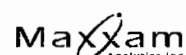
FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL/

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID	C93206	C93207	C93209		
Sampling Date	2006/09/22	2006/09/22	2006/09/22		
COC Number	115788	115788	115788		
	Units	10-TP06-06-01	10-TP06-07-01	10-TP06-09-01	RDL QC Batch

Ext. Pet. Hydrocarbon					
F1 (C6-C10)	mg/kg		<10	10	1298327
F2 (C10-C16 Hydrocarbons)	mg/kg	11		15	1300135
F3 (C16-C34 Hydrocarbons)	mg/kg	19		104	1300135
F4 (C34-C50 Hydrocarbons)	mg/kg	14		128	1300135
Reached Baseline at C50	mg/kg	Yes		Yes	1 1300135
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%		99		1298327
O-TERPHENYL (sur.)	%	84		79	1300135

RDL = Reportable Detection Limit



Maxxam Job #: A645233
Report Date: 2006/10/24

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL/

POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Maxxam ID	C93208		
Sampling Date	2006/09/22		
COC Number	115788		
	Units	10-TP06-09-01	RDL QC Batch

Polychlorinated Biphenyls				
Aroclor 1016	mg/kg	<0.01	0.01	1300887
Aroclor 1221	mg/kg	<0.01	0.01	1300887
Aroclor 1232	mg/kg	<0.01	0.01	1300887
Aroclor 1242	mg/kg	<0.01	0.01	1300887
Aroclor 1248	mg/kg	<0.01	0.01	1300887
Aroclor 1254	mg/kg	<0.01	0.01	1300887
Aroclor 1260	mg/kg	<0.01	0.01	1300887
Aroclor 1262	mg/kg	<0.01	0.01	1300887
Aroclor 1268	mg/kg	<0.01	0.01	1300887
Total Aroclors	mg/kg	<0.01	0.01	1300887

Surrogate Recovery (%)			
NONACHLOROBIPHENYL (sur.)	%	92	1300887

RDL = Reportable Detection Limit

SEMIVOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C93205	C93207		
Sampling Date		2006/09/22	2006/09/22		
COC Number		115788	115788		
Units 10-TP06-05-02 10-TP06-07-01 RDL QC Batch					

Polycyclic Aromatics					
Naphthalene	mg/kg	<0.05	<0.05	0.05	1300249
2-Methylnaphthalene	mg/kg	<0.05	<0.05	0.05	1300249
Acenaphthylene	mg/kg	<0.05	<0.05	0.05	1300249
Acenaphthene	mg/kg	<0.05	<0.05	0.05	1300249
Fluorene	mg/kg	<0.05	<0.05	0.05	1300249
Phenanthrene	mg/kg	<0.05	<0.05	0.05	1300249
Anthracene	mg/kg	<0.05	<0.05	0.05	1300249
Fluoranthene	mg/kg	<0.05	<0.05	0.05	1300249
Pyrene	mg/kg	<0.05	<0.05	0.05	1300249
Benzo(a)anthracene	mg/kg	<0.05	<0.05	0.05	1300249
Chrysene	mg/kg	<0.05	<0.05	0.05	1300249
Benzo(b&j)fluoranthene	mg/kg	<0.05	<0.05	0.05	1300249
Benzo(k)fluoranthene	mg/kg	<0.05	<0.05	0.05	1300249
Benzo(a)pyrene	mg/kg	<0.05	<0.05	0.05	1300249
Indeno(1,2,3-cd)pyrene	mg/kg	<0.05	<0.05	0.05	1300249
Dibenz(a,h)anthracene	mg/kg	<0.05	<0.05	0.05	1300249
Benzo(g,h,i)perylene	mg/kg	<0.05	<0.05	0.05	1300249
Surrogate Recovery (%)					
D10-ANTHRACENE (sur.)	%	124	116		1300249
D12-BENZO(A)PYRENE (sur.)	%	105	100		1300249
D8-ACENAPHTHYLENE (sur.)	%	112	107		1300249
TERPHENYL-D14 (sur.)	%	113	109		1300249

RDL = Reportable Detection Limit

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		C93209			
Sampling Date		2006/09/22			
COC Number		115788			
Units 10-TP06-09-01 RDL QC Batch					

Elements					
Total Aluminum (Al)	mg/kg	15000	10	1300559	
Total Antimony (Sb)	mg/kg	<1	1	1300593	
Total Arsenic (As)	mg/kg	19	1	1300593	
Total Barium (Ba)	mg/kg	306	10	1300593	
Total Beryllium (Be)	mg/kg	0.8	0.4	1300593	
Total Boron (B)	mg/kg	15	2	1300559	
Total Cadmium (Cd)	mg/kg	0.4	0.1	1300593	
Total Calcium (Ca)	mg/kg	23200	50	1300559	
Total Chromium (Cr)	mg/kg	70	1	1300593	
Total Cobalt (Co)	mg/kg	17	1	1300593	
Total Copper (Cu)	mg/kg	36	5	1300593	
Total Iron (Fe)	mg/kg	40500	10	1300559	
Total Lead (Pb)	mg/kg	21	1	1300593	
Total Lithium (Li)	mg/kg	29	10	1300559	
Total Magnesium (Mg)	mg/kg	11900	20	1300559	
Total Manganese (Mn)	mg/kg	459	10	1300559	
Total Molybdenum (Mo)	mg/kg	1.5	0.4	1300593	
Total Nickel (Ni)	mg/kg	46	1	1300593	
Total Phosphorus (P)	mg/kg	2240	20	1300559	
Total Potassium (K)	mg/kg	1050	30	1300559	
Total Selenium (Se)	mg/kg	1.5	0.5	1300593	
Total Silver (Ag)	mg/kg	<1	1	1300593	
Total Sodium (Na)	mg/kg	306	50	1300559	
Total Strontium (Sr)	mg/kg	87	10	1300559	
Total Sulphur (S)	mg/kg	888	20	1300559	
Total Thallium (Tl)	mg/kg	<0.3	0.3	1300593	
Total Tin (Sn)	mg/kg	<1	1	1300593	
Total Vanadium (V)	mg/kg	105	1	1300593	
Total Zinc (Zn)	mg/kg	121	10	1300593	

RDL = Reportable Detection Limit



Maxxam Job #: A645233
Report Date: 2006/10/24

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL/

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C93205		C93208		
Sampling Date		2006/09/22		2006/09/22		
COC Number		115788		115788		
	Units	10-TP06-05-02	RDL	QC Batch	10-TP06-08-01	RDL

Volatiles						
Benzene	mg/kg	<0.005	0.005	1298958	<0.0050	0.0050
Bromodichloromethane	mg/kg	<0.03	0.03	1298958		
Toluene	mg/kg				<0.020	0.020
Bromofom	mg/kg	<0.05	0.05	1298958		
Ethylbenzene	mg/kg				<0.010	0.010
Bromomethane	mg/kg	<0.02	0.02	1298958		
Xylenes (Total)	mg/kg				<0.020	0.020
Carbon tetrachloride	mg/kg	<0.02	0.02	1298958		
m & p-Xylene	mg/kg				<0.020	0.020
Chlorobenzene	mg/kg	<0.02	0.02	1298958		
o-Xylene	mg/kg				<0.020	0.020
Chlorodibromomethane	mg/kg	<0.02	0.02	1298958		
Chloroethane	mg/kg	<0.02	0.02	1298958		
Chloroform	mg/kg	<0.02	0.02	1298958		
Chloromethane	mg/kg	<0.03	0.03	1298958		
1,2-dibromothane	mg/kg	<0.02	0.02	1298958		
1,2-dichlorobenzene	mg/kg	<0.02	0.02	1298958		
1,3-dichlorobenzene	mg/kg	<0.02	0.02	1298958		
1,4-dichlorobenzene	mg/kg	<0.02	0.02	1298958		
1,1-dichloroethane	mg/kg	<0.02	0.02	1298958		
1,2-dichloroethane	mg/kg	<0.02	0.02	1298958		
1,1-dichloroethene	mg/kg	<0.02	0.02	1298958		
cis-1,2-dichloroethene	mg/kg	<0.02	0.02	1298958		
trans-1,2-dichloroethene	mg/kg	<0.02	0.02	1298958		
Dichloromethane	mg/kg	<0.1	0.1	1298958		
1,2-dichloropropane	mg/kg	<0.02	0.02	1298958		
cis-1,3-dichloropropene	mg/kg	<0.02	0.02	1298958		
trans-1,3-dichloropropene	mg/kg	<0.02	0.02	1298958		
Ethylbenzene	mg/kg	<0.01	0.01	1298958		
Styrene	mg/kg	<0.02	0.02	1298958		
1,1,1,2-tetrachloroethane	mg/kg	<0.1	0.1	1298958		
1,1,2,2-tetrachloroethane	mg/kg	<0.1	0.1	1298958		
Tetrachloroethene	mg/kg	<0.02	0.02	1298958		

RDL = Reportable Detection Limit



Maxxam Job #: A645233
Report Date: 2006/10/24

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL/

VOLATILE ORGANICS BY GC-MS (SOIL)

Maxxam ID		C93205		C93208		
Sampling Date		2006/09/22		2006/09/22		
COC Number		115788		115788		
	Units	10-TP06-05-02	RDL	QC Batch	10-TP06-08-01	RDL

Toluene	mg/kg	<0.02	0.02	1298958		
1,1,1-trichloroethane	mg/kg	<0.02	0.02	1298958		
1,1,2-trichloroethane	mg/kg	<0.02	0.02	1298958		
Trichloroethene	mg/kg	<0.02	0.02	1298958		
Trichlorofluoromethane	mg/kg	<0.02	0.02	1298958		
Vinyl chloride	mg/kg	<0.02	0.02	1298958		
Xylenes (Total)	mg/kg	<0.04	0.04	1298958		
m & p-Xylene	mg/kg	<0.04	0.04	1298958		
o-Xylene	mg/kg	<0.02	0.02	1298958		
Surrogate Recovery (%)						
4-BROMOFLUOROBENZENE (sur.)	%	107		1298958	92	1298325
D10-ETHYLBENZENE (sur.)	%	89		1298958	103	1298325
D4-1,2-DICHLOROETHANE (sur.)	%	102		1298958	91	1298325
D8-TOLUENE (sur.)	%	98		1298958	96	1298325

RDL = Reportable Detection Limit



Maxxam Job #: A645233
Report Date: 2006/10/24

FRANZ ENVIRONMENTAL INC.
Client Project #: 1256-0601
Site Reference: INUVIK
Sampler Initials: AL/

VOLATILE ORGANICS BY GC-MS (SOIL) Comments

Sample C93205-01 VOCs in Soil by P&T GC/MS (Std List): Matrix spike outside acceptance criteria for styrene due to matrix interference.

Results relate only to the items tested.



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report
Maxxam Job Number: EA645233

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1298325 HW4	MATRIX SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/06		94	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/06		104	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/06		93	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/06		98	%	60 - 140
		Benzene	2006/10/06		86	%	60 - 140
		Toluene	2006/10/06		93	%	60 - 140
		Ethylbenzene	2006/10/06		94	%	60 - 140
		m & p-Xylene	2006/10/06		92	%	60 - 140
		o-Xylene	2006/10/06		92	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/10/06		95	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/06		103	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/06		97	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/06		99	%	60 - 140
		Benzene	2006/10/06		85	%	60 - 140
		Toluene	2006/10/06		92	%	60 - 140
	SPIKE	Ethylbenzene	2006/10/06		95	%	60 - 140
		m & p-Xylene	2006/10/06		92	%	60 - 140
		o-Xylene	2006/10/06		91	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2006/10/06		93	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/06		101	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/06		95	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/06		98	%	60 - 140
		Benzene	2006/10/06	<0.0050		mg/kg	
		Toluene	2006/10/06	<0.020		mg/kg	
		Ethylbenzene	2006/10/06	<0.010		mg/kg	
		Xylenes (Total)	2006/10/06	<0.020		mg/kg	
		m & p-Xylene	2006/10/06	<0.020		mg/kg	
		o-Xylene	2006/10/06	<0.020		mg/kg	
		Benzene	2006/10/06	NC		%	50
1298327 KO	MATRIX SPIKE	Toluene	2006/10/06	NC		%	50
		Ethylbenzene	2006/10/06	NC		%	50
		Xylenes (Total)	2006/10/06	NC		%	50
		m & p-Xylene	2006/10/06	NC		%	50
		o-Xylene	2006/10/06	NC		%	50
		4-BROMOFLUOROBENZENE (sur.)	2006/10/07		80	%	60 - 130
		F1 (C06-C10)	2006/10/07		87	%	60 - 130
		4-BROMOFLUOROBENZENE (sur.)	2006/10/07		96	%	60 - 130
		F1 (C06-C10)	2006/10/07		100	%	60 - 120
		4-BROMOFLUOROBENZENE (sur.)	2006/10/07		116	%	60 - 130
		F1 (C06-C10)	2006/10/07	<10		mg/kg	
		F1 (C06-C10)	2006/10/07	NC		%	50
		Moisture	2006/10/06	<0.3		%	
		Moisture	2006/10/06	0		%	20
		Moisture	2006/10/06			%	
1298958 LM4	MATRIX SPIKE [C93205-01]	4-BROMOFLUOROBENZENE (sur.)	2006/10/10		104	%	60 - 140
		D10-ETHYLBENZENE (sur.)	2006/10/10		90	%	60 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/10		101	%	60 - 140
		D8-TOLUENE (sur.)	2006/10/10		96	%	60 - 140
		Benzene	2006/10/10		93	%	60 - 140
		Bromodichloromethane	2006/10/10		103	%	60 - 140
		Bromoform	2006/10/10		93	%	60 - 140
		Bromomethane	2006/10/10		96	%	60 - 140
		Carbon tetrachloride	2006/10/10		86	%	60 - 140
		Chlorobenzene	2006/10/10		93	%	60 - 140
		Chlorodibromomethane	2006/10/10		94	%	60 - 140

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Edmonton: 9619 - 42 Avenue T6E 5R7 Telephone(780) 465-1212 FAX(780) 450-4187



FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1298958 LM4	MATRIX SPIKE [C93205-01]	Chloroethane	2006/10/10	98	%	60 - 140	
		Chloroform	2006/10/10	119	%	60 - 140	
		Chloromethane	2006/10/10	104	%	60 - 140	
		1,2-dibromoethane	2006/10/10	94	%	60 - 140	
		1,2-dichlorobenzene	2006/10/10	71	%	60 - 140	
		1,3-dichlorobenzene	2006/10/10	68	%	60 - 140	
		1,4-dichlorobenzene	2006/10/10	80	%	60 - 140	
		1,1-dichloroethane	2006/10/10	104	%	60 - 140	
		1,2-dichloroethane	2006/10/10	104	%	60 - 140	
		cis-1,2-dichloroethane	2006/10/10	94	%	60 - 140	
		trans-1,2-dichloroethane	2006/10/10	131	%	60 - 140	
		Dichloromethane	2006/10/10	102	%	60 - 140	
		1,2-dichloropropane	2006/10/10	110	%	60 - 140	
		cis-1,3-dichloropropane	2006/10/10	104	%	60 - 140	
		trans-1,3-dichloropropane	2006/10/10	77	%	60 - 140	
		Ethylbenzene	2006/10/10	100	%	60 - 140	
		Styrene	2006/10/10	81	%	60 - 140	
		1,1,1,2-tetrachloroethane	2006/10/10	39 (f)	%	60 - 140	
		1,1,2,2-tetrachloroethane	2006/10/10	92	%	60 - 140	
		Tetrachloroethane	2006/10/10	104	%	60 - 140	
		Toluene	2006/10/10	80	%	60 - 140	
		1,1,1-trichloroethane	2006/10/10	95	%	60 - 140	
		1,1,2-trichloroethane	2006/10/10	98	%	60 - 140	
		Trichloroethane	2006/10/10	104	%	60 - 140	
		Trichlorofluoromethane	2006/10/10	94	%	60 - 140	
		Vinyl chloride	2006/10/10	83	%	60 - 140	
		m & p-Xylene	2006/10/10	82	%	60 - 140	
		o-Xylene	2006/10/10	82	%	60 - 140	
	SPIKE	4-BROMOFLUOROBENZENE (sur.)	2006/10/10	75	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/10	98	%	60 - 140	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/10	105	%	60 - 130	
		D8-TOLUENE (sur.)	2006/10/10	99	%	60 - 140	
		Benzene	2006/10/10	94	%	60 - 140	
		Bromodichloromethane	2006/10/10	103	%	60 - 140	
		Bromofluoromethane	2006/10/10	103	%	60 - 140	
		Bromomethane	2006/10/10	105	%	60 - 140	
		Carbon tetrachloride	2006/10/10	125	%	60 - 140	
		Chlorobenzene	2006/10/10	101	%	60 - 140	
		Chlorodibromomethane	2006/10/10	102	%	60 - 140	
		Chloroethane	2006/10/10	109	%	60 - 140	
		Chloroform	2006/10/10	121	%	60 - 140	
		Chloromethane	2006/10/10	117	%	60 - 140	
		1,2-dibromoethane	2006/10/10	101	%	60 - 140	
		1,2-dichlorobenzene	2006/10/10	103	%	60 - 140	
		1,3-dichlorobenzene	2006/10/10	104	%	60 - 140	
		1,4-dichlorobenzene	2006/10/10	107	%	60 - 140	
		1,1-dichloroethane	2006/10/10	108	%	60 - 140	
		1,2-dichloroethane	2006/10/10	101	%	60 - 140	
		1,1-dichloroethane	2006/10/10	115	%	60 - 140	
		cis-1,2-dichloroethane	2006/10/10	111	%	60 - 140	
		trans-1,2-dichloroethane	2006/10/10	111	%	60 - 140	
		Dichloromethane	2006/10/10	108	%	60 - 140	
		1,2-dichloropropane	2006/10/10	101	%	60 - 140	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1298958 LM4	SPIKE	cis-1,3-dichloropropene	2006/10/10	109	%	60 - 140	
		trans-1,3-dichloropropene	2006/10/10	104	%	60 - 140	
		Ethylbenzene	2006/10/10	102	%	60 - 140	
		Styrene	2006/10/10	102	%	60 - 140	
		1,1,1,2-tetrachloroethane	2006/10/10	102	%	60 - 140	
		1,1,2,2-tetrachloroethane	2006/10/10	102	%	60 - 140	
		Tetrachloroethane	2006/10/10	106	%	60 - 140	
		Toluene	2006/10/10	102	%	60 - 140	
		1,1,1-trichloroethane	2006/10/10	109	%	60 - 140	
		1,1,2-trichloroethane	2006/10/10	101	%	60 - 140	
		Trichloroethane	2006/10/10	109	%	60 - 140	
		Trichlorofluoromethane	2006/10/10	109	%	60 - 140	
		Vinyl chloride	2006/10/10	77	%	60 - 140	
		m & p-Xylene	2006/10/10	106	%	60 - 140	
		o-Xylene	2006/10/10	108	%	60 - 140	
	BLANK	4-BROMOFLUOROBENZENE (sur.)	2006/10/10	106	%	60 - 140	
		D10-ETHYLBENZENE (sur.)	2006/10/10	119	%	60 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2006/10/10	103	%	60 - 140	
		D8-TOLUENE (sur.)	2006/10/10	99	%	60 - 140	
		Benzene	2006/10/10	<0.005		mg/kg	
		Bromodichloromethane	2006/10/10	<0.03		mg/kg	
		Bromofluoromethane	2006/10/10	<0.05		mg/kg	
		Bromomethane	2006/10/10	<0.02		mg/kg	
		Carbon tetrachloride	2006/10/10	<0.02		mg/kg	
		Chlorobenzene	2006/10/10	<0.02		mg/kg	
		Chlorodibromomethane	2006/10/10	<0.02		mg/kg	
		Chloroethane	2006/10/10	<0.02		mg/kg	
		Chloroform	2006/10/10	<0.02		mg/kg	
		Chloromethane	2006/10/10	<0.03		mg/kg	
		1,2-dibromoethane	2006/10/10	<0.02		mg/kg	
		1,2-dichlorobenzene	2006/10/10	<0.02		mg/kg	
		1,3-dichlorobenzene	2006/10/10	<0.02		mg/kg	
		1,4-dichlorobenzene	2006/10/10	<0.02		mg/kg	
		1,1-dichloroethane	2006/10/10	<0.02		mg/kg	
		1,2-dichloroethane	2006/10/10	<0.02		mg/kg	
		1,1-dichloroethane	2006/10/10	<0.02		mg/kg	
		cis-1,2-dichloroethane	2006/10/10	<0.02		mg/kg	
		trans-1,2-dichloroethane	2006/10/10	<0.02		mg/kg	
		Dichloromethane	2006/10/10	<0.1		mg/kg	
		1,2-dichloropropane	2006/10/10	<0.02		mg/kg	
		cis-1,3-dichloropropene	2006/10/10	<0.02		mg/kg	
		trans-1,3-dichloropropene	2006/10/10	<0.02		mg/kg	
		Ethylbenzene	2006/10/10	<0.01		mg/kg	
		Styrene	2006/10/10	<0.02		mg/kg	
		1,1,1,2-tetrachloroethane	2006/10/10	<0.1		mg/kg	
		1,1,2,2-tetrachloroethane	2006/10/10	<0.1		mg/kg	
		Tetrachloroethane	2006/10/10	<0.02		mg/kg	
		Toluene	2006/10/10	<0.02		mg/kg	
		1,1,1-trichloroethane	2006/10/10	<0.02		mg/kg	
		1,1,2-trichloroethane	2006/10/10	<0.02		mg/kg	
		Trichloroethane	2006/10/10	<0.02		mg/kg	
		Trichlorofluoromethane	2006/10/10	<0.02		mg/kg	
		Vinyl chloride	2006/10/10	<0.02		mg/kg	
		Xylenes (Total)	2006/10/10	<0.04		mg/kg	
		m & p-Xylene	2006/10/10	<0.04		mg/kg	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1258-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1298058 LM4	BLANK RPD [C93205-01]	o-Xylene	2006/10/10	<0.02		mg/kg	50
		Benzene	2006/10/10	NC		%	50
		Bromodichloromethane	2006/10/10	NC		%	50
		Bromomethane	2006/10/10	NC		%	50
		Carbon tetrachloride	2006/10/10	NC		%	50
		Chlorobenzene	2006/10/10	NC		%	50
		Chlorodibromomethane	2006/10/10	NC		%	50
		Chloroethane	2006/10/10	NC		%	50
		Chloroform	2006/10/10	NC		%	50
		Chloromethane	2006/10/10	NC		%	50
		1,2-dibromomethane	2006/10/10	NC		%	50
		1,2-dichlorobenzene	2006/10/10	NC		%	50
		1,3-dichlorobenzene	2006/10/10	NC		%	50
		1,4-dichlorobenzene	2006/10/10	NC		%	50
		1,1-dichloroethane	2006/10/10	NC		%	50
		1,2-dichloroethane	2006/10/10	NC		%	50
		cis-1,2-dichloroethane	2006/10/10	NC		%	50
		trans-1,2-dichloroethane	2006/10/10	NC		%	50
		Dichloromethane	2006/10/10	NC		%	50
		1,2-dichloropropane	2006/10/10	NC		%	50
		cis-1,3-dichloropropane	2006/10/10	NC		%	50
		trans-1,3-dichloropropane	2006/10/10	NC		%	50
		Ethylbenzene	2006/10/10	NC		%	50
		Styrene	2006/10/10	NC		%	50
		1,1,1,2-tetrachloroethane	2006/10/10	NC		%	50
		1,1,2,2-tetrachloroethane	2006/10/10	NC		%	50
		Tetrachloroethane	2006/10/10	NC		%	50
		Toluene	2006/10/10	NC		%	50
		1,1,1-trichloroethane	2006/10/10	NC		%	50
		1,1,2-trichloroethane	2006/10/10	NC		%	50
		Trichloroethane	2006/10/10	NC		%	50
		Trichlorofluoromethane	2006/10/10	NC		%	50
		Vinyl chloride	2006/10/10	NC		%	50
		Xylenes (Total)	2006/10/10	NC		%	50
		m & p-Xylene	2006/10/10	NC		%	50
		o-Xylene	2006/10/10	NC		%	50
1300135 AN1	MATRIX SPIKE	O-TERPHENYL (sur.)	2006/10/10		77	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10		84	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2006/10/10		94	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2006/10/10		78	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2006/10/10		86	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10		104	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2006/10/10		103	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2006/10/10		103	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2006/10/10		83	%	30 - 130
		F2 (C10-C16 Hydrocarbons)	2006/10/10	<10		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2006/10/10	<10		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2006/10/10	<10		mg/kg	
	RPD	Reached Baseline at C50	2006/10/10	YES, RDL=1		mg/kg	
		F2 (C10-C16 Hydrocarbons)	2006/10/10	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2006/10/10	60.1 (f)		%	50
		F4 (C34-C50 Hydrocarbons)	2006/10/10	62.1 (f)		%	50
		Reached Baseline at C50	2006/10/10	NC		%	50

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1258-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)

Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1300249 AK3	MATRIX SPIKE [C93207-01]	D10-ANTHRACENE (sur.)	2006/10/11		109	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/11		116	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/11		122	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/11		112	%	30 - 130
		Naphthalene	2006/10/11		112	%	30 - 130
		2-Methylnaphthalene	2006/10/11		110	%	30 - 130
		Acenaphthylene	2006/10/11		112	%	30 - 130
		Acenaphthene	2006/10/11		110	%	30 - 130
		Fluorene	2006/10/11		109	%	30 - 130
		Phenanthrene	2006/10/11		113	%	30 - 130
		Anthracene	2006/10/11		110	%	30 - 130
		Fluoranthene	2006/10/11		109	%	30 - 130
		Pyrene	2006/10/11		107	%	30 - 130
		Benzo(a)anthracene	2006/10/11		109	%	30 - 130
		Chrysene	2006/10/11		112	%	30 - 130
		Benzo(b,j)fluoranthene	2006/10/11		110	%	30 - 130
		Benzo(k)fluoranthene	2006/10/11		113	%	30 - 130
		Benzo(a)pyrene	2006/10/11		113	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/11		104	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/11		109	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/11		102	%	30 - 130
	SPIKE	D10-ANTHRACENE (sur.)	2006/10/11		116	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/11		105	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/11		107	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/11		105	%	30 - 130
		Naphthalene	2006/10/11		114	%	30 - 130
		2-Methylnaphthalene	2006/10/11		110	%	30 - 130
		Acenaphthylene	2006/10/11		111	%	30 - 130
		Acenaphthene	2006/10/11		109	%	30 - 130
		Fluorene	2006/10/11		108	%	30 - 130
		Phenanthrene	2006/10/11		112	%	30 - 130
		Anthracene	2006/10/11		110	%	30 - 130
		Fluoranthene	2006/10/11		108	%	30 - 130
		Pyrene	2006/10/11		108	%	30 - 130
		Benzo(a)anthracene	2006/10/11		106	%	30 - 130
		Chrysene	2006/10/11		109	%	30 - 130
		Benzo(b,j)fluoranthene	2006/10/11		104	%	30 - 130
1300249 AK3	BLANK	Benzo(k)fluoranthene	2006/10/11		109	%	30 - 130
		Benzo(a)pyrene	2006/10/11		109	%	30 - 130
		Indeno(1,2,3-cd)pyrene	2006/10/11		103	%	30 - 130
		Dibenz(a,h)anthracene	2006/10/11		121	%	30 - 130
		Benzo(g,h,i)perylene	2006/10/11		100	%	30 - 130
		D10-ANTHRACENE (sur.)	2006/10/11		116	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2006/10/11		98	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2006/10/11		106	%	30 - 130
		TERPHENYL-D14 (sur.)	2006/10/11		108	%	30 - 130
		Naphthalene	2006/10/11	<0.05		mg/kg	
		2-Methylnaphthalene	2006/10/11	<0.05		mg/kg	
		Acenaphthylene	2006/10/11	<0.05		mg/kg	
		Acenaphthene	2006/10/11	<0.05		mg/kg	
		Fluorene	2006/10/11	<0.05		mg/kg	
		Phenanthrene	2006/10/11	<0.05		mg/kg	
		Anthracene	2006/10/11	<0.05		mg/kg	
		Fluoranthene	2006/10/11	<0.05		mg/kg	

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FRANZ ENVIRONMENTAL INC.
Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

Quality Assurance Report (Continued)
Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yy/mm/dd	Value	Recovery	Units	QC Limits
1300249 AK3	BLANK	Pyrene	2006/10/11	<0.05		mg/kg	
		Benzo(a)anthracene	2006/10/11	<0.05		mg/kg	
		Chrysene	2006/10/11	<0.05		mg/kg	
		Benzo(b&f)fluoranthene	2006/10/11	<0.05		mg/kg	
		Benzo(k)fluoranthene	2006/10/11	<0.05		mg/kg	
		Benzo(a)pyrene	2006/10/11	<0.05		mg/kg	
		Indeno(1,2,3-cd)pyrene	2006/10/11	<0.05		mg/kg	
		Dibenz(a,h)anthracene	2006/10/11	<0.05		mg/kg	
		Benzo(g,h,i)perylene	2006/10/11	<0.05		mg/kg	
		Naphthalene	2006/10/11	NC		%	50
		2-Methylnaphthalene	2006/10/11	NC		%	50
		Acenaphthylene	2006/10/11	NC		%	50
		Acenaphthene	2006/10/11	NC		%	50
		Fluorene	2006/10/11	NC		%	50
		Phenanthrene	2006/10/11	NC		%	50
1300559 MC3	Calibration Check	Pyrene	2006/10/11	NC		%	50
		Benzo(a)anthracene	2006/10/11	NC		%	50
		Chrysene	2006/10/11	NC		%	50
		Benzo(b&f)fluoranthene	2006/10/11	NC		%	50
		Benzo(k)fluoranthene	2006/10/11	NC		%	50
		Benzo(a)pyrene	2006/10/11	NC		%	50
		Indeno(1,2,3-cd)pyrene	2006/10/11	NC		%	50
		Dibenz(a,h)anthracene	2006/10/11	NC		%	50
		Benzo(g,h,i)perylene	2006/10/11	NC		%	50
		Total Aluminum (Al)	2006/10/10	103	%		80 - 120
		Total Boron (B)	2006/10/10	97	%		80 - 120
		Total Calcium (Ca)	2006/10/10	99	%		80 - 120
		Total Iron (Fe)	2006/10/10	101	%		80 - 120
		Total Lithium (Li)	2006/10/10	95	%		80 - 120
		Total Magnesium (Mg)	2006/10/10	102	%		80 - 120
1300559 MC3	Spike	Total Manganese (Mn)	2006/10/10	99	%		80 - 120
		Total Phosphorus (P)	2006/10/10	98	%		80 - 120
		Total Potassium (K)	2006/10/10	99	%		80 - 120
		Total Sodium (Na)	2006/10/10	103	%		80 - 120
		Total Strontium (Sr)	2006/10/10	95	%		80 - 120
		Total Aluminum (Al)	2006/10/10	111	%		75 - 125
		Total Boron (B)	2006/10/10	109	%		80 - 120
		Total Calcium (Ca)	2006/10/10	102	%		75 - 125
		Total Iron (Fe)	2006/10/10	106	%		75 - 125
		Total Lithium (Li)	2006/10/10	101	%		75 - 125
		Total Magnesium (Mg)	2006/10/10	110	%		75 - 125
		Total Manganese (Mn)	2006/10/10	105	%		75 - 125
		Total Phosphorus (P)	2006/10/10	104	%		75 - 125
		Total Potassium (K)	2006/10/10	104	%		75 - 125
		Total Sodium (Na)	2006/10/10	115	%		75 - 125
1300559 MC3	Blank	Total Strontium (Sr)	2006/10/10	100	%		75 - 125
		Total Aluminum (Al)	2006/10/10	<10		mg/kg	
		Total Boron (B)	2006/10/10	<2		mg/kg	
		Total Calcium (Ca)	2006/10/10	<50		mg/kg	
		Total Iron (Fe)	2006/10/10	<10		mg/kg	
		Total Lithium (Li)	2006/10/10	<10		mg/kg	
		Total Magnesium (Mg)	2006/10/10	<20		mg/kg	
		Total Manganese (Mn)	2006/10/10	<10		mg/kg	
		Total Phosphorus (P)	2006/10/10	<10		mg/kg	
		Total Potassium (K)	2006/10/10	<10		mg/kg	
		Total Sodium (Na)	2006/10/10	<10		mg/kg	
		Total Strontium (Sr)	2006/10/10	<10		mg/kg	
		Total Aluminum (Al)	2006/10/10	<10		mg/kg	
		Total Boron (B)	2006/10/10	<2		mg/kg	
		Total Calcium (Ca)	2006/10/10	<50		mg/kg	
		Total Iron (Fe)	2006/10/10	<10		mg/kg	

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Attention: JOHANNE PARADIS
Client Project #: 1256-0601
P.O. #:
Site Reference: INUVIK

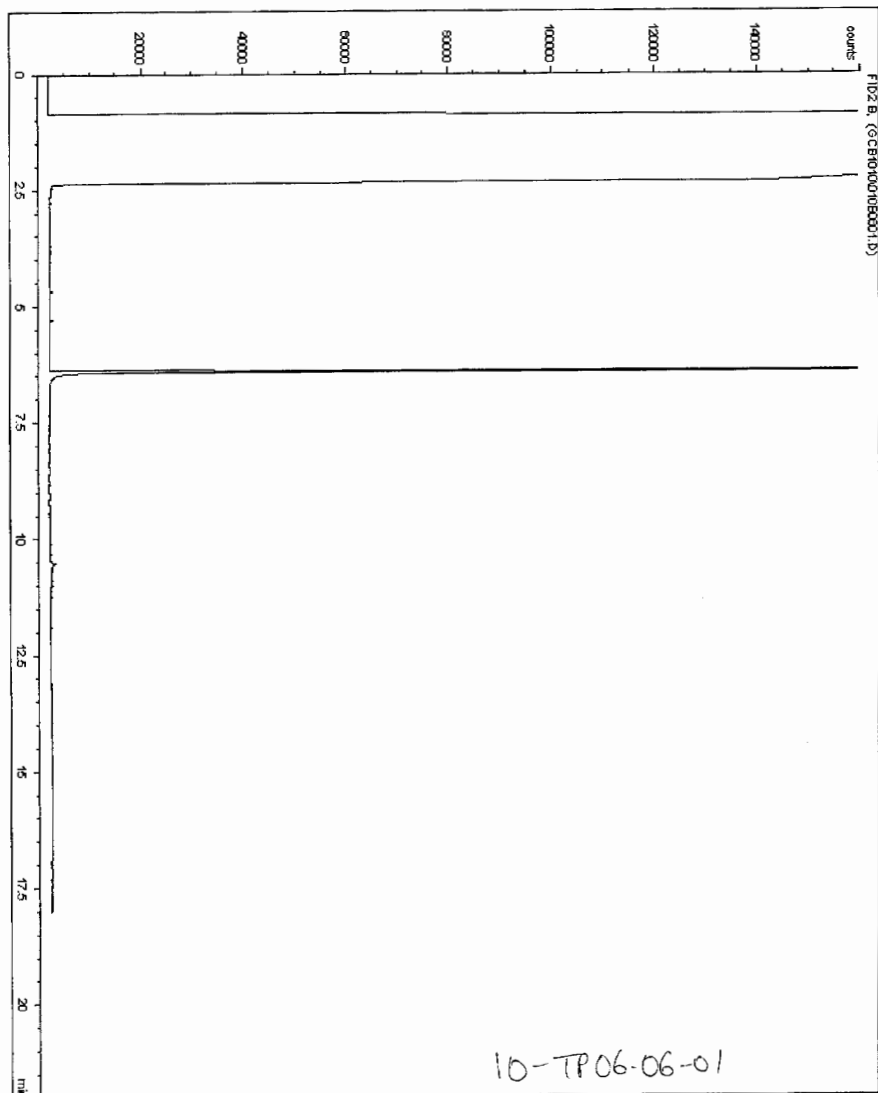
Quality Assurance Report (Continued)
Maxxam Job Number: EA645233

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yy/mm/dd	Value	Recovery	Units	QC Limits
1300559 MC3	BLANK	Total Phosphorus (P)	2006/10/10	<20		mg/kg	
		Total Potassium (K)	2006/10/10	<30		mg/kg	
		Total Sodium (Na)	2006/10/10	<50		mg/kg	
		Total Strontium (Sr)	2006/10/10	<10		mg/kg	
		Total Sulphur (S)	2006/10/10	<20		mg/kg	
		Total Aluminum (Al)	2006/10/10	0.1	%		35
		Total Boron (B)	2006/10/10	NC	%		35
		Total Calcium (Ca)	2006/10/10	0.2	%		35
		Total Iron (Fe)	2006/10/10	0.3	%		35
		Total Lithium (Li)	2006/10/10	NC	%		35
		Total Magnesium (Mg)	2006/10/10	0.3	%		35
		Total Manganese (Mn)	2006/10/10	0.3	%		35
		Total Phosphorus (P)	2006/10/10	0.2	%		35
		Total Potassium (K)	2006/10/10	0.5	%		35
		Total Sodium (Na)	2006/10/10	NC	%		35
1300593 AC4	Calibration Check	Total Strontium (Sr)	2006/10/10	0.09	%		35
		Total Sulphur (S)	2006/10/10	0.9	%		35
		Total Antimony (Sb)	2006/10/10		99	%	80 - 120
		Total Arsenic (As)	2006/10/10		104	%	80 - 120
		Total Barium (Ba)	2006/10/10		102	%	80 - 120
		Total Beryllium (Be)	2006/10/10		106	%	80 - 120
		Total Cadmium (Cd)	2006/10/10		100	%	80 - 120
		Total Chromium (Cr)	2006/10/10		99	%	80 - 120
		Total Cobalt (Co)	2006/10/10		103	%	80 - 120
		Total Copper (Cu)	2006/10/10		102	%	80 - 120
		Total Lead (Pb)	2006/10/10		104	%	80 - 120
		Total Molybdenum (Mo)	2006/10/10		101	%	80 - 120
		Total Nickel (Ni)	2006/10/10		102	%	80 - 120
		Total Selenium (Se)	2006/10/10		102	%	80 - 120
		Total Silver (Ag)	2006/10/10		103	%	80 - 120
1300593 AC4	MATRIX SPIKE	Total Thallium (Tl)	2006/10/10		101	%	80 - 120
		Total Tin (Sn)	2006/10/10		101	%	80 - 120
		Total Vanadium (V)	2006/10/10		102	%	80 - 120
		Total Zinc (Zn)	2006/10/10		101	%	80 - 120
		Total Arsenic (As)	2006/10/10		101	%	80 - 120
		Total Cadmium (Cd)	2006/10/10		102	%	N/A
		Total Lead (Pb)	2006/10/10		96	%	N/A
		Total Selenium (Se)	2006/10/10		109	%	80 - 120
		Total Thallium (Tl)	2006/10/10		103	%	80 - 120
		Total Antimony (Sb)	2006/10/10	<1		mg/kg	
		Total Arsenic (As)	2006/10/10	<1		mg/kg	
		Total Barium (Ba)	2006/10/10	<10		mg/kg	
		Total Beryllium (Be)	2006/10/10	<0.4		mg/kg	
		Total Cadmium (Cd)	2006/10/10	<0.1		mg/kg	
		Total Chromium (Cr)	2006/10/10	<1		mg/kg	
1300593 AC4	Blank	Total Cobalt (Co)	2006/10/10	<1		mg/kg	
		Total Copper (Cu)	2006/10/10	<5		mg/kg	
		Total Lead (Pb)	2006/10/10	<1		mg/kg	
		Total Molybdenum (Mo)	2006/10/10	<0.4		mg/kg	
		Total Nickel (Ni)	2006/10/10	<1		mg/kg	
		Total Selenium (Se)	2006/10/10	<0.5		mg/kg	
		Total Silver (Ag)	2006/10/10	<1		mg/kg	
		Total Thallium (Tl)	2006/10/10	<0.3		mg/kg	
		Total Tin (Sn)	2006/10/10	<1		mg/kg	
		Total Vanadium (V)	2006/10/10	<1		mg/kg	
		Total Phosphorus (P)	2006/10/10	<20		mg/kg	
		Total Potassium (K)	2006/10/10	<30		mg/kg	
		Total Sodium (Na)	2006/10/10	<50		mg/kg	
		Total Strontium (Sr)	2006/10/10	<10		mg/kg	
		Total Sulphur (S)	2006/10/10	<20		mg/kg	

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Data File C:\HPCHEM\1\DATA\GCB1010\010B0601.D

Sample Name: C93206



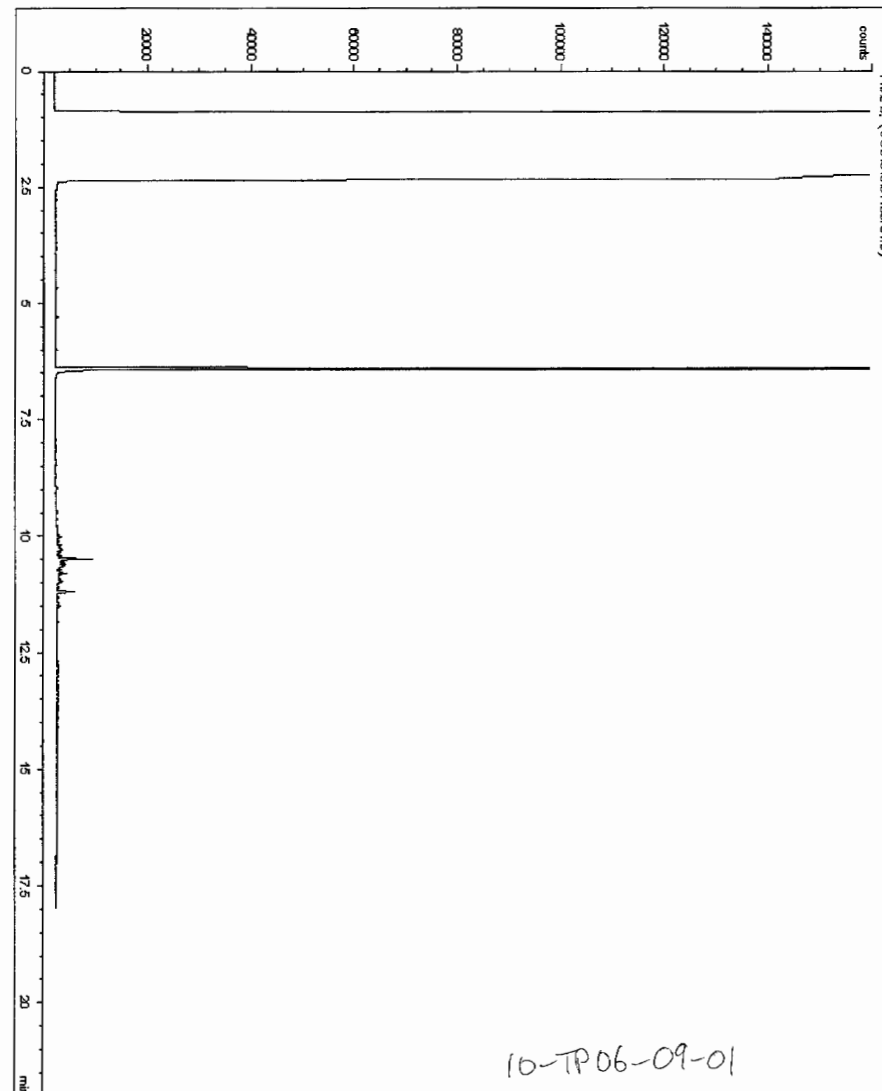
*** End of Report ***

Instrument 1 2007/01/11 11:13:18 AM AN

Page 1 of 1

Data File C:\HPCHEM\1\DATA\GCB1010\011B0701.D

Sample Name: C93209



*** End of Report ***

Instrument 1 2007/01/11 11:13:22 AM AN

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APPENDIX D

FCSAP-NCS Site Score Forms

I. Contaminant Characteristics (max. 33)
Complete A, B, C, and Special Considerations.

A. Degree of Hazard (max. 14)

High concern contaminants - high concentrations
High concern contaminants - low concentrations
Medium concern contaminants - high concentrations
Medium concern contaminants - low concentrations
Low concern contaminants (high or low concentrations)

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A. Site Score

8

Data

Contaminants: petroleum hydrocarbons - gross parameters (EPH F1 to F4) - medium concern. High concentrations: >2x CCME industrial standard / CWS.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

B. Contaminant Quantity (max. 10)

>10 ha or 5000 m³
2 to 10 ha or 1000 to 5000 m³
<2 ha or 1000 m³

10

6

2

B. Site Score

6

Data

Approximate maximum volume of 3920 m3.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

C. Physical State (max. 9)

Highly mobile contaminants or high potential for mobility by erosion
Moderately mobile contaminants
Low to immobile contaminants or low potential for mobility by erosion

9

7

3

C. Site Score

7

Data

Petroleum liquid was applied directly and ignited during firefighter training exercises. No petroleum liquid has been identified during investigations. Contamination present as sorbed phase to soil particles. EPH F1 to F4 are moderately mobile in groundwater. Groundwater presence is limited to non-existent at Site, reducing mobility. F1 is potentially mobile in vapour phase at Site (highly permeable crushed rock) though likely constrained due to the permafrost below contamination that would tend to prevent migration. Soils in active zone of surrounding area are finer and less permeable than the crushed rock fill at Site, again restricting migration.
Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 6)

-6 to +6

0

Score Based on Data
Score Based on Speculation
Score from Special Considerations

21

0

0

Total Site Score for Contaminant Characteristics

21

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination and operable groundwater pathway within and/or beyond the property boundary (max. 11)

For potable groundwater environments, 1) groundwater concentrations exceed background concentrations and the CCME Canadian Drinking Water Guidelines (CDWG) by 2X or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For nonpotable environments (typically urban environments with municipal services), 1) groundwater concentrations exceed 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway) or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For potable water environments, groundwater concentrations exceed background concentrations and the CDWG 1 to 2X.

For nonpotable environments, groundwater concentrations exceed by 1 to 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway).

Meets CDWG for potable environments; meets nonpotable criteria or modified generic (excludes ingestion of drinking water pathway) for nonpotable environments, or Absence of groundwater exposure pathway.

A1. Site Score

Scoring
Guideline Site Score Information
Source

11

6

0

0

Document relevant site information, the source of that information, and the rationale for selecting the site score.

No aquifer present; minimal groundwater observed. This is a permafrost area with an active zone of less than 2 m that is frozen for much of the year.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Groundwater Contamination. Complete a, b, c, d, and e.

2a. Engineered Subsurface Containment (max. 4)

No containment

Partial containment

Full containment or direct, monitored evidence of natural attenuation processes

A2a. Site Score

4

2

0

2b. Thickness of confining layer over aquifer of concern or groundwater exposure pathway (max. 1.5)

3 m or less including no or discontinuous confining layer or unknown

3 to 10 m

>10 m

A2b. Site Score

1.5

1

0

2c. Hydraulic conductivity of confining layer (max. 1.5)

>10⁻⁴ cm/s or no confining layer or unknown

10⁻⁴ to 10⁻⁶ cm/sec

<10⁻⁶ cm/sec

A2c. Site Score

1.5

1

0.5

2d. Annual precipitation (max. 1)

>1000 mm and moderately to highly permeable surface material

600 mm and moderately to highly permeable surface material

400 mm and low to moderately permeable surface material

200 mm and low permeability surface material

A2d. Site Score

1

0.6

0.4

0.2

2e. Hydraulic conductivity of aquifer of concern (max. 3)

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

>10⁻² cm/sec

10⁻² to 10⁻⁴ cm/sec

<10⁻⁴ cm/sec

Scoring
Guideline

3

1.5

0.5

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A2e. Site Score

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Groundwater

0

0

0

0

II. Exposure Pathways

B. Surface Water (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Observed or measured contamination, above background conditions of surface water/effluent near the site which is considered an operable exposure pathway (max. 11)

Known concentrations of surface water:

- 1) Concentrations exceed background concentrations and exceed CCME CWQG - Protection of Aquatic Life Guidelines by 2X; or
- 2) There is known contact of contaminants with surface water based on physical evidence; or
- 3) In the absence of CWQG, chemicals have been proven to be toxic based on site specific testing (e.g. toxicity testing, bioassay testing or other indicator testing of exposure).

Known concentrations of surface water which are above background and between 1 and 2X CWQG.

Meets CWQG or absence of surface water exposure pathway

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6
0

B1. Site Score

2. Potential for Surface Water Contamination. Complete a, b, c, d, and e.

2a. Surface Containment (max. 5)

- No containment
- Partial containment
- Full containment

5
3
0.5

B2a. Site Score

5

Data

No surface containment.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Distance to Perennial Surface Water (max. 3)

- 0 to <100 m
- 100 to 300 m
- >300 m

3
2
0.5

B2b. Site Score

0.5

Data

Dolomite Lake located approx. 475 m to south.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Topography (max. 1.5)

- Contaminants above ground level and slope is steep
- Contaminants at or below ground level and slope is steep
- Contaminants above ground level and slope is flat
- Contaminants at or below ground level and slope is flat

1.5
1.2
0.8
0

B2c. Site Score

0.6

Data

Contaminants at ground surface and below. Flat-lying area along top of ridge with slight slope down to north beyond contaminated Site area.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2d. Run-off Potential (max. 1)

- >1000 mm precipitation and low permeability surface material
- 500 - 1000 mm precipitation and moderately permeable surface material
- <500 mm precipitation and highly permeable surface material

1
0.6
0.2

B2d. Site Score

0.2

Data

Environment Canada climate normals (www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html): 248.4 mm precipitation annually. Highly permeable surface material (crushed rock).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2e. Flood Potential (max. 0.5)

- 1 in 2 years
- 1 in 10 years
- 1 in 50 years

0.5
0.3
0.1

B2e. Site Score

0

Data

Site located on ridge - no flood potential.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Surface Water

6.3

0

0

6.3

II. Exposure Pathways

C. Direct Contact (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination of media by direct contact (max. 11)

Known contamination of media (soil, sediments and air):

- 1) Concentrations exceed background concentrations and exceed 2X applicable environmental quality criteria (EQC) for the appropriate land use on/near the site; or
2) There is known contact of contaminants with media based on physical evidence; or

- 3) There is known vapour migration into indoor air environment (building).

Known contamination of media (soil, sediments, and air) with concentrations exceeding background and exceeding by 1 to 2 X applicable EQC for the appropriate land use on/near the site.

No exceedance of applicable EQC for appropriate land use on/near the site; or no physical evidence of contamination of the media; or absence of direct contact exposure pathway.

C1. Site Score

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6

0

11

Concentration of contaminants in soil >2x CCME industrial standard / CWS.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Direct Human and/or Animal Contact. Complete a, b, and c.

2a. Vapour Emissions (gases, subsurface and surface generated vapours, contaminated dust; max. 5)

Suspected vapour migration with a potential for exposure to impact on an indoor air environment (building on-site or near site).

Evidence of significant dust generated and impacting on-site and off-site potential or known receptors.

No vapour emissions and/or no dust generated

C2a. Site Score

5

3

0

2b. Accessibility of Site (ability to contact materials; max. 4)

Limited barriers to prevent site access; contamination not covered

Moderate access or no intervening barriers; contaminants are covered; remote locations in which contaminants are not covered

Controlled access or remote location and contaminants are covered

C2b. Site Score

4

3

0

2c. Hazardous Soil Gas Migration and Explosive Potential from the Site (max. 2)

2)

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard; soil permeability is high

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard. Soil permeability is low and/or groundwater is <2 m from surface. Contaminants are neither volatile nor mobile in the gas/vapour phase. No risk of explosive hazard.

C2c. Site Score

2

1

0

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

11

0

0

Total Site Score for Exposure Pathways/ Direct Contact

11

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known adverse impact on humans or animals (domestic or documented traditional food source) as a result of the contaminated site (max. 18)

Documented adverse impact or high quantified exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

18

Suspected adverse impact or moderately high exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

15

No quantified or suspected exposures/impacts in humans or animals

0

A1. Site Score

2. Potential for impacts on humans and animals Complete a, b, and c.

a) Drinking water supply (max. 9). Complete i (Known) or ii (Potential).

i) Known impact on drinking water supply (max. 9)

Known contamination of drinking water supply (groundwater or surface water) with (1) concentrations above background and CDWG, or (2) there is physical evidence of drinking water contamination.

9

Measurable concentrations of contaminants in the drinking water supply (groundwater or surface water) but concentrations are less than the CDWG or there is a significant potential for CDWG exceedances of the water supply in the near future

7

Drinking water supply is known not to be contaminated

0

A2ai. Site Score

 0

ii) Potential for impact on drinking water supply (max. 9) Complete both sections.

Proximity to drinking water supply (max. 6)

0 to <100 m

6

100 to <300 m

5

300 m to <1 km

4

1 to 5 km

3

A2aii(Part1). Site Score

 4

Data

Seasonal and permanent residences located around Dolomite Lake may use Lake for domestic water supply.
Dolomite Lake located approx. 475 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Availability of alternative drinking water supply (max. 3)

Alternative drinking water supply is not available

3

Alternative drinking water supply difficult to obtain

2

Alternative drinking water supply available

0.5

A2aii(Part2). Site Score

 2

Data

Inconvenient to carry water in to residences - no road access (boat or overland only).

2a. Site Score Based on Data

 6

2a. Site Score Based on Speculation

 0

2a. Site Score

 6

b) Other water resources (max. 4). Complete i (Known) or ii (Potential)

i) Water resources (i.e. recreational, commercial, livestock, irrigation or other food chain uses) known to be adversely affected as a result of site contamination (max. 4)

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

Known contamination of water resource (1) to concentrations above background and above the appropriate environmental quality criteria (EQC) as required based on the water resources usage or (2) there is physical evidence of water resources contamination

Chemical concentrations are currently below the appropriate EQC as required based on the water resources usage but strongly suspect potential for future EQC exceedances

Water resource is not known to be contaminated

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

4

3

0

A2bi. Site Score

0

ii) Potential for impact on water resources (max. 4). Complete both sections.

Proximity to water resources (max. 2)

0 to <100 m

100 to <300 m

300 m to <1 km

1 to 5 km

2

1.5

1

0.5

A2bii(Part1). Site Score

1

Data

Dolomite Lake located approx. 475 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Use of water resources (max. 2). If multiple uses, give the highest score automatically (use following table)

Water Use

Recreational (swimming, fishing, etc.)

Commercial food preparation

Livestock watering

Irrigation

Other domestic or food chain uses

Not currently used but likely future use

Frequent Use

2

1.5

1

1

0.5

0.5

Occasional Use

1

0.8

0.5

0.5

0.3

0.2

A2bii(Part2). Site Score

2

Data

Fishing for food reportedly takes place in Dolomite Lake.

2b. Site Score Based on Data

3

2b. Site Score Based on Speculation

0

2b. Site Score

3

c) Direct human exposure (max. 5). Complete i (Known) or ii (Potential)

i) Known contamination of land used by humans (max. 5)

Known contamination of land used for agricultural (AG) or residential/parkland/school purposes (R/P) above AG or R/P CCME Environmental Quality Criteria (EQC).

Known contamination of land used for commercial or industrial (C/I) purposes above C/I CCME EQC.

Land is known not to be contaminated above background concentrations

5

0

A2ci. Site Score

ii) Potential human exposure through land use (give highest score to worst case scenario; max. 5)

Determine use(s) of land at and surrounding site and assign score using following table:

Land Use

0-<300 m

Distance from Site

300 m-<1 km

1-5 km

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

residential	5	4.5	3
agricultural	5	4	2.5
parkland/school	4	3	1.5
commercial/industrial	3	1	0.5

A2cii. Site Score

3

Information Source

Data

Document relevant site information, the source of that information, and the rationale for selecting the site score.

Site formerly used as fire fighter training area - potential for renewed use of site for Comm/Ind. purposes in future remains. Residential areas on far side of Dolomite Lake (<2km).

2c. Site Score Based on Data

3

2c. Site Score Based on Speculation

0

2c. Site Score

3

Special Considerations (max. 5)

-5 to +5

Score Based on Data

12

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Receptors/ Human and Animal Uses

12

III. Receptors

B. Environmental Receptors (max. 16)

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known impacts on the environment as a result of the contaminated site (max. 16)

Known adverse effect on environmental receptors including fish habitat
Visual physical evidence of stress on aquatic species or vegetative stress on trees, crops or plant life located on the site or off-site with impacts related to the contaminated site
No known environmental receptors within 1 km of contaminated site and no known adverse effects.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

16

12

0

B1. Site Score

2. Potential for Impact on Environmental Receptors. Complete a and b.

a) Distance from the site to the nearest environmental receptor (max. 10)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

10

6

2

0.5

B2a. Site Score

6

Data

Dolomite Lake located approx. 475 m to south.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

b) Distance to an important or susceptible groundwater or surface water resource (max. 6)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

6

4

2

1

B2b. Site Score

4

Data

Dolomite Lake located approx. 475 m to south.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 5)

-5 to +5

Score Based on Data

10

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Receptors/ Environmental Receptors

10

FCSAP(NCS) Evaluation completed for APEC 02, FFTA, Inuvik Airport
Final Score Sheet

Factor Categories	Known and Potential Scores Based on Data	Potential Scores Based on Speculation	Scores from Special Considerations	Total Category Scores
I. Contaminant Characteristics (max. 33)	21	0	0	21
II. Exposure Pathways (max. 33)				
A. Groundwater (max. 11)	0	0	0	0
B. Surface Water (max. 11)	6.3	0	0	6.3
C. Direct Contact (max. 11)	11	0	0	11
III. Receptors (max. 34)				
A. Human and Animal (max. 18)	12	0	0	12
B. Environment (max. 16)	10	0	0	10
Total Scores for the Site	60.3	0	0	60.3

Site Classification **Class 2 - Action Likely Required**

Class 1 (Score 70 to 100): Action Required

Class 2 (Score 50 to 69.9): Action Likely Required

Class 3 (Score 37 to 49.9): Action May Be Required

Class N (Score <37): Action Not Likely Required

Class I (Speculation Score ≥15): Insufficient Information

Note: This worksheet can be copied for inclusion in site reports or other documents.

FCSAP(NCS) Evaluation completed for APEC 08, Shell Lake, Inuvik Airport
Worksheet 1

I. Contaminant Characteristics (max. 33)
Complete A, B, C, and Special Considerations.

A. Degree of Hazard (max. 14)

High concern contaminants - high concentrations
High concern contaminants - low concentrations
Medium concern contaminants - high concentrations
Medium concern contaminants - low concentrations
Low concern contaminants (high or low concentrations)

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A. Site Score

14

Data

Contaminants: petroleum hydrocarbons - gross parameters (EPH F1 to F4), arsenic, lead, zinc. F1, arsenic, and lead are high concern parameters. High concentrations: F1 and arsenic >2x CCME industrial standard / CWS.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

B. Contaminant Quantity (max. 10)

>10 ha or 5000 m³
2 to 10 ha or 1000 to 5000 m³
<2 ha or 1000 m³

10

6

2

B. Site Score

2

Data

Approximate volume of impacted soil: 260 m³ (Phase II assessment only to date).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

C. Physical State (max. 9)

Highly mobile contaminants or high potential for mobility by erosion
Moderately mobile contaminants
Low to immobile contaminants or low potential for mobility by erosion

9

7

3

C. Site Score

9

Data

F1 and F2 at ASTs are sorbed to soil; soil headspace vapours low in screened samples and minimal groundwater is present (low mobility).
F2, F3, and metals detected in groundwater at concrete pad and sheen observed: high mobility.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 6)

-6 to +6

0

Score Based on Data

25

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Contaminant Characteristics

25

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination and operable groundwater pathway within and/or beyond the property boundary (max. 11)

For potable groundwater environments, 1) groundwater concentrations exceed background concentrations and the CCME Canadian Drinking Water Guidelines (CDWG) by 2X or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For nonpotable environments (typically urban environments with municipal services), 1) groundwater concentrations exceed 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway) or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For potable water environments, groundwater concentrations exceed background concentrations and the CDWG 1 to 2X.

For nonpotable environments, groundwater concentrations exceed by 1 to 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway).

Meets CDWG for potable environments; meets nonpotable criteria or modified generic (excludes ingestion of drinking water pathway) for nonpotable environments, or
Absence of groundwater exposure pathway.

A1. Site Score

Scoring
Guideline Site Score Information
Source

11

6

0

11

Document relevant site information, the source of that information, and the rationale for selecting the site score.

PHC F1 and F2 detected in groundwater. Elevated iron concentration detected in groundwater.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Groundwater Contamination. Complete a, b, c, d, and e.

2a. Engineered Subsurface Containment (max. 4)

No containment

Partial containment

Full containment or direct, monitored evidence of natural attenuation processes

A2a. Site Score

4

2

0

2b. Thickness of confining layer over aquifer of concern or groundwater exposure pathway (max. 1.5)

3 m or less including no or discontinuous confining layer or unknown

3 to 10 m

>10 m

A2b. Site Score

1.5

1

0

2c. Hydraulic conductivity of confining layer (max. 1.5)

>10⁻⁴ cm/s or no confining layer or unknown

10⁻⁴ to 10⁻⁶ cm/sec

<10⁻⁶ cm/sec

A2c. Site Score

1.5

1

0.5

2d. Annual precipitation (max. 1)

>1000 mm and moderately to highly permeable surface material

600 mm and moderately to highly permeable surface material

400 mm and low to moderately permeable surface material

200 mm and low permeability surface material

A2d. Site Score

1

0.6

0.4

0.2

2e. Hydraulic conductivity of aquifer of concern (max. 3)

FCSAP(NCS) Evaluation completed for APEC 08, Shell Lake, Inuvik Airport
Worksheet 2

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

$>10^{-2}$ cm/sec

10^{-2} to 10^{-4} cm/sec

$<10^{-4}$ cm/sec

Scoring
Guideline

3

1.5

0.5

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A2e. Site Score

Special Considerations (max. 4)

-4 to +4

-4

Permafrost acts as partial containment below contaminated zone. Active layer frozen through much of the year. No significant groundwater observed. No aquifer identified.

Score Based on Data

11

Score Based on Speculation

0

Score from Special Considerations

-4

Total Site Score for Exposure Pathways/ Groundwater

7

II. Exposure Pathways

B. Surface Water (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Observed or measured contamination, above background conditions of surface water/effluent near the site which is considered an operable exposure pathway (max. 11)

Known concentrations of surface water:

- 1) Concentrations exceed background concentrations and exceed CCME CWQG - Protection of Aquatic Life Guidelines by 2X; or
- 2) There is known contact of contaminants with surface water based on physical evidence; or
- 3) In the absence of CWQG, chemicals have been proven to be toxic based on site specific testing (e.g. toxicity testing, bioassay testing or other indicator testing of exposure).

Known concentrations of surface water which are above background and between 1 and 2X CWQG.

Meets CWQG or absence of surface water exposure pathway

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6
0

B1. Site Score

2. Potential for Surface Water Contamination. Complete a, b, c, d, and e.

2a. Surface Containment (max. 5)

- No containment
- Partial containment
- Full containment

5
3
0.5

B2a. Site Score

5

Data

No surface containment.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Distance to Perennial Surface Water (max. 3)

- 0 to <100 m
- 100 to 300 m
- >300 m

3
2
0.5

B2b. Site Score

3

Data

Shell Lake located adjacent to site.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Topography (max. 1.5)

- Contaminants above ground level and slope is steep
- Contaminants at or below ground level and slope is steep
- Contaminants above ground level and slope is flat
- Contaminants at or below ground level and slope is flat

1.5
1.2
0.8
0

B2c. Site Score

0.6

Data

Contaminants below surface where slope is moderate (near ASTs); at surface where slope is flat (surface stain at concrete pad).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2d. Run-off Potential (max. 1)

- >1000 mm precipitation and low permeability surface material
- 500 - 1000 mm precipitation and moderately permeable surface material
- <500 mm precipitation and highly permeable surface material

1
0.6
0.2

B2d. Site Score

0.2

Data

Environment Canada climate normals (www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html): 248.4 mm precipitation annually.

Highly permeable surface material (gravelly fill).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2e. Flood Potential (max. 0.5)

- 1 in 2 years
- 1 in 10 years
- 1 in 50 years

0.5
0.3
0.1

B2e. Site Score

0.5

Speculation

Contamination is present in soil adjacent to lake and barely above lake level. Speculate that flooding of contaminated area is relatively frequent.

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Surface Water

8.8

0.5

0

9.3

II. Exposure Pathways

C. Direct Contact (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination of media by direct contact (max. 11)

Known contamination of media (soil, sediments and air):

- 1) Concentrations exceed background concentrations and exceed 2X applicable environmental quality criteria (EQC) for the appropriate land use on/near the site; or
2) There is known contact of contaminants with media based on physical evidence; or
3) There is known vapour migration into indoor air environment (building).
Known contamination of media (soil, sediments, and air) with concentrations exceeding background and exceeding by 1 to 2 X applicable EQC for the appropriate land use on/near the site.
No exceedance of applicable EQC for appropriate land use on/near the site; or no physical evidence of contamination of the media; or absence of direct contact exposure pathway.

C1. Site Score

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6

0

11

Concentration of contaminants in soil >2x CCME industrial standard / CWS.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Direct Human and/or Animal Contact. Complete a, b, and c.

2a. Vapour Emissions (gases, subsurface and surface generated vapours, contaminated dust; max. 5)

- Suspected vapour migration with a potential for exposure to impact on an indoor air environment (building on-site or near site).
Evidence of significant dust generated and impacting on-site and off-site potential or known receptors.
No vapour emissions and/or no dust generated

C2a. Site Score

5

3

0

2b. Accessibility of Site (ability to contact materials; max. 4)

- Limited barriers to prevent site access; contamination not covered
Moderate access or no intervening barriers; contaminants are covered; remote locations in which contaminants are not covered
Controlled access or remote location and contaminants are covered

C2b. Site Score

4

3

0

2c. Hazardous Soil Gas Migration and Explosive Potential from the Site (max. 2)

- Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard; soil permeability is high

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard. Soil permeability is low and/or groundwater is <2 m from surface. Contaminants are neither volatile nor mobile in the gas/vapour phase. No risk of explosive hazard.

C2c. Site Score

2

1

0

Special Considerations (max. 4)

-4 to +4

Score Based on Data
Score Based on Speculation
Score from Special Considerations

11

0

0

Total Site Score for Exposure Pathways/ Direct Contact

11

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known adverse impact on humans or animals (domestic or documented traditional food source) as a result of the contaminated site (max. 18)

Documented adverse impact or high quantified exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

18

Suspected adverse impact or moderately high exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

15

No quantified or suspected exposures/impacts in humans or animals

0

A1. Site Score

2. Potential for impacts on humans and animals Complete a, b, and c.

a) Drinking water supply (max. 9). Complete i (Known) or ii (Potential).

i) Known impact on drinking water supply (max. 9)

Known contamination of drinking water supply (groundwater or surface water) with (1) concentrations above background and CDWG, or (2) there is physical evidence of drinking water contamination.

9

Measurable concentrations of contaminants in the drinking water supply (groundwater or surface water) but concentrations are less than the CDWG or there is a significant potential for CDWG exceedances of the water supply in the near future

7

Drinking water supply is known not to be contaminated

0

A2ai. Site Score

ii) Potential for impact on drinking water supply (max. 9) Complete both sections.

Proximity to drinking water supply (max. 6)

0 to <100 m

6

100 to <300 m

5

300 m to <1 km

4

1 to 5 km

3

A2aii(Part1). Site Score

Speculation

Shell Lake adjacent to Site. Potential exists for Shell Lake to be used for domestic water supply by facilities in floatplane base area.

Availability of alternative drinking water supply (max. 3)

Alternative drinking water supply is not available

3

Alternative drinking water supply difficult to obtain

2

Alternative drinking water supply available

0.5

A2aii(Part2). Site Score

Data

Drinking water supply in trucked-in to sites in floatplane base area. No municipal piped supply to this area.

2a. Site Score Based on Data

2a. Site Score Based on Speculation

2a. Site Score

b) Other water resources (max. 4). Complete i (Known) or ii (Potential)

i) Water resources (i.e. recreational, commercial, livestock, irrigation or other food chain uses) known to be adversely affected as a result of site contamination (max. 4)

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

Known contamination of water resource (1) to concentrations above background and above the appropriate environmental quality criteria (EQC) as required based on the water resources usage or (2) there is physical evidence of water resources contamination

Chemical concentrations are currently below the appropriate EQC as required based on the water resources usage but strongly suspect potential for future EQC exceedances

Water resource is not known to be contaminated

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

4

3

0

A2bi. Site Score

0

ii) Potential for impact on water resources (max. 4). Complete both sections.

Proximity to water resources (max. 2)

0 to <100 m

100 to <300 m

300 m to <1 km

1 to 5 km

2

1.5

1

0.5

A2bii(Part1). Site Score

2

Data

Shell Lake adjacent to Site.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Use of water resources (max. 2). If multiple uses, give the highest score automatically (use following table)

Water Use

Frequent Use

Occasional Use

Recreational (swimming, fishing, etc.)

2

1

Commercial food preparation

1.5

0.8

Livestock watering

1

0.5

Irrigation

1

0.5

Other domestic or food chain uses

0.5

0.3

Not currently used but likely future use

0.5

0.2

A2bii(Part2). Site Score

2

Speculation

Potential exists for recreational use of Shell Lake.

2b. Site Score Based on Data

2

2b. Site Score Based on Speculation

2

2b. Site Score

4

c) Direct human exposure (max. 5). Complete i (Known) or ii (Potential)

i) Known contamination of land used by humans (max. 5)

Known contamination of land used for agricultural (AG) or residential/parkland/school purposes (R/P) above AG or R/P CCME Environmental Quality Criteria (EQC).

5

Known contamination of land used for commercial or industrial (C/I) purposes above C/I CCME EQC.

Land is known not to be contaminated above background concentrations

0

A2ci. Site Score

5

Contaminants present at > CCME industrial standard / CWS: petroleum hydrocarbons - gross parameters (EPH F1 to F4), arsenic, lead, zinc. F1, arsenic, and lead are high concern parameters.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

ii) Potential human exposure through land use (give highest score to worst case scenario; max. 5)

Determine use(s) of land at and surrounding site and assign score using following table:

Land Use

Distance from Site

0-<300 m

300 m-<1 km

1-5 km

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

residential	5	4.5	3
agricultural	5	4	2.5
parkland/school	4	3	1.5
commercial/industrial	3	1	0.5

A2cii. Site Score

Scoring Guideline	Site Score	Information Source	Document relevant site information, the source of that information, and the rationale for selecting the site score.

2c. Site Score Based on Data

2c. Site Score Based on Speculation

2c. Site Score

5
0
5

Special Considerations (max. 5)

-5 to +5 0

Score Based on Data

Score Based on Speculation

Score from Special Considerations

7.5
8
0

Total Site Score for Receptors/ Human and Animal Uses

15.5

III. Receptors

B. Environmental Receptors (max. 16)

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known impacts on the environment as a result of the contaminated site (max. 16)

Known adverse effect on environmental receptors including fish habitat
Visual physical evidence of stress on aquatic species or vegetative stress on trees, crops or plant life located on the site or off-site with impacts related to the contaminated site
No known environmental receptors within 1 km of contaminated site and no known adverse effects.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

16

12

0

B1. Site Score

2. Potential for Impact on Environmental Receptors. Complete a and b.

a) Distance from the site to the nearest environmental receptor (max. 10)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

10

6

2

0.5

B2a. Site Score

10

Data

Shell Lake located adjacent to the site.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

b) Distance to an important or susceptible groundwater or surface water resource (max. 6)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

6

4

2

1

B2b. Site Score

6

Data

Shell Lake located adjacent to the site.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 5)

-5 to +5

Score Based on Data
Score Based on Speculation
Score from Special Considerations

16

0

0

Total Site Score for Receptors/ Environmental Receptors

16

FCSAP(NCS) Evaluation completed for APEC 08, Shell Lake, Inuvik Airport
Final Score Sheet

Factor Categories	Known and Potential Scores Based on Data	Potential Scores Based on Speculation	Scores from Special Considerations	Total Category Scores
I. Contaminant Characteristics (max. 33)	25	0	0	25
II. Exposure Pathways (max. 33)				
A. Groundwater (max. 11)	11	0	-4	7
B. Surface Water (max. 11)	8.8	0.5	0	9.3
C. Direct Contact (max. 11)	11	0	0	11
III. Receptors (max. 34)				
A. Human and Animal (max. 18)	7.5	8	0	15.5
B. Environment (max. 16)	16	0	0	16
Total Scores for the Site	79.3	8.5	-4	83.8

Site Classification **Class 1 - Action Required**

Class 1 (Score 70 to 100): Action Required

Class 2 (Score 50 to 69.9): Action Likely Required

Class 3 (Score 37 to 49.9): Action May Be Required

Class N (Score <37): Action Not Likely Required

Class I (Speculation Score ≥15): Insufficient Information

Note: This worksheet can be copied for inclusion in site reports or other documents.

I. Contaminant Characteristics (max. 33)
Complete A, B, C, and Special Considerations.

A. Degree of Hazard (max. 14)

High concern contaminants - high concentrations
High concern contaminants - low concentrations
Medium concern contaminants - high concentrations
Medium concern contaminants - low concentrations
Low concern contaminants (high or low concentrations)

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

14
11
8
5
3

Suspected Contaminants include: petroleum hydrocarbons and metals - medium concern.
Concentrations: =< CCME industrial standard / CWS for those samples analysed; however, landfills are typically greatly inhomogeneous and exceeding soils may exist with the waste.

A. Site Score

8

Speculation

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

B. Contaminant Quantity (max. 10)

>10 ha or 5000 m³
2 to 10 ha or 1000 to 5000 m³
<2 ha or 1000 m³

10
6
2

Estimated volume of landfill is 500 m³.

B. Site Score

2

Data

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

C. Physical State (max. 9)

Highly mobile contaminants or high potential for mobility by erosion
Moderately mobile contaminants
Low to immobile contaminants or low potential for mobility by erosion

9
7
3

Suspected contaminants (petroleum hydrocarbons and metals) are moderately mobile when exposed to groundwater; however limited groundwater is present in landfill. Contaminants could be mobilised by leaching by precipitation. Wastes generally not exposed to erosion at surface (some large pieces of debris at surface, but otherwise surface is covered with gravel and cobbles).

C. Site Score

5

Data

Special Considerations (max. 6)

-6 to +6

0

Score Based on Data

7

Score Based on Speculation

8

Score from Special Considerations

0

Total Site Score for Contaminant Characteristics

15

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination and operable groundwater pathway within and/or beyond the property boundary (max. 11)

For potable groundwater environments, 1) groundwater concentrations exceed background concentrations and the CCME Canadian Drinking Water Guidelines (CDWG) by 2X or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For nonpotable environments (typically urban environments with municipal services), 1) groundwater concentrations exceed 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway) or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For potable water environments, groundwater concentrations exceed background concentrations and the CDWG 1 to 2X.

For nonpotable environments, groundwater concentrations exceed by 1 to 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway).

Meets CDWG for potable environments; meets nonpotable criteria or modified generic (excludes ingestion of drinking water pathway) for nonpotable environments, or Absence of groundwater exposure pathway.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6

0

A1. Site Score

0

No aquifer present; minimal groundwater observed. This is a permafrost area with an active zone of less than 2 m that is frozen for much of the year.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Groundwater Contamination. Complete a, b, c, d, and e.

2a. Engineered Subsurface Containment (max. 4)

No containment

Partial containment

Full containment or direct, monitored evidence of natural attenuation processes

4

2

0

A2a. Site Score

2b. Thickness of confining layer over aquifer of concern or groundwater exposure pathway (max. 1.5)

3 m or less including no or discontinuous confining layer or unknown

3 to 10 m

>10 m

1.5

1

0

A2b. Site Score

2c. Hydraulic conductivity of confining layer (max. 1.5)

>10⁻⁴ cm/s or no confining layer or unknown

10⁻⁴ to 10⁻⁶ cm/sec

<10⁻⁶ cm/sec

1.5

1

0.5

A2c. Site Score

2d. Annual precipitation (max. 1)

>1000 mm and moderately to highly permeable surface material

600 mm and moderately to highly permeable surface material

400 mm and low to moderately permeable surface material

200 mm and low permeability surface material

1

0.6

0.4

0.2

A2d. Site Score

2e. Hydraulic conductivity of aquifer of concern (max. 3)

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

>10⁻² cm/sec

10⁻² to 10⁻⁴ cm/sec

<10⁻⁴ cm/sec

Scoring
Guideline

3

1.5

0.5

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A2e. Site Score

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Groundwater

II. Exposure Pathways

B. Surface Water (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Observed or measured contamination, above background conditions of surface water/effluent near the site which is considered an operable exposure pathway (max. 11)

Known concentrations of surface water:

- 1) Concentrations exceed background concentrations and exceed CCME CWQG - Protection of Aquatic Life Guidelines by 2X; or
- 2) There is known contact of contaminants with surface water based on physical evidence; or
- 3) In the absence of CWQG, chemicals have been proven to be toxic based on site specific testing (e.g. toxicity testing, bioassay testing or other indicator testing of exposure).

Known concentrations of surface water which are above background and between 1 and 2X CWQG.

Meets CWQG or absence of surface water exposure pathway

Scoring Guideline	Site Score	Information Source	Document relevant site information, the source of that information, and the rationale for selecting the site score.
11			
6			
0			
B1. Site Score			

2. Potential for Surface Water Contamination. Complete a, b, c, d, and e.

2a. Surface Containment (max. 5)

- No containment
- Partial containment
- Full containment

B2a. Site Score

5			
3			
0.5			
5	Data	No surface containment.	Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Distance to Perennial Surface Water (max. 3)

- 0 to <100 m
- 100 to 300 m
- >300 m

B2b. Site Score

3			
2			
0.5			
2	Data	Dolomite Lake located approx. 300 m to south, as measured along the creek flow path.	Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Topography (max. 1.5)

- Contaminants above ground level and slope is steep
- Contaminants at or below ground level and slope is steep
- Contaminants above ground level and slope is flat
- Contaminants at or below ground level and slope is flat

B2c. Site Score

1.5			
1.2			
0.8			
0			
1.5	Data	Landfill is developed on and stands above steep, southwest-facing slope of gully.	Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2d. Run-off Potential (max. 1)

- >1000 mm precipitation and low permeability surface material
- 500 - 1000 mm precipitation and moderately permeable surface material
- <500 mm precipitation and highly permeable surface material

B2d. Site Score

1			
0.6			
0.2			
0.2	Data	Environment Canada climate normals (www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html): 248.4 mm precipitation annually. Highly permeable surface material (crushed rock).	Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2e. Flood Potential (max. 0.5)

- 1 in 2 years
- 1 in 10 years
- 1 in 50 years

B2e. Site Score

0.5			
0.3			
0.1			
0	Speculation	Landfill is developed on slope of gully, at least 10 m above the creek. Flooding of the landfill does not appear to be possible.	Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 4)

-4 to +4		

Score Based on Data
Score Based on Speculation
Score from Special Considerations

8.7
0
0

Total Site Score for Exposure Pathways/ Surface Water

8.7

II. Exposure Pathways

C. Direct Contact (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination of media by direct contact (max. 11)

Known contamination of media (soil, sediments and air):

- 1) Concentrations exceed background concentrations and exceed 2X applicable environmental quality criteria (EQC) for the appropriate land use on/near the site; or
- 2) There is known contact of contaminants with media based on physical evidence; or
- 3) There is known vapour migration into indoor air environment (building).

Known contamination of media (soil, sediments, and air) with concentrations exceeding background and exceeding by 1 to 2 X applicable EQC for the appropriate land use on/near the site.

No exceedance of applicable EQC for appropriate land use on/near the site; or no physical evidence of contamination of the media; or absence of direct contact exposure pathway.

C1. Site Score

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6

0

2. Potential for Direct Human and/or Animal Contact. Complete a, b, and c.

2a. Vapour Emissions (gases, subsurface and surface generated vapours, contaminated dust; max. 5)

Suspected vapour migration with a potential for exposure to impact on an indoor air environment (building on-site or near site).

Evidence of significant dust generated and impacting on-site and off-site potential or known receptors.

No vapour emissions and/or no dust generated

C2a. Site Score

5

3

0

 0 Data

No evidence of volatile contaminants detected. The only structure nearby is a shed placed on sleepers (no contact with ground and prevents ingress of vapours).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Accessibility of Site (ability to contact materials; max. 4)

Limited barriers to prevent site access; contamination not covered

Moderate access or no intervening barriers; contaminants are covered; remote locations in which contaminants are not covered

Controlled access or remote location and contaminants are covered

C2b. Site Score

4

3

0

 0 Data

Limited access: landfill is located inside quarry gate (locked after hours) and located on far side of quarry from access road (also gated after hours). Surface of landfill is covered with gravel and cobbles, although some larger pieces of debris are present on surface.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Hazardous Soil Gas Migration and Explosive Potential from the Site (max. 2)

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard; soil permeability is high

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard. Soil permeability is low and/or groundwater is <2 m from surface. Contaminants are neither volatile nor mobile in the gas/vapour phase. No risk of explosive hazard.

C2c. Site Score

2

1

0

 0 Data

No evidence of volatile contaminants detected.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

 0

 0

 0

Total Site Score for Exposure Pathways/ Direct Contact

 0

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known adverse impact on humans or animals (domestic or documented traditional food source) as a result of the contaminated site (max. 18)

Documented adverse impact or high quantified exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

18

Suspected adverse impact or moderately high exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

15

No quantified or suspected exposures/impacts in humans or animals

0

A1. Site Score

Document relevant site information, the source of that information, and the rationale for selecting the site score.

2. Potential for impacts on humans and animals Complete a, b, and c.

a) Drinking water supply (max. 9). Complete i (Known) or ii (Potential).

i) Known impact on drinking water supply (max. 9)

Known contamination of drinking water supply (groundwater or surface water) with (1) concentrations above background and CDWG, or (2) there is physical evidence of drinking water contamination.

9

Measurable concentrations of contaminants in the drinking water supply (groundwater or surface water) but concentrations are less than the CDWG or there is a significant potential for CDWG exceedances of the water supply in the near future

7

Drinking water supply is known not to be contaminated

0

A2ai. Site Score

ii) Potential for impact on drinking water supply (max. 9) Complete both sections.

Proximity to drinking water supply (max. 6)

0 to <100 m

6

100 to <300 m

5

300 m to <1 km

4

1 to 5 km

3

A2aii(Part1). Site Score

Data

Seasonal and permanent residences located around Dolomite Lake may use Lake for domestic water supply.
Dolomite Lake located approx. 300 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Availability of alternative drinking water supply (max. 3)

Alternative drinking water supply is not available

3

Alternative drinking water supply difficult to obtain

2

Alternative drinking water supply available

0.5

A2aii(Part2). Site Score

Data

Inconvenient to carry water in to residences - no road access (boat or overland only).

2a. Site Score Based on Data

2a. Site Score Based on Speculation

2a. Site Score

b) Other water resources (max. 4). Complete i (Known) or ii (Potential)

i) Water resources (i.e. recreational, commercial, livestock, irrigation or other food chain uses) known to be adversely affected as a result of site contamination (max. 4)

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

Known contamination of water resource (1) to concentrations above background and above the appropriate environmental quality criteria (EQC) as required based on the water resources usage or (2) there is physical evidence of water resources contamination

Chemical concentrations are currently below the appropriate EQC as required based on the water resources usage but strongly suspect potential for future EQC exceedances

Water resource is not known to be contaminated

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

4

3

0

A2bi. Site Score

0

ii) Potential for impact on water resources (max. 4). Complete both sections.

Proximity to water resources (max. 2)

0 to <100 m

100 to <300 m

300 m to <1 km

1 to 5 km

2

1.5

1

0.5

A2bii(Part1). Site Score

1.5

Data

Dolomite Lake located approx. 300 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Use of water resources (max. 2). If multiple uses, give the highest score automatically (use following table)

Water Use

Frequent Use

Occasional Use

Recreational (swimming, fishing, etc.)

2

1

Commercial food preparation

1.5

0.8

Livestock watering

1

0.5

Irrigation

1

0.5

Other domestic or food chain uses

0.5

0.3

Not currently used but likely future use

0.5

0.2

A2bii(Part2). Site Score

2

Data

Fishing for food reportedly takes place in Dolomite Lake.

2b. Site Score Based on Data

3.5

2b. Site Score Based on Speculation

0

2b. Site Score

3.5

c) Direct human exposure (max. 5). Complete i (Known) or ii (Potential)

i) Known contamination of land used by humans (max. 5)

Known contamination of land used for agricultural (AG) or residential/parkland/school purposes (R/P) above AG or R/P CCME Environmental Quality Criteria (EQC).

5

Known contamination of land used for commercial or industrial (C/I) purposes above C/I CCME EQC.

Land is known not to be contaminated above background concentrations

0

A2ci. Site Score

ii) Potential human exposure through land use (give highest score to worst case scenario; max. 5)

Determine use(s) of land at and surrounding site and assign score using following table:

Land Use

Distance from Site

0-<300 m

300 m-<1 km

1-5 km

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

residential	5	4.5	3
agricultural	5	4	2.5
parkland/school	4	3	1.5
commercial/industrial	3	1	0.5

A2cii. Site Score

Scoring Guideline	Site Score	Information Source
	3	Data

Document relevant site information, the source of that information, and the rationale for selecting the site score.

Quarry activities - industrial use. Residential areas on far side of Dolomite Lake (<2km).

2c. Site Score Based on Data

2c. Site Score Based on Speculation

2c. Site Score

3
0
3

Special Considerations (max. 5)

-5 to +5 0

Score Based on Data

Score Based on Speculation

Score from Special Considerations

13.5
0
0

Total Site Score for Receptors/ Human and Animal Uses

13.5

III. Receptors

B. Environmental Receptors (max. 16)

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known impacts on the environment as a result of the contaminated site (max. 16)

Known adverse effect on environmental receptors including fish habitat
Visual physical evidence of stress on aquatic species or vegetative stress on trees, crops or plant life located on the site or off-site with impacts related to the contaminated site
No known environmental receptors within 1 km of contaminated site and no known adverse effects.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

16

12

0

B1. Site Score

16

2. Potential for Impact on Environmental Receptors. Complete a and b.

a) Distance from the site to the nearest environmental receptor (max. 10)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

10

6

2

0.5

B2a. Site Score

10

Data

Creek located at bottom of gully, 15-20 m from toe of landfill; leads to Dolomite Lake, 275 m downstream.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

b) Distance to an important or susceptible groundwater or surface water resource (max. 6)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

6

4

2

1

B2b. Site Score

6

Data

Creek located at bottom of gully, 15-20 m from toe of landfill; leads to Dolomite Lake, 275 m downstream.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 5)

-5 to +5

Score Based on Data

16

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Receptors/ Environmental Receptors

16

FCSAP(NCS) Evaluation completed for APEC 09, Landfill West of Quarry, Inuvik Airport
Final Score Sheet

Factor Categories	Known and Potential Scores Based on Data	Potential Scores Based on Speculation	Scores from Special Considerations	Total Category Scores
I. Contaminant Characteristics (max. 33)	7	8	0	15
II. Exposure Pathways (max. 33)				
A. Groundwater (max. 11)	0	0	0	0
B. Surface Water (max. 11)	8.7	0	0	8.7
C. Direct Contact (max. 11)	0	0	0	0
III. Receptors (max. 34)				
A. Human and Animal (max. 18)	13.5	0	0	13.5
B. Environment (max. 16)	16	0	0	16
Total Scores for the Site	45.2	8	0	53.2

Site Classification **Class 2 - Action Likely Required**

Class 1 (Score 70 to 100): Action Required

Class 2 (Score 50 to 69.9): Action Likely Required

Class 3 (Score 37 to 49.9): Action May Be Required

Class N (Score <37): Action Not Likely Required

Class I (Speculation Score ≥15): Insufficient Information

Note: This worksheet can be copied for inclusion in site reports or other documents.

FCSAP(NCS) Evaluation completed for APEC 10, Landfill South of LTU, Inuvik Airport
Worksheet 1

I. Contaminant Characteristics (max. 33)
Complete A, B, C, and Special Considerations.

A. Degree of Hazard (max. 14)

High concern contaminants - high concentrations
High concern contaminants - low concentrations
Medium concern contaminants - high concentrations
Medium concern contaminants - low concentrations
Low concern contaminants (high or low concentrations)

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

14
11
8
5
3

Suspected Contaminants include: petroleum hydrocarbons and metals - medium concern.
Petroleum hydrocarbon concentrations: =< CCME industrial standard / CWS for those samples analysed; however, landfills are typically greatly inhomogeneous and exceeding soils may exist with the waste. Metals concentrations up to >2x CCME industrial standard / CWS (high concentrations).
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

A. Site Score

8

Data

B. Contaminant Quantity (max. 10)

>10 ha or 5000 m³
2 to 10 ha or 1000 to 5000 m³
<2 ha or 1000 m³

10
6
2

Estimated volume of landfill is up to 1000 m³.

B. Site Score

2

Data

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

C. Physical State (max. 9)

Highly mobile contaminants or high potential for mobility by erosion
Moderately mobile contaminants
Low to immobile contaminants or low potential for mobility by erosion

9
7
3

Confirmed contaminants (metals) are moderately mobile when exposed to groundwater, however limited groundwater is present in landfill. Contaminants could be mobilised by leaching by precipitation. Wastes generally not exposed to erosion at surface (numerous drums with tar residues surface, but otherwise surface is covered with vegetation).
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

C. Site Score

7

Data

Special Considerations (max. 6)

-6 to +6

Score Based on Data

17

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Contaminant Characteristics

17

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Known contamination and operable groundwater pathway within and/or beyond the property boundary (max. 11)

For potable groundwater environments, 1) groundwater concentrations exceed background concentrations and the CCME Canadian Drinking Water Guidelines (CDWG) by 2X or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For nonpotable environments (typically urban environments with municipal services), 1) groundwater concentrations exceed 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway) or 2) there is known contact of contaminants with groundwater, based on physical evidence of groundwater impacts.

For potable water environments, groundwater concentrations exceed background concentrations and the CDWG 1 to 2X.

For nonpotable environments, groundwater concentrations exceed by 1 to 2X the appropriate nonpotable guidelines or modified generic guidelines (which excludes ingestion of drinking water pathway).

Meets CDWG for potable environments; meets nonpotable criteria or modified generic (excludes ingestion of drinking water pathway) for nonpotable environments, or Absence of groundwater exposure pathway.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6

0

A1. Site Score

0

No aquifer present; minimal groundwater observed. This is a permafrost area with an active zone of less than 2 m that is frozen for much of the year.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2. Potential for Groundwater Contamination. Complete a, b, c, d, and e.

2a. Engineered Subsurface Containment (max. 4)

No containment

Partial containment

Full containment or direct, monitored evidence of natural attenuation processes

4

2

0

A2a. Site Score

2b. Thickness of confining layer over aquifer of concern or groundwater exposure pathway (max. 1.5)

3 m or less including no or discontinuous confining layer or unknown

3 to 10 m

>10 m

1.5

1

0

A2b. Site Score

2c. Hydraulic conductivity of confining layer (max. 1.5)

>10⁻⁴ cm/s or no confining layer or unknown

10⁻⁴ to 10⁻⁶ cm/sec

<10⁻⁶ cm/sec

1.5

1

0.5

A2c. Site Score

2d. Annual precipitation (max. 1)

>1000 mm and moderately to highly permeable surface material

600 mm and moderately to highly permeable surface material

400 mm and low to moderately permeable surface material

200 mm and low permeability surface material

1

0.6

0.4

0.2

A2d. Site Score

2e. Hydraulic conductivity of aquifer of concern (max. 3)

FCSAP(NCS) Evaluation completed for APEC 10, Landfill South of LTU, Inuvik Airport
Worksheet 2

II. Exposure Pathways

A. Groundwater (max. 11)

Complete 1 (Known) or 2 (Potential), and Special Considerations.

>10⁻² cm/sec

10⁻² to 10⁻⁴ cm/sec

<10⁻⁴ cm/sec

Scoring
Guideline

3

1.5

0.5

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

A2e. Site Score

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Groundwater

0

0

0

0

II. Exposure Pathways

B. Surface Water (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations.

1. Observed or measured contamination, above background conditions of surface water/effluent near the site which is considered an operable exposure pathway (max. 11)

Known concentrations of surface water:

- 1) Concentrations exceed background concentrations and exceed CCME CWQG - Protection of Aquatic Life Guidelines by 2X; or
- 2) There is known contact of contaminants with surface water based on physical evidence; or
- 3) In the absence of CWQG, chemicals have been proven to be toxic based on site specific testing (e.g. toxicity testing, bioassay testing or other indicator testing of exposure).

Known concentrations of surface water which are above background and between 1 and 2X CWQG.

Meets CWQG or absence of surface water exposure pathway

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

11

6
0

B1. Site Score

2. Potential for Surface Water Contamination. Complete a, b, c, d, and e.

2a. Surface Containment (max. 5)

- No containment
- Partial containment
- Full containment

5
3
0.5

B2a. Site Score

5

Data

No surface containment.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Distance to Perennial Surface Water (max. 3)

- 0 to <100 m
- 100 to 300 m
- >300 m

3
2
0.5

B2b. Site Score

0.5

Data

Dolomite Lake located approx. 400 m to south.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Topography (max. 1.5)

- Contaminants above ground level and slope is steep
- Contaminants at or below ground level and slope is steep
- Contaminants above ground level and slope is flat
- Contaminants at or below ground level and slope is flat

1.5
1.2
0.8
0

B2c. Site Score

1.5

Data

Contaminants at ground surface and below; drums lying on surface. Steep slope is vegetated.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2d. Run-off Potential (max. 1)

- >1000 mm precipitation and low permeability surface material
- 500 - 1000 mm precipitation and moderately permeable surface material
- <500 mm precipitation and highly permeable surface material

1
0.6
0.2

B2d. Site Score

0.2

Data

Environment Canada climate normals (www.climate.weatheroffice.ec.gc.ca/climate_normals/index_e.html): 248.4 mm precipitation annually. Highly permeable surface material (crushed rock).

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2e. Flood Potential (max. 0.5)

- 1 in 2 years
- 1 in 10 years
- 1 in 50 years

0.5
0.3
0.1

B2e. Site Score

0

Data

Site located on side of ridge - no apparent flood potential.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 4)

-4 to +4

Score Based on Data

Score Based on Speculation

Score from Special Considerations

Total Site Score for Exposure Pathways/ Surface Water

7.2

0

0

7.2

II. Exposure Pathways

C. Direct Contact (max. 11).

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known contamination of media by direct contact (max. 11)

Known contamination of media (soil, sediments and air):

- 1) Concentrations exceed background concentrations and exceed 2X applicable environmental quality criteria (EQC) for the appropriate land use on/near the site; or
- 2) There is known contact of contaminants with media based on physical evidence; or
- 3) There is known vapour migration into indoor air environment (building).

Known contamination of media (soil, sediments, and air) with concentrations exceeding background and exceeding by 1 to 2 X applicable EQC for the appropriate land use on/near the site.

No exceedance of applicable EQC for appropriate land use on/near the site; or no physical evidence of contamination of the media; or absence of direct contact exposure pathway.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

C1. Site Score

11

6

0

2. Potential for Direct Human and/or Animal Contact. Complete a, b, and c.

2a. Vapour Emissions (gases, subsurface and surface generated vapours, contaminated dust; max. 5)

Suspected vapour migration with a potential for exposure to impact on an indoor air environment (building on-site or near site).

Evidence of significant dust generated and impacting on-site and off-site potential or known receptors.

No vapour emissions and/or no dust generated

C2a. Site Score

5

3

0

0 Data

No structures nearby. Site is fully vegetated. No vapour emissions or dust generation.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2b. Accessibility of Site (ability to contact materials; max. 4)

Limited barriers to prevent site access; contamination not covered

Moderate access or no intervening barriers; contaminants are covered; remote locations in which contaminants are not covered

Controlled access or remote location and contaminants are covered

C2b. Site Score

4

3

0

1.5 Data

Limited access: landfill is located inside fenced airport lands; gates locked after hours. Surface of landfill is vegetated although numerous drums with tar residue are present on surface.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

2c. Hazardous Soil Gas Migration and Explosive Potential from the Site (max. 2)

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard; soil permeability is high

Contaminants are volatile, mobile in the gas/vapour phase and are a potential explosion hazard. Soil permeability is low and/or groundwater is <2 m from surface.

Contaminants are neither volatile nor mobile in the gas/vapour phase. No risk of explosive hazard.

C2c. Site Score

2

1

0

0 Data

No evidence of volatile contaminants detected.

Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 4)

-4 to +4

4

Cracks in top of landfill provide access to wastes to wildlife. Cracks may indicate a potential for slope failure and release of landfill contents.

Score Based on Data
Score Based on Speculation
Score from Special Considerations

1.5

0

4

Total Site Score for Exposure Pathways/ Direct Contact

5.5

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

1. Known adverse impact on humans or animals (domestic or documented traditional food source) as a result of the contaminated site (max. 18)

Documented adverse impact or high quantified exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

18

Suspected adverse impact or moderately high exposure which has or will result in an adverse effect, injury or harm or impairment of the safety to humans or animals (domestic or documented traditional food source) as a result of the contaminated site.

15

No quantified or suspected exposures/impacts in humans or animals

0

A1. Site Score

2. Potential for impacts on humans and animals Complete a, b, and c.

a) Drinking water supply (max. 9). Complete i (Known) or ii (Potential).

i) Known impact on drinking water supply (max. 9)

Known contamination of drinking water supply (groundwater or surface water) with (1) concentrations above background and CDWG, or (2) there is physical evidence of drinking water contamination.

9

Measurable concentrations of contaminants in the drinking water supply (groundwater or surface water) but concentrations are less than the CDWG or there is a significant potential for CDWG exceedances of the water supply in the near future

7

Drinking water supply is known not to be contaminated

0

A2ai. Site Score

ii) Potential for impact on drinking water supply (max. 9) Complete both sections.

Proximity to drinking water supply (max. 6)

0 to <100 m

6

100 to <300 m

5

300 m to <1 km

4

1 to 5 km

3

A2aii(Part1). Site Score

Data

Seasonal and permanent residences located around Dolomite Lake may use Lake for domestic water supply.
Dolomite Lake located approx. 300 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Availability of alternative drinking water supply (max. 3)

Alternative drinking water supply is not available

3

Alternative drinking water supply difficult to obtain

2

Alternative drinking water supply available

0.5

A2aii(Part2). Site Score

Data

Inconvenient to carry water in to residences - no road access (boat or overland only).

2a. Site Score Based on Data

2a. Site Score Based on Speculation

2a. Site Score

b) Other water resources (max. 4). Complete i (Known) or ii (Potential)

i) Water resources (i.e. recreational, commercial, livestock, irrigation or other food chain uses) known to be adversely affected as a result of site contamination (max. 4)

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

Known contamination of water resource (1) to concentrations above background and above the appropriate environmental quality criteria (EQC) as required based on the water resources usage or (2) there is physical evidence of water resources contamination

Chemical concentrations are currently below the appropriate EQC as required based on the water resources usage but strongly suspect potential for future EQC exceedances

Water resource is not known to be contaminated

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

4

3

0

A2bi. Site Score

0

ii) Potential for impact on water resources (max. 4). Complete both sections.

Proximity to water resources (max. 2)

0 to <100 m

100 to <300 m

300 m to <1 km

1 to 5 km

2

1.5

1

0.5

A2bii(Part1). Site Score

1.5

Data

Dolomite Lake located approx. 300 m to south, as measured along the creek flow path.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Use of water resources (max. 2). If multiple uses, give the highest score automatically (use following table)

Water Use

Frequent Use

Occasional Use

Recreational (swimming, fishing, etc.)

2

1

Commercial food preparation

1.5

0.8

Livestock watering

1

0.5

Irrigation

1

0.5

Other domestic or food chain uses

0.5

0.3

Not currently used but likely future use

0.5

0.2

A2bii(Part2). Site Score

2

Data

Fishing for food reportedly takes place in Dolomite Lake.

2b. Site Score Based on Data

3.5

2b. Site Score Based on Speculation

0

2b. Site Score

3.5

c) Direct human exposure (max. 5). Complete i (Known) or ii (Potential)

i) Known contamination of land used by humans (max. 5)

Known contamination of land used for agricultural (AG) or residential/parkland/school purposes (R/P) above AG or R/P CCME Environmental Quality Criteria (EQC).

5

Known contamination of land used for commercial or industrial (C/I) purposes above C/I CCME EQC.

Land is known not to be contaminated above background concentrations

0

A2ci. Site Score

ii) Potential human exposure through land use (give highest score to worst case scenario; max. 5)

Determine use(s) of land at and surrounding site and assign score using following table:

Land Use

Distance from Site

0-<300 m

300 m-<1 km

1-5 km

III. Receptors

A. Human and Animal Uses (max. 18).

Complete 1 (Known) or 2 (Potential), and Special Considerations

residential	5	4.5	3
agricultural	5	4	2.5
park/land/school	4	3	1.5
commercial/industrial	3	1	0.5

A2cii. Site Score

3

Data

Document relevant site information, the source of that information, and the rationale for selecting the site score.

Adjacent sites formerly used as fire fighter training area and soil treatment - potential for renewed use of sites for Comm/Ind. purposes in future remains. Residential areas on far side of Dolomite Lake (<2km).

2c. Site Score Based on Data

3

2c. Site Score Based on Speculation

0

2c. Site Score

3

Special Considerations (max. 5)

-5 to +5 0

Score Based on Data

13.5

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Receptors/ Human and Animal Uses

13.5

III. Receptors

B. Environmental Receptors (max. 16)

Complete 1 (Known) or 2 (Potential), and Special Considerations

1. Known impacts on the environment as a result of the contaminated site (max. 16)

Known adverse effect on environmental receptors including fish habitat
Visual physical evidence of stress on aquatic species or vegetative stress on trees, crops or plant life located on the site or off-site with impacts related to the contaminated site
No known environmental receptors within 1 km of contaminated site and no known adverse effects.

Scoring
Guideline

Site Score

Information
Source

Document relevant site information, the source of that information, and the rationale for selecting the site score.

16

12

0

B1. Site Score

2. Potential for Impact on Environmental Receptors. Complete a and b.

a) Distance from the site to the nearest environmental receptor (max. 10)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

10

6

2

0.5

B2a. Site Score

6

Data

Dolomite Lake located approx. 400 m to south.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

b) Distance to an important or susceptible groundwater or surface water resource (max. 6)

0 to <300 m
300 m to <1 km
1 km to <5 km
>5 km

6

4

2

1

B2b. Site Score

4

Data

Dolomite Lake located approx. 400 m to south.
Source: Phase II and III ESA, Inuvik Airport, Franz Environmental Inc., January 2007.

Special Considerations (max. 5)

-5 to +5

Score Based on Data

10

Score Based on Speculation

0

Score from Special Considerations

0

Total Site Score for Receptors/ Environmental Receptors

10

FCSAP(NCS) Evaluation completed for APEC 10, Landfill South of LTU, Inuvik Airport
Final Score Sheet

Factor Categories	Known and Potential Scores Based on Data	Potential Scores Based on Speculation	Scores from Special Considerations	Total Category Scores
I. Contaminant Characteristics (max. 33)	17	0	0	17
II. Exposure Pathways (max. 33)				
A. Groundwater (max. 11)	0	0	0	0
B. Surface Water (max. 11)	7.2	0	0	7.2
C. Direct Contact (max. 11)	1.5	0	4	5.5
III. Receptors (max. 34)				
A. Human and Animal (max. 18)	13.5	0	0	13.5
B. Environment (max. 16)	10	0	0	10
Total Scores for the Site	49.2	0	4	53.2

Site Classification **Class 2 - Action Likely Required**

Class 1 (Score 70 to 100): Action Required

Class 2 (Score 50 to 69.9): Action Likely Required

Class 3 (Score 37 to 49.9): Action May Be Required

Class N (Score <37): Action Not Likely Required

Class I (Speculation Score ≥15): Insufficient Information

Note: This worksheet can be copied for inclusion in site reports or other documents.

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