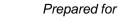
# Nanisivik Mine Summary of Contaminated Soil Remediation Progress -

# **September 10, 2008**



CanZinco Ltd.

Prepared by



Project Reference Number SRK 1CB002.001

January 2009







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January 20, 2009

1CB002.001

Mr Robert Carreau Corporate Manager, Environmental Affairs Breakwater Resources Ltd. Suite 950, 95 Wellington Street East Toronto, ON M5J 2N7

Dear Mr Carreau

Re: Nanisivik Mine Summary of Contaminated Soil Remediation Progress, September 10, 2008

On behalf of SRK Canada, I am pleased to submit the Nanisivik Mine Summary of Contaminated Soil Remediation Progress – September 10, 2008. This report serves to document the remedial activities that were undertaken, and the sample results obtained, that verify those activities at the Nanisivik Mine.

Areas of contaminated soil requiring remediation were identified by Gartner Lee Limited ("GLL") in 2003 Phase 3 Environmental Site Assessment, Nanisivik Mine, Nunavut. This report presents remedial confirmation results for those areas remaining to be remediated as of December 31, 2007. The remediation of the areas completed previously are reported by GLL in GLL 50338 - Nanisivik Mine Summary of Contaminated Soil Remediation Interim Close Out Report: Dock Area, dated April 9, 2008 and by GLL doing business as AECOM Nanisivik Mine Summary of Contaminated Soil Remediation Progress – December 31, 2007, dated November 17, 2008.

It has been a pleasure to provide support during your successful closure and reclamation of the Nanisivik Mine.

Yours truly,

SRK Consulting (Canada) Inc.

Arlene Laudrum, P.Geol.

Senior Environmental Geologist

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# **Nanisivik Mine**

# Summary of Contaminated Soil Remediation Progress – September 10, 2008

# CanZinco Ltd.

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**SRK Project Number 1CB002.001** 

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# 1 Introduction

The Nanisivik Mine, located on the south shore of Strathcona Sound near the community of Arctic Bay in the North Baffin region, produced lead and zinc mineral concentrates from 1976 to 2002. The mine was most recently owned and operated by CanZinco Ltd., a wholly owned subsidiary of Breakwater Resources Ltd.

An Environmental Site Assessment ("ESA") conducted in 2002 and 2003 identified petroleum hydrocarbon and metal contaminated soil, 2003 Phase 3 Environmental Site Assessment, Nanisivik Mine, Nunavut (Gartner Lee Limited ("GLL") 2004a). Based on the results of these investigations, areas of contaminated soil were identified for remediation during mine closure and site reclamation.

This report presents soil remediation confirmation results, as of September 10, 2008, at the following areas identified:

- the residual contamination at dock tank farm:
- the former townsite;
- the East Adit Treatment Facility;
- the warehouse yard;
- the road to the dock; and
- the industrial complex.

The data was compiled from investigations and surveys conducted by CanZinco Ltd. and GLL. The majority of remediation at the dock site is reported in a separate letter report, *GLL 50338 - Nanisivik Mine Summary of Contaminated Soil Remediation Interim Close Out Report: Dock Area, dated April 9, 2008* (GLL 2008). Remediation at the following areas is reported in *Nanisivik Mine Summary of Contaminated Soil Remediation Progress – December 31, 2007* (GLL doing business as AECOM 2008):

- the former carpenter shop;
- the landfarm cell at the landfill site;
- the former ANFO plant area;
- the former maintenance shop area at K-Baseline;
- the airstrip apron and a former fuel drum storage area on the STOL port; and
- above ground fuel storage tanks ("ASTs") at K-Baseline, Oceanview, the main 00 Portal, Area 14, the East Open Pit and at 17N Portal.

The areas remediated are shown on Figure 1: Contaminated Soil Remediation Progress, September 10, 2008.

The overall objective of the Nanisivik Reclamation and Closure Plan is to minimize the environmental and human risks from any residual contamination of the site resulting from the operation of the mine. This is achieved through the general practice of ensuring that soil in excess of the established risk objectives for the site is treated and/or isolated from the receiving environment.

# 2 Background

ESA investigations conducted by GLL in 2002 and 2003, and remediation activities at the dock area (GLL 2008) identified the following about the areas remediated and reported herein:

#### **Dock Area**

 Residual petroleum hydrocarbon contaminated soils which remained in the vicinity of the fuel pump building at the tank farm at the end of 2007.

#### **Townsite**

- Hydrocarbon impacted soils adjacent to ASTs.
- Isolated areas of elevated metal concentrations in surficial soils.

### **East Adit Treatment Facility**

• Localized surficial contamination in drainage path below retention pond.

#### Warehouse Yard

- Hydrocarbon contamination present in surficial soils with patchy visible staining.
- Hydrocarbon contamination at an area of heavy staining extended into the fractured bedrock to at least 0.8m depth.

#### Road to Dock

• Metal contamination present on the surface of the road but not detected in soils adjacent to the road, or at depth.

## **Industrial Complex**

- Soils downgradient of the fuel day tanks contaminated with hydrocarbons.
- Hydrocarbon contamination present at the waste oil tank and the oil water separator.
- Metal contamination present in the soil surrounding the industrial complex.

# 3 Remediation Objectives

## 3.1 Soil Quality Objectives

A three-tiered approach for the assessment and remediation of contaminated sites has been established by the Canadian Council of Ministers of the Environment ("CCME"). Generic guidelines represent the first tier, while a second tier allows limited modification of the guidelines to establish site-specific remedial objectives. The third tier uses risk assessment procedures to establish remediation objectives at contaminated sites on a site-specific basis. The first tier guidelines represent generic recommendations that are based on a conservative application of the most current scientific information without consideration of possible site-specific, special considerations. The first tier objectives for remediation have been used for the sites reported here for petroleum hydrocarbons contamination. Site specific remediation objectives have been approved for this site for relevant metals. The application of these objectives is considered below.

## 3.1.1 Site-Specific Remediation Objectives for Metals

The Nunavut Water Board ("NWB") approved a Human Health and Ecological Risk Assessment ("HHERA") for the Nanisivik Mine prepared by Jacques Whitford Environment Limited ("JWEL"), *Human Health and Ecological Risk Assessment, Nanisivik Mine, Nunavut* (JWEL 2003). The study determined concentrations of potential contaminants of concern (cadmium, copper, lead, silver and zinc) in surface soil below which no adverse health effects would be expected based on land use. The mine site was divided into three areas for the HHERA based on current and likely future uses:

- the town area assumed to continue as residential land use;
- the dock area assumed to continue as commercial/light industrial land use; and
- the general mine area assumed to be used for recreational and hunting purposes.

Site-specific Soil Quality Remediation Objectives ("SQRO's") were determined for the potential contaminants of concern as identified on Table 1.

Table 1: Site Specific SQRO's for Metals

Objectives	Cadmium mg/kg	Copper mg/kg	Lead mg/kg	Silver mg/kg	Zinc mg/kg
Town Area	35	5,900	700	NA	10,800
Dock Area	2,800	5,900	4,500	NA	44,000
General Mine Area	50	5,900	1,050	18,000	23,400

NA Maximum silver surface soil concentrations obtained in the Phase 2 ESA Investigations at the town area and dock area were less than the generic CCME guidelines and therefore site-specific SQRO's were not developed.

## 3.1.2 Generic Federal CCME Guidelines for Petroleum Hydrocarbons

First tier generic Residential Land ("RL") and Commercial Land ("CL") use standards and guidelines for petroleum hydrocarbons as set out in the following references were approved by the NWB for the remediation program:

- Canada Wide Standards for Petroleum Hydrocarbons in Soil ("PHC CWS"), CCME April 2001 (CCME 2001); and
- Canadian Environmental Quality Guidelines ("CEQG"), CCME 2007 (CCME 2007).

The PHC CWS is a CCME remedial guideline for petroleum hydrocarbon impacted soil and has been used to assess soil quality for hydrocarbons at the Nanisivik mine. In this guideline, petroleum hydrocarbons are subdivided according to specified ranges of equivalent carbon number:

- PHC CWS fraction F1 encompasses the range of equivalent carbon number from C6 to C10.
  Constituents of fraction F1 include the volatile fraction of most hydrocarbons mixtures
  (including gasoline) such as benzene, ethylbenzene, toluene and xylene ("BETX"). The
  aromatic compounds BETX are assessed and managed under the CCME CEQG (CCME 2007)
  and therefore should be subtracted from this fraction;
- PHC CWS fraction F2 encompasses the range of equivalent carbon number from C11 through C16. Constituents of fraction F2 are semi-volatile petroleum hydrocarbons and include constituents of gasoline and diesel fuels;
- PHC CWS fraction F3 encompasses the range of equivalent carbon number from C17 through C34. Constituents of fraction F3 include typical lubricating oils and greases, heavy fuel oils, road oils and asphalts; and
- PHC CWS fraction F4 encompasses ranges of equivalent carbon number from C35 through C50+. PHC within this fraction often make up a significant proportion of crude oils.

The PHC CWS also includes consideration of fine-grained versus coarse-grained soils in the determination of guideline values. The soils at Nanisivik are predominantly coarse-grained. The median grain size is greater than 75 micrometres (µm). The soil quality objectives for PHC CWS fractions F1 to F4 are as follows for the remedial work reported:

Table 2: SQRO's for Petroleum Hydrocarbon

Objective	es for Coarse-Grained Soils	F1 mg/kg	F2 mg/kg	F3 mg/kg	F4 mg/kg
Residential	Surface (0 to 1.5m depth)	130	450	400	2,800
Land Use	Subsoil (>1.5m depth)	350	1,500	2,500	10,000
Commercial	Surface (0 to 1.5m depth)	330	760	1,700	3,300
Land Use	Subsoil (>1.5m depth)	700	2,000	3,500	10,000

## 3.2 Confirmatory Sampling Objectives

The objectives of the Nanisivik Reclamation and Closure Plan are to ensure that concentrations of potential contaminants of concern in surface soil are below levels at which no adverse human or ecological effects are expected.

The soil sampling plan to confirm the success of contaminated soil remediation was described in the NWB approved *Nanisivik Mine 2004 Reclamation and Closure Plan* (CanZinco Ltd. 2004), and the *Nanisivik Mine Reclamation and Closure Monitoring Plan* (GLL 2004b). The plan calls for the capture at least 95% of soil containing contaminants in excess of the SQRO's in each remediation area and any residual contaminant concentrations in soils should not exceed twice the SQRO's (GLL 2004b). Remediation confirmation samples are to be collected in a 25m grid-based pattern and analyzed at a laboratory accredited by the Canadian Association for Environmental Analytical Laboratories.

# 4 Methodology

## 4.1 Delineation

The preliminary boundaries of the areas to be remediated were identified based on results of the ESA conducted in 2002 and 2003. The extent of the areas requiring remediation was further delineated during site remediation activities based on field screening measurements and analytical laboratory results.

### 4.1.1 Dock Area

The area remaining at the end of 2007 to be remediated at the dock tank farm was delineated for excavation on the basis of on-site screening and laboratory results from soil samples obtained from test pits excavated in 2007.

### 4.1.2 Road to Dock

In July 2006, sixty-six test pits were excavated at 25m intervals to delineate areas for excavation along the section of the road that was determined to have elevated metal concentrations during the ESA investigations. The distance from the right edge of the road where the test pits were excavated was selected using the random number generating function in MS Excel®. Soil samples were collected at regular intervals in each test pit, from surface to 5cm, 5cm to 10cm, 10cm to 20cm and 20cm to 30cm below ground level.

Samples were selected for analysis and submitted to the off-site analytical laboratory for analysis of cadmium, lead and zinc to:

- infill gaps in the data obtained in the ESA investigations, or
- isolate areas of elevated metal concentrations.

#### 4.1.3 Other Areas

On-site screening of soil from surface and test pits, along with visual indications of contamination at former location of ASTs, were used to define the areas of petroleum hydrocarbon and metal impacts to be remediated at the townsite, warehouse yard and industrial complex.

## 4.2 Field Screening

On-site field screening of samples was completed by either GLL, or CanZinco Ltd. employees trained by GLL in sampling procedures and protocols.

The concentration of organic vapour in soil impacted by hydrocarbons was measured on-site using a bag-headspace method. This method involves placing soil in a sealable polyethylene bag, sealing the bag, disaggregating the soil in the bag and allowing organic vapours to accumulate in the bag's headspace. The concentration of organic vapour was then measured using a portable photoionization detector ("PID"). The results of the PID measurements were combined with the visual appearance of the soil and olfactory indicators to determine if site remediation objectives had been met.

Concentrations of lead and zinc were assessed on-site using a XMET portable X-Ray Fluorescence elemental analyzer. On site field screening duplicates were also analysed. The XMET was not calibrated during the remediation activities, thus the readings were not used to represent precise measurements of concentrations. Based on a comparison of field screening results to laboratory analyses of the duplicate soil samples it was determined that results within the ranges indicated in Table 3 either required further excavation or not. Results between the upper and lower values were indeterminate as to whether or not further excavation was required and therefore final determinations were based on laboratory results.

Table 3: XMET Results Interpretation, April 30, 2005

Area	Further Excava	ntion Required	No Further Excavation Required (Pending Laboratory Results)		
	% lead	% zinc	% lead	% zinc	
Town Area	>0.10%	>1%	<0.05%	<1%	
Dock Area	>0.45%	>4%	<0.05%	<3.5%	
General Mine Area	>0.10%	>2%	<0.40%	<2%	

## 4.3 Excavation

Soil reclamation began in April 2005. Contaminated soils were removed with an excavator or bulldozer then loaded into trucks for disposal. Petroleum hydrocarbon contaminated soils were disposed of in the underground mine. Whereas, soils from metal contaminated areas were disposed of in either the underground mine, or placed inside the concrete footing of the industrial complex and encapsulated under an engineered geothermal soil cover. Soils contaminated with both petroleum hydrocarbons and metals were disposed of underground.

Due to the presence of permafrost the soil often had to be loosened to allow for excavation. This was accomplished through various techniques including: excavator mounted ripping tooth; bulldozer mounted ripper; and drilling and blasting.

To direct the excavation activities visual and olfactory observations were made and soil samples were collected across the floor and walls of the excavation. The soil samples were field screened for hydrocarbons as discussed above. Excavation of contaminated soils proceeded until the on-site screening procedures indicated that the excavation objectives had been achieved. The limits of the excavations in the areas reported herein are shown on Figures: 3 to 11. Table 4 provides the approximate area excavated and volume of contaminated soil disposed from each area remediated since reclamation activities commenced in 2005.

Table 4: Summary of Volume of Contaminated Soil Removed

Area	Total Area (m2)	Volume (m3)
Dock area	38,000	30,165
Townsite	1,500	1,465
East Adit Treatment Facility	0	0
Warehouse Yard	15,000	7,150
Road to Dock	7,500	3,490
Industrial Complex	28,500	45,440
Carpenter Shop	4,400	6,410
Landfarm cell	1,150	1,710
ANFO Plant	1,750	5,160
AST Main Portal	225	20
K-Baseline	3,085	5,355
Oceanview	1,007	50
Area 14	225	20
East Open Pit	600	60
17 North portal	225	20
STOL Airstrip	1,585	2,770
Total	104,752	109,285

# 4.4 Confirmation Sampling

Once field screening results indicated that the material remaining in the excavation would meet the SQRO's, then confirmation samples for laboratory analysis were collected in accordance with accepted sampling procedures and protocols by either GLL or CanZinco Ltd. employees trained by GLL.

Each excavation area was subdivided into individual composite sampling areas of approximately 25m by 25m (or less) as required to cover the floor of the excavation. Wall samples were composited over a length of 25m on the wall of the excavation. Combining four or five evenly spaced aliquots of soil within the individual composite sample area created composite samples. A single aliquot of soil from a specific point is a discrete Quality Assurance and Quality Control ("QA/QC") sample and these samples were collected randomly to test the homogeneity of composite sample areas.

Additional QA/QC samples were obtained by collecting field duplicates. The field duplicates are the same sample blended and split into two separate samples in the field. These samples were submitted in separate containers with different sample identifiers and analysed at the laboratory as a blind duplicate.

The soil samples were submitted to Accutest Laboratories Ltd., of Ottawa, for analysis of PHC and metals, as appropriate based on the contaminants of concern for a given area. Further excavation was undertaken in areas where the laboratory analytical results did not meet the SQROs and additional confirmatory samples were taken upon completion of the excavation.

In addition to collecting samples from the areas excavated, samples were also collected to confirm the character of the areas between excavations at the townsite and warehouse yard, where isolated areas of elevated metal and/or petroleum hydrocarbons had been identified prior to the area being scarified and contoured.

In two areas confirmation samples were not collected following the final excavation and backfilling of a location. In both instances it is understood that excavation was completed in accordance with instruction and based on diminishing results from sampling, no residual contamination was expected. These include a 50m by 25m area at the former AST adjacent to the Dome in the townsite and at  $25\text{m}^2$  area at the former compressor shed at the industrial complex.

# 5 Results

## 5.1 Delineation Results

Analytical results from the test pits excavated and the area delineated for further excavation as of the end of 2007 were reported in *GLL 50338 - Nanisivik Mine Summary of Contaminated Soil Remediation Interim Close Out Report: Dock Area, dated April 9, 2008* (GLL 2008).

One hundred and two (102) samples of the two hundred and fifty four (254) samples collected from the test pits excavated in the road to the dock in 2006 were submitted to the off-site analytical laboratory for analysis of cadmium, lead and zinc. Eight (8) surface samples were also collected and analyzed. Analytical results from the test pits and additional surface soil samples are reported in Table 7 (back of report). Concentrate was observed in the upper 5cm of test pit TP6060, the site was therefore considered contaminated and no samples from this test pit were analyzed. Concentrations of lead greater than the SQRO's for the dock area were detected in test pits TP6063 and TP6067. Zinc concentrations in TP6063 were also greater than the SQRO. Samples analyzed from the other test pits met the SQRO's for the dock area. The area of the road delineated for excavation to meet the dock area SQRO's extends from the bridge across Twin Lakes Creek north 225m, as shown on Figure 2: *Road to Dock Delineation Soil Samples*.

## 5.2 Confirmation Results

Results for one hundred ninety five (195) confirmatory soil samples analyzed for petroleum hydrocarbon fractions F2 to F4 are summarized in Table 8 (back of report) and illustrated in the corresponding Figures 3, 5, 8 and 10. Eight samples from this set were selected for analysis of fraction F1. Six samples from this set were also selected for the additional analysis of BETX, the results of which are summarized in Table 9 (back of report). All results were compared to the approved Nanisivik Mine SQRO's. Table 5 indicates the areas where samples were collected and the type of petroleum hydrocarbon samples collected.

**Table 5: Sample Summary: Petroleum Hydrocarbons** 

Area	Floor Composite ("F-C")	Floor QA/QC ("F-Q", F-D")	Wall Composite ("W-C")	Wall QA/QC (W-Q", "W-D")	Total
Tankfarm ("TF") at Dock	3	3	9	4	19
Townsite ("TS"), including Government Garage ("GG")	20	8	3	1	32
Warehouse Yard ("WR")	43	13	-	-	56
Road to Dock ("RD")	24	2	-	-	26
Industrial Complex ("IC")	48	9	5	-	62
Total	138	35	17	5	195

Results for one hundred sixty two (162) confirmatory soil samples analyzed for cadmium, lead and zinc are summarized in Table 10 (back of report) and illustrated in the corresponding Figures 4, 6, 7, 9 and 11. The results are compared to the approved Nanisivik Mine SQRO's. Table 6 indicates the areas where the samples were collected and type of metal samples collected.

**Table 6: Sample Summary: Metals** 

Area	Floor Composite ("F-C")	Floor QA/QC ("F-Q", F-D")	Wall Composite ("W-C")	Wall QA/QC (W-Q", "W-D")	Total
Tankfarm ("TF") at Dock	2	3	5	3	13
Townsite ("TS"), including Government Garage ("GG")	31	8	-	-	39
East Adit Treatment Facility ("EATF")	1	2	-	-	3
Warehouse Yard ("WR")	21	3	-	-	24
Road to Dock ("RD")	22	4	-	-	26
Industrial Complex ("IC")	50	7	-	-	57
Total	127	27	5	3	162

## 5.3 Quality Assurance and Quality Control

QA/QC measures associated with the collection and analysis of the soil samples included: the comparison of on-site field screening results with those from the laboratory, duplicate field screening for metals, the laboratory analysis of discrete QA/QC samples (for comparison with composite samples) and the laboratory analysis of blind duplicates.

Field screening results are compared to those from the laboratory analyses of confirmation soil samples from the dock, in Table 1 of *GLL 50338 - Nanisivik Mine Summary of Contaminated Soil Remediation Interim Close Out Report: Dock Area* (GLL 2008). Field screening results are relative and are therefore not directly comparable, but the data show that the field screening limits used for lead and zinc are successful in distinguishing between soils that meets the SQRO's and those that require further remediation.

Data for lead and zinc from on-site field screening of duplicate samples with the XMET are shown in Table 11 (back of report). These results are a measure of the precision of this method of field screening. The Relative Percent Difference ("RpD") is calculated from each duplicate pair for all duplicate samples. The results show poor precision for half of the samples during 2005, which improved slightly in 2006, and improved significantly in 2007. In 2007 all duplicate pairs shown low RpD values and are highly precise. Measures were implemented throughout this project to improve precision.

The complete listing of laboratory QA/QC samples and their RPD's are shown in Table 12 (back of report) and Table 13 (back of report) for petroleum hydrocarbons and metals. QA/QC sample identifiers ending in "Q" represent blind field duplicate samples. These monitor a combination of the precision of the laboratory analyses, sample preparation errors, sample collection errors and genuine short scale variations in soil geochemistry. QA/QC sample identifiers ending in "D" represent discrete samples which monitor the homogeneity of composite sample areas. Results that are either below the detection limit for one or both sample pairs, or below the Practical Quantitation Limit ("PQL") have RPD's identified as not applicable.

Sixteen (16) sample pairs have blind field duplicate analyses for hydrocarbons. Seven of these have results that are below the PQL for all parameters. Of the remaining nine (9) pairs, RPD's are greater than 50% for fractions F2 and F3 for one sample pair (TF-8343-W-C) from the tank farm and for fraction F4 for one sample pair (WR-8455-F-C) from the warehouse yard. The sample pair at the warehouse yard exceeds the residential guidelines and meets commercial guidelines; therefore the result does not impact the conclusions of this report. It is noted however that the nature of fraction F4 compounds with very low viscosity makes it likely that soil containing this fraction would be heterogeneous. The sample pair at the tank farm comes from a composite area where two discrete samples have also been analysed. The discrete analyses demonstrate the highly variable nature of fractions F2 and F3 within this composite area, for example fraction F2 varies from 3690μg/g to 116μg/g in the discrete samples taken from within this composite area.

Twenty two (22) composite and discrete sample pairs were analysed for petroleum hydrocarbons. Eight (8) of these have results that are below the PQL for all parameters. Of the remaining fourteen (14) sample pairs, RPD limits are greater than 50% for fraction F2 in three sample pairs from the industrial complex and tank farm, for fraction F3 in three sample pairs from the warehouse yard, for fraction F4 in one sample pair from the warehouse yard, and for fractions F3 and F4 in one additional sample pair from the warehouse yard. These data suggest heterogeneity of hydrocarbons at the industrial complex and warehouse yard, which is to be expected.

All nine (9) blind field duplicate sample pairs analysed for metals have RPD's below the RPD limit of 50% with the exception of one sample pair from the industrial complex. This sample pair (IC-8390-F-C) has RPD's of 84-90% for cadmium, lead and zinc and is likely to reflect genuine variation in soil geochemistry at this site due to the variable presence of concentrate dust. Additional excavation was undertaken at this site and therefore this result does not change the conclusions of this report.

Eleven composite and discrete sample pairs were analysed for metals and four (4) of these pairs have RPD's above the RPD limit of 50% for cadmium, lead and zinc, and one more pair has an RPD above 50% for zinc. These data demonstrate that there is heterogeneity of metals in some of the composite sample areas at the industrial complex and the warehouse yard, which is to be expected.

## 5.4 Discussion

### **Dock Area**

- With the exception of soils in the berm of the tank farm infrastructure (which remains in use), the dock site is considered remediated in accordance with generic CCME CL petroleum hydrocarbon guidelines and the dock area SQRO's.
- Residual petroleum hydrocarbon contaminated soil in the vicinity of the former fuel pumphouse at the toe of the tank farm berm (identified in 2007) was excavated and placed underground.
- Petroleum hydrocarbon contamination remains in the berm of the tank farm over a strike length
  of less than 25m at surface in the vicinity of the fuel coupling valve above the former
  pumphouse.
- Petroleum hydrocarbon contamination from the fuel dispensing facility at 2m depth also remains in the berm at approximately the same location.
- The limits of soil removal from the impoundment berm were dictated by the requirements to preserve the structural integrity of the operating tank farm facility. In the area of residual contamination in the berm a geocomposite liner was placed against the face of the excavation and then clean fill was used to backfill the excavation and buttress the berm. The liner was installed primarily to demarcate the extent of the excavation. It is anticipated that the fill will promote the encroachment of a permafrost barrier between the residual contaminated soil at depth and the excavated area.

- The Nanisivik dock area continues to support commercial and industrial land use. The site is
  used routinely by the Canadian Coast Guard as a storage facility for marine environmental
  response equipment and for refuelling. The dock area also serves as a sea lift staging area for
  several communities in the region.
- The Federal Government has announced that the dock area will be Canada's Arctic fuelling station for the Department of National Defence ("DND"). The DND has subsequently initiated separate ESA and structural integrity studies as part of the expected transfer of the land lease.

The area of residual contamination within the berm of the operating tank farm is demarcated by three (3) samples, collected from the south wall of the excavation, which exceed the generic CCME CL guidelines. The samples were all collected from the wall of the excavation located between the fuel dispensing nozzle of the former pumphouse building and a coupling along the crest of the tank farm berm above the former building. These samples include TF-8283-W-C, TF-8343-W-C and TF 8345-W-D. Two (2) of the samples are composites and one is a discrete. Sample TF-8283-W-C is a surface sample and the other two (2) were collected approximately 2m below surface. All three sample results exceed the CL guidelines for fraction F2 with the surface sample results greater than twice the guidelines as shown on Figure 3.

The thirteen (13) metals remediation confirmation samples collected meet the Nanisivik Mine SQRO's set forth for the dock area, as shown on Figure 4.

### **Townsite**

- Petroleum hydrocarbon contaminated soil adjacent to the former AST south of the central government building was excavated and disposed of underground.
- Petroleum hydrocarbon contaminated soil at the former Dome AST was excavated, and disposed
  of underground. Additional excavation of contaminated soil, as directed by GLL, was
  undertaken following GLL's final site visit. Following excavation, the area was backfilled and
  contoured. No remediation confirmation samples were collected prior to backfilling the
  expanded excavation.
- Soils with visible and/or known historical petroleum hydrocarbon impacts adjacent to town home heating oil tanks was excavated and disposed of underground.
- The concrete foundations of the central government building, arena, PAMO building and Dome were covered with fill. The town area was scarified and contoured to promote positive drainage into historical drainage pathways.
- All residential buildings and infrastructure at the townsite has been demolished and the area is no longer used for residential purposes. The Government Garage continues to support commercial/light industrial land use and is the responsibility of the Government of Nunavut.

Twenty nine (29) of the thirty two (32) hydrocarbon remediation samples returned results below generic CCME RL guidelines. Three samples returned results greater than the RL guidelines and

less than the generic CCME CL guidelines, and no samples returned results greater than the CL guidelines. One sample that exceeded the generic CCME RL guidelines is a composite floor sample (TS-8437-F-C) collected adjacent to the former Dome AST as shown on Figure 5. This sample exceeded the RL guidelines for fraction F3. Additional excavation of the area was undertaken; however confirmation samples were not collected. Both of the petroleum hydrocarbon remediation confirmation samples collected adjacent to the Government Garage returned results greater than the RL guidelines and less than the CL guidelines as shown on Figure 5.

Thirty seven (37) of the thirty nine (39) metals remediation confirmation samples meet the Nanisivik Mine SQRO's set forth for the general mine area for cadmium, lead and zinc. One composite sample collected in the middle of the Townsite and one of it's two discrete samples exceed the general mine area SQRO for lead, as shown on Figure 6. The confirmation sampling program indicates that greater than 95% of the soil at the former townsite meets the general mine area SQRO's.

### **East Adit Treatment Facility**

• The area below the retention pond was re-contoured following the removal of the dam.

As shown on Figure 7, all three (3) of the metals remediation confirmation samples meet the Nanisivik Mine SQRO's set forth for the general mine area.

#### Warehouse Yard

- Petroleum hydrocarbon contaminated soil on the numerous benches of the former warehouse yard has been removed and disposed of underground and the area re-contoured.
- Petroleum hydrocarbon contaminated soil and fractured bedrock has been excavated across the southeast side of the former upper bench of the warehouse yard. The vertical face of the upper bench has been excavated approximately 20m to the northwest of its original location and the elevation has been lowered by removing 1m to 2m of contaminated soil and fractured bedrock.
- Metal contaminated soil excavated from the lower yard, located at road level between the former benches of the warehouse yard and Twin Lakes Creek, was placed on the concrete pad of the industrial complex and encapsulated under the thermal soil cover.

None of the fifty six (56) hydrocarbon remediation samples collected returned results greater than the CL guidelines. Twenty five (25) of the samples returned results greater than the RL guidelines. As shown on Figure 8, the samples that exceed the RL guidelines were collected from the former upper two benches of the warehouse yard. Eighteen (18) of these are composite samples; four (4) are discrete samples, three (3) of which are located in areas represented by one of the eighteen composite samples; and three (3) are duplicate samples. All of these samples exceed the guidelines for surface fraction F3 and nine (9) sample results are greater than twice the guideline.

As shown on Figure 9, all twenty four (24) confirmation soil samples for metal remediation meet the Nanisivik SQRO's set forth for commercial/light industrial areas. All confirmation samples collected from the former benches of the warehouse yard meet the Nanisivik Mine SQRO's for

recreational and hunting purposes, the objectives for the general mine. Ten (10) confirmation samples collected from the lower yard returned results greater than the general mine area SQRO and less than the dock area SQRO's. Seven (7) of these are composite samples (WR-8367-F-C, WR-8467-F-C, WR-8469-F-C, WR-8475-F-C, WR-8476-F-C, WR-8477-F-C and WR-8478-F-C); two (2) are discrete samples (WR-8368-F-D and WR-8369-F-D) where WR-8368-F-D is a discrete of composite sample WR-8367-F-C, and one is a duplicate sample (WR-7549-F-Q) of WR-8367-F-C. All of these samples exceed the general mine area SQRO for lead. Five (5) of these samples (WR 8367 F C, WR 8368 F D, WR-8476-F-C, WR-8477-F-C, and WR 8478 F C) also exceed the general mine area SQRO for cadmium. One sample, WR-8361-F-C, collected between the road to the dock and the warehouse yard in an area where surface run-off from the industrial complex was observed to pond, exceeded the general mine area SQRO's for cadmium and lead.

### Road to Dock

- The road to the dock continues to support commercial/light industrial land use, especially in light of the redevelopment of the dock area as a military berthing and refuelling facility.
- The area requiring remediation to meet the dock area SQRO's for cadmium, lead and zinc was confined to the roadway adjacent to the industrial complex. Delineation soil sampling determined this area was less than 200m in length and it was bounded to the south by the bridge across Twin Lakes Creek and to the north where the fuel line from the dock crosses under the road.
- Soil co-contaminated with petroleum hydrocarbons and metals was excavated and disposed of underground.

As shown on Figures 8 and 9, twenty three (23) of the twenty four (24) remediation confirmation samples returned meet CL guidelines for petroleum hydrocarbons and the Nanisivik Mine SQRO's for metals set forth for the dock area. One sample, RD-8307-F-C, exceeded the CL guideline for fraction F2. The area represented by sample RD-8307-F-C was initially sampled on July 21, 2008. The area was resampled on September 7, 2008 following the excavation of a small portion of the area and the result for the repeat sample (RD 8487 F C) meets the CL guideline. One surface floor composite collected at the south end of the former industrial complex, RD-8483-F-D exceed the SQRO for the dock area. The sample exceeded the dock area SQRO's for lead and zinc.

### **Industrial Complex**

- Soil beneath the surface water runoff pathway, downgradient of the former fuel day tanks, through the boneyard and onto the road to the dock, has been excavated and disposed of underground. The soil was co-contaminated with petroleum hydrocarbons and metals.
- Petroleum hydrocarbon contaminated soil and the liner beneath the former fuel day tanks has been excavated and disposed of underground.

- Soil co-contaminated with petroleum hydrocarbons and metals in the vicinity of the former light vehicle fuelling station, the warm storage shed and cold storage shed has been excavated and disposed of underground.
- Co-contaminated soil at the entrances to the former powerhouse and heavy equipment garage of the industrial complex has been excavated to solid (unfractured) bedrock.
- Co-contaminated soil below the former calcium tank has been excavated and disposed of underground.
- Co-contaminated soil at the former compressor shed has been excavated and disposed of underground. Additional excavation of contaminated soil was undertaken following the collection of the confirmation samples.
- Metal contaminated soil excavated from the southwest side of the industrial complex was placed
  on the concrete pad of the industrial complex and encapsulated under the thermal soil cover.
- In excess of 45,000 m3 of soil contaminated with petroleum hydrocarbons and/or metals were excavated leaving exposed bedrock across most of the north side of the former industrial complex.

Fifty eight (58) of the sixty two (62) confirmation soil samples for petroleum hydrocarbon remediation returned results below RL guidelines. Two (2) samples returned results greater than the RL guidelines and less than the CL guidelines, and two (2) samples returned results greater than the CL guidelines. The results of petroleum hydrocarbon analyses are shown in Figure 10.

The three (3) samples that exceed the CL guidelines are surface floor composite samples collected from areas sampled at two different times during 2008. The repeat sample in each instance does not exceed the CL guidelines. The two samples (IC-8420-F-C and IC-8488-F-C) exceed the CL guideline for fraction F2 and the RL guideline for fraction F3. The area represented by sample IC-8420-F-C was initially sampled on August 23, 2008 (IC-8374-F-C). Sample IC 8420-F-C was collected September 4, 2008 following minor regrading of the area. The initial sample meets the RL guidelines and the later sample exceeds the CL guideline for fraction F2 and the RL guideline for fraction F3. Sample IC-8488-F-C was collected on September 7, 2008 from an area sample earlier on August 24, 2008. No work had been reported in the area between the two sampling events. The initial sample meets the RL guidelines and the later sample exceeds the CL guideline for fraction F2 and the RL guideline for fraction F3.

One sample that exceeded the generic CCME RL guidelines is a composite floor sample (IC-6272-F-C) collected at the former Compressor Shed, as shown on Figure 10. This sample exceeded the RL guidelines for fraction F3. Additional excavation of the area was undertaken; however confirmation samples were not collected.

Forty four (44) of fifty seven (57) metals remediation confirmation samples meet the Nanisivik Mine SQRO's for the general mine area. The results of metals analyses are shown in Figure 11. Nine (9) samples returned results greater than the SQRO's for the general mine area and less than those for

the dock area, and four (4) samples returned results greater than those for the dock area. All five (5) of the samples that exceed the SQRO for the dock area are surface floor composites collected at the south end of the former industrial complex (IC-8480-F-C, IC-8481-F-C, IC-8482-F-C and IC-8484-F-C). All of these samples exceed the dock area SQRO for lead and three (3) samples (IC-8481-F-C, IC-8482-F-C, and IC-8483-F-C) also exceed the dock area SQRO for zinc. The sample result for IC-8481-F-C for zinc is greater than twice the dock area SQRO.

The areas with petroleum hydrocarbons in excess of the RL guidelines and metals in excess of the general mine area SQRO's are predominately located adjacent to the road to the dock. The area with metal concentrations in excess of the dock area SQRO's appears to be in the order of 3000m2 to 4000m2 at the southwest corner of the former industrial complex.

# 6 Conclusion and Recommendations

Based on the confirmatory sampling program conducted consistent with good practice, the tank farm area at the dock site is considered remediated in accordance with generic CCME CL petroleum hydrocarbon guidelines and the dock area SQRO's. The area is considered suitable for commercial and light industrial use. Elevated petroleum hydrocarbon concentrations remain in the berm of the tank farm facility. As the dock area, including the tank farm facility will continue to be used beyond mine closure for servicing the Government of Canada's military and Canadian Coast Guard needs it is recommended that the facility be managed to ensure that the area remediated by CanZinco Ltd. is not recontaminated.

Assuming the area remediated following September 10, 2008 meets the RL objectives, the townsite is considered remediated in accordance with generic CCME RL petroleum hydrocarbon guidelines and the general mine area metal SQRO's. Samples collected near the Government Garage indicate that this area is suitable for commercial and light industrial use, but not residential use.

The soil below the former retention pond at the East Adit Treatment Facility meets the objectives for recreational and hunting purposes.

The lower benches of the former warehouse yard and north yard of the former industrial complex meet the objectives for recreational and hunting purposes. The upper bench and lower yard of the warehouse yard and the road to the dock are suitable for commercial and light industrial use. It is recommended that the risk to human and ecological health associated with the elevated metal concentrations at the southwest side of the former industrial complex be assessed to determine if further remedial measures are necessary in this area.

# 7 Limitations

This report and the opinions and conclusions contained, outline the expression of the professional opinion of SRK Consulting (Canada) Inc. ("SRK") as to the matters set out herein, subject to the methodology, procedures and sampling techniques used, SRK's assumptions, and the circumstances and constraints under which Services were performed by SRK. The confirmation of environmental conditions of the remedial work at the site is based on sampling by Gartner Lee Limited and CanZinco Ltd. The author of this report was employed by Gartner Lee Limited during the remedial work and warrants that the work was undertaken, and this report prepared, in a manner consistent with the level of skill and diligence normally exercised by competent environmental professionals practicing in Nunavut.

This Report is meant to be read as a whole, and sections or parts thereof should thus not be read or relied upon out of context. In addition, this report is based in part on information not within the control of SRK. Accordingly, use of such report shall be at the user's sole risk.

This report, "Nanisivik Mine, Summary of Contaminated Soil Remediation Progress – September 10, 2008 - FINAL," was prepared by SRK Consulting (Canada) Inc.

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		L	.ocation:					Roa	d Delineation	)				
		Te	st pit ID:	na	na	na	na	na	TP6014	TP6016	TP6018	TP6019	TP6019	TP6019
		Sa	mple ID:	RD-5047-F-D	RD-5048-F-D	RD-5049-F-D	RD-5140-F-D	RD-5141-F-D	6014 5-10	6016 5-10	6018 5-10	6019 0-5	6019 5-10	6019 10-20
		Samı	ple Date:	15-Apr-05	15-Apr-05	15-Apr-05	30-Apr-05	30-Apr-05	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample from (m):		0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.00	0.05	0.10
		Sample to (m):		0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.10	0.05	0.10	0.20
		ACCUTEST File #:		2508123	2506447	2506447	2508123	2508123	2618606	2618606	2618606	2619779	2619779	2619779
		Nanisivik Mine	SQROs <sup>a</sup>											
Parameter	Units	<b>General Mine</b>	Dock					Ana	lytical Result	s				
<b>Total Meta</b>	ls													
Cadmium	mg/kg	50	2800	1.8	1.8 34.7 2.4 40.6 5.1 <0.5 1.2 4.6 21.6 4.5 1.7									
Lead	mg/kg	1050	4500	35	559	133	762	130	25	74	52	656	131	54
Zinc	mg/kg	23400	44000	797	12900	822	16400	1970	153	427	1950	6880	1350	552

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6019	TP6020	TP6020	TP6020	TP6020	TP6021	TP6021	TP6021	TP6021	TP6022	TP6024	TP6026
		Sa	mple ID:	6019 20-30	6020 0-5	6020 5-10	6020 10-20	6020 20-30	6021 0-5	6021 5-10	6021 10-20	6021 20-30	6022 5-10	6024 5-10	6026 0-5
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.20	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.05	0.05	0.00
		Sample to (m):		0.30	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.10	0.10	0.05
		ACCUTEST File #:		2619779	2619779	2618606	2619779	2619779	2619779	2619779	2619779	2619779	2618606	2618606	2619779
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	l Results					
Total Meta	ls														
Cadmium	mg/kg	50	2800	1	14.9	42.5	40	12.8	17.0	39.1	31.1	7.1	4	1.2	41.2
Lead	mg/kg	1050	4500	51	416	788	1070	639	388	424	465	192	311	50	350
Zinc	mg/kg	23400	44000	368	5470	16000	13200	4090	6050	14400	12400	2570	1390	358	15000

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6026	TP6026	TP6026	TP6028	TP6030	TP6030	TP6030	TP6030	TP6032	TP6032	TP6032	TP6032
		Sa	mple ID:	6026 5-10	6026 10-20	6026 20-30	6028 5-10	6030 0-5	6030 5-10	6030 10-20	6030 20-30	6032 0-5	6032 5-10	6032 10-20	6032 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.05	0.10	0.20	0.05	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sampl	e to (m):	0.10	0.20	0.30	0.10	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTEST File #:		2618606	2619779	2619779	2618606	2619779	2618606	2619780	2619780	2619780	2619780	2619780	2619780
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
<b>Total Meta</b>	ls														
Cadmium	mg/kg	50	2800	1.7	1.5	5.6	0.8	37.2	1.0	1.1	0.9	40.3	1.8	<0.5	<0.5
Lead	mg/kg	1050	4500	46	60	62	27	634	35	79	51	740	83	19	16
Zinc	mg/kg	23400	44000	512	508	1770	224	14300	330	402	305	15300	679	142	165

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6036	TP6036	TP6036	TP6036	TP6040	TP6040	TP6040	TP6040	TP6041	TP6042	TP6043	TP6043
		Sa	mple ID:	6036 0-5	6036 5-10	6036 10-20	6036 20-30	6040 0-5	6040 5-10	6040 10-20	6040 20-30	6041 5-10	6042 5-10	6043 0-5	6043 5-10
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.05	0.05	0.00	0.05
		Sample to (m):		0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.10	0.10	0.05	0.10
		ACCUTEST File #:		2619780	2619780	2619780	2619780	2619780	2619780	2619780	2619780	2618606	2618606	2619781	2618606
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
Total Meta	ls				_				_						
Cadmium	mg/kg	50 2800		104	27.6	2.4	1.7	74.3	5	2.2	1.2	5.9	4	44.6	4.2
Lead	mg/kg	1050	4500	2070	997	64	66	780	116	83	35	81	51	675	61
Zinc	mg/kg	23400	44000	36700	8090	777	533	32400	1750	702	322	2310	1650	18300	1640

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6043	TP6043	TP6044	TP6045	TP6047	TP6047	TP6047	TP6047	TP6051	TP6051	TP6051	TP6051
		Sa	mple ID:	6043 10-20	6043 20-30	6044 5-10	6045 5-10	6047 0-5	6047 5-10	6047 10-20	6047 20-30	6051 0-5	6051 5-10	6051 10-20	6051 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.10	0.20	0.05	0.05	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sample to (m):		0.20	0.30	0.10	0.10	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTEST File #:		2619781	2619781	2618606	2618606	2619781	2619781	2619781	2619781	2619781	2619781	2619781	2619781
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
Total Meta	ls														
Cadmium	mg/kg	50	2800	6.1	0.6	0.7	0.8	17.6	1.8	1.2	12.7	26	1	6.1	7.1
Lead	mg/kg	1050	4500	93	15	205	53	259	70	54	877	361	33	281	493
Zinc	mg/kg	23400	44000	2250	213	209	261	6530	583	370	5140	9560	345	1950	2540

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6052	TP6052	TP6052	TP6052	TP6053	TP6053	TP6053	TP6053	TP6054	TP6054	TP6054	TP6054
		Sa	mple ID:	6052 0-5	6052 5-10	6052 10-20	6052 20-30	6053 0-5	6053 5-10	6053 10-20	6053 20-30	6054 0-5	6054 5-10	6054 10-20	6054 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sampl	e to (m):	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTEST File #:		2618606	2618606	2618606	2618606	2619781	2619781	2619781	2619781	2618606	2618606	2618607	2618607
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
Total Meta	ls														
Cadmium	mg/kg	50	2800	<0.5	0.6	3.7	42.3	29.5	27.2	2.5	4	8.3	2.8	3.4	7.5
Lead	mg/kg	1050	4500	34	252	39	136	731	739	241	556	150	132	121	1860
Zinc	mg/kg	23400	44000	163	174	958	15000	11800	10800	879	2170	3160	864	900	4210

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6055	TP6055	TP6055	TP6055	TP6056	TP6056	TP6056	TP6056	TP6059	TP6059	TP6059	TP6059
		Sa	mple ID:	6055 0-5	6055 5-10	6055 10-20	6055 20-30	6056 0-5	6056 5-10	6056 10-20	6056 20-30	6059 0-5	6059 5-10	6059 10-20	6059 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sampl	e to (m):	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTES	T File #:	2619782	2619782	2619782	2619782	2618607	2618607	2618607	2618607	2619782	2619782	2619782	2619782
		Nanisivik Mine	SQROs <sup>a</sup>												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
<b>Total Meta</b>	ls														
Cadmium	mg/kg	50 2800		8.1	1.9	4.4	4.7	38.8	16.2	11	6.4	12.5	20	34.8	15.1
Lead	mg/kg	1050	4500	220	131	101	91	805	147	148	121	296	359	956	876
Zinc	mg/kg	23400	44000	3010	674	1110	1310	15200	5150	3450	2170	4270	7600	13500	5520

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Te	st pit ID:	TP6063	TP6063	TP6063	TP6063	TP6067	TP6067	TP6067	TP6067	TP6068	TP6068	TP6068	TP6068
		Sa	mple ID:	6063 0-5	6063 5-10	6063 10-20	6063 20-30	6067 0-5	6067 5-10	6067 10-20	6067 20-30	6068 0-5	6068 5-10	6068 10-20	6068 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample f	rom (m):	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sample to (m):		0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTEST File #:		2619782	2619782	2619782	2619782	2618607	2618607	2618607	2618607	2618607	2618607	2618607	2618607
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
Total Meta	ls				_				_						
Cadmium	mg/kg	50	2800	135	32	6.6	6	59.4	40.1	101	116	26.6	27.5	18.9	15.2
Lead	mg/kg	1050	4500	5290	1270	280	279	844	1110	3760	7250	405	403	569	449
Zinc	mg/kg	23400	44000	44200	9570	1940	1840	27600	18400	39200	37700	11400	13000	6850	5410

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		L	ocation:						Road De	lineation					
		Tes	st pit ID:	TP6069	TP6069	TP6069	TP6069	TP6070	TP6070	TP6070	TP6070	TP6071	TP6071	TP6071	TP6071
		Sa	mple ID:	6069 0-5	6069 5-10	6069 10-20	6069 20-30	6070 0-5	6070 5-10	6070 10-20	6070 20-30	6071 0-5	6071 5-10	6071 10-20	6071 20-30
		Samp	ole Date:	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06	23-Jul-06
		Sample fi	rom (m):	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20	0.00	0.05	0.10	0.20
		Sampl	e to (m):	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30	0.05	0.10	0.20	0.30
		ACCUTES	T File #:	2618607	2618607	2618607	2618607	2618607	2618607	2618608	2618608	2618608	2618608	2618608	2618608
		Nanisivik Mine	SQROs												
Parameter	Units	<b>General Mine</b>	Dock						Analytica	al Results					
Total Meta	ls									_					
Cadmium	mg/kg	50	2800	17.5	14.2	5.3	8.1	34.8	54	4.3	3.9	11	9.9	7.1	4.5
Lead	mg/kg	1050	4500	490	443	231	306	968	2570	110	56	378	197	269	148
Zinc	mg/kg	23400	44000	6810	5250	1770	2660	13400	15300	1430	1330	4040	3140	1930	1230

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;na" = Not applicable.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location:					Tank Farm				
	PARAMETER UNITS			TF-8280-W-C	TF-8281-W-C	TF-7544-W-Q	TF-8283-W-C	TF-8284-W-C	TF-8303-F-C	TF-8304-F-C	TF-8327-F-Q	TF-8305-F-C
		Sa	ample Date:	2-Jul-08	2-Jul-08	2-Jul-08	3-Jul-08	3-Jul-08	5-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08
		Sample	Depth (m):	1.6	1.6	Duplicate of	0.8	2.5	0.0	1.0	Duplicate of	2.0
		Field Scre	en (ppm) <sup>d</sup> :	5	0	TF-8281-W-C	500	80	20	0	TF-8304-F-C	0
		ACCUT	EST File #:	2816346	2816346	2816346	2816346	2816346	2816348	2818271	2818272	2818271
		Nanisivik N	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL				Α	nalytical Resul	ts			
Extractable Hydrocarb	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330			<20	45		-	-	-	
F1 (C6-C10) subsoil b,c	ug/g	350	700	-	<20			-				-
F2 (C10-C16) surface b,c	ug/g	450	760			<20	3620		75	<20	24	
F2 (C10-C16) subsoil b,c	ug/g	1500	2000	<20	<20	•		200				41
F3 (C16-C34) surface b,c	ug/g	400	1700			<20	342		<20	<20	<20	
F3 (C16-C34) subsoil b,c	ug/g	2500	3500	<20	<20			<20				<20
F4 (C34-C50) surface b,c		2800	3300			<20	<20		<20	<20	<20	
F4 (C34-C50) subsoil b,c	ug/g	10000	10000	<20	<20			<20				<20

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Tank Farm				
			Sample ID:	TF-8337-F-D	TF-8338-F-D	TF-8339-W-C	TF-8340-W-C	TF-8341-W-C	TF-8342-W-C	TF-8343-W-C	TF-7547-W-Q	TF-8344-W-D
		Sa	mple Date:	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08
		Sample	Depth (m):	2.0	2.0	0.1	1.7	2.5	0.1	2.0	Duplicate of	2.0
		Field Scre	en (ppm) <sup>d</sup> :	5	0	0	10	0	5	10	TF-8343-W-C	20
		ACCUT	EST File #:	2818513	2818513	2818513	2818513	2818513	2818513	2818513	2818514	2818513
		Nanisivik N	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL					Analytical Resu	lts			
Extractable Hydrocarb	actable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330			-			-			
F1 (C6-C10) subsoil b,c	ug/g	350	700	-	-		•	-		•		-
F2 (C10-C16) surface b,c	0 0	450	760			<20			64			
F2 (C10-C16) subsoil b,c	ug/g	1500	2000	<20	<20		<20	31		3180	896	116
F3 (C16-C34) surface b,c	ug/g	400	1700			<20			97			
F3 (C16-C34) subsoil b,c	ug/g	2500	3500	<20	20		68	33		266	143	<20
F4 (C34-C50) surface b,c	ug/g	2800	3300			<20			<20			
F4 (C34-C50) subsoil b,c	ug/g	10000	10000	<20	<20		<20	<20		<20	<20	<20

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards included protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:	Tank Farm				Tow	nsite			
			Sample ID:	TF-8345-W-D	TS-7923-F-C	TS-7924-F-C	TS-7925-W-C	TS-7540-W-Q	TS-7926-W-C	TS-7927-F-D	TS-7928-F-D	TS-7929-F-D
		Sa	mple Date:	24-Jul-08	18-Aug-07	18-Aug-07	18-Aug-07	Duplicate of	18-Aug-07	18-Aug-07	18-Aug-07	18-Aug-07
		Sample	Depth (m):	2.0	1.2	1.0	0.8	TS-7925-W-C	1.0	1.3	1.2	1.0
		Field Scree	en (ppm) <sup>d</sup> :	10	120	100	20	20	75	60	400	40
		ACCUT	EST File #:	2818513	2718993	2718993	2718993	2718993	2718993	2718993	2718993	2718993
	PARAMETER UNITS CCME RL CCME					•	•	_		•	_	
PARAMETER	TARGUNETER SIGN						Α	nalytical Resul	ts			
Extractable Hydrocarb	ctable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330		31	-	-	<20	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700	-								
F2 (C10-C16) surface b,c	ug/g	450	760		<20	<20	<20	<20	<20	155	255	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000	3690								
F3 (C16-C34) surface b,c	ug/g	400	1700		<20	<20	<20	<20	<20	<20	25	<20
F3 (C16-C34) subsoil b,c	ug/g	2500	3500	242								
F4 (C34-C50) surface b,c	ug/g	2800	3300		<20	<20	<20	<20	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000	<20								

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards incluprotection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 µm, Coarse >75 µm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Town	nsite				
			Sample ID:	TS-7930-W-C	TS-8115-D-F	TS-8393-F-C	TS-8394-F-C	TS-7553-F-Q	TS-8397-F-C	TS-8398-F-D	TS-8399-F-D	TS-8401-F-C	TS-8402-F-C
		Sa	mple Date:	18-Aug-07	29-Aug-07	4-Sep-08	4-Sep-08	Duplicate of	4-Sep-08	4-Sep-08	4-Sep-08	5-Sep-08	5-Sep-08
		Sample	Depth (m):	1.4	>1.5	0.0	0.0	TS-8394-F-C	>1.5	>1.5	>1.5	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	55	25	-	-	-	-	-	-	-	-
		ACCUT	EST File #:	2718993	2720165	2823123	2823123	2823123	2823123	2823123	2823123	2823123	2823123
	<u> </u>	Nanisivik M	line SQROs										
PARAMETER	UNITS	CCME RL	CCME CL					Analytica	l Results				
Extractable Hydrocarbo	ons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	<20		<20	<20	<20				<20	33
F2 (C10-C16) subsoil b,c	ug/g	1500	2000		<20				<20	<20	50		
F3 (C16-C34) surface b,c	ug/g	400	1700	<20		53	37	44				32	35
F3 (C16-C34) subsoil b,c	ug/g	2500	3500		<20				24	<20	44		
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20		<20	<20	<20		-	-	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000		<20				<20	<20	<20		

Bold Co

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Tow	nsite				
			Sample ID:	TS-8404-F-C	TS-8414-F-C	TS-8415-F-C	TS-8434-F-C	TS-8435-F-C	TS-8436-F-C	TS-8437-F-C	TS-8441-F-C	TS-8442-F-C	TS-8445-F-C
		Sa	mple Date:	5-Sep-08	5-Sep-08	6-Sep-08							
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	-	-	-	-	-	-	-	-	-
		ACCUT	EST File #:	2823123	2823124	2823124	2823124	2823124	2823125	2823125	2823125	2823125	2823125
		Nanisivik M	line SQROs										
PARAMETER	UNITS	CCME RL	CCME CL					Analytica	al Results				
Extractable Hydrocarbo	ons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	54	29	67	31	26	<20	28	242	48	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	49	24	95	61	219	133	752	250	247	85
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	20	<20	22	21	21	36	76	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:	Towi	nsite	Governme	ent Garage		V	Warehouse Yar	d	
			Sample ID:	TS-7555-F-Q	TS-8446-F-C	GG-8447-F-C	GG-8448-F-C	WR-8285-F-C	WR-8286-F-C	WR-8287-F-C	WR-7545-W-Q	WR-8288-F-D
		Sa	ample Date:	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	5-Jul-08	5-Jul-08	5-Jul-08	5-Jul-08	5-Jul-08
		Sample	Depth (m):	Duplicate of	0.0	0.0	0.0	0.0	0.0	0.0	Duplicate of	0.0
		Field Scree	en (ppm) <sup>d</sup> :	TS-8445-F-C	-	-	-	0	5	5	WR-8287-F-C	5
		ACCUT	TEST File #:	2823125	2823125	2823125	2823125	2816346	2816346	2816346	2816346	2816346
	PARAMETER UNITS CCME RL CCME					<u> </u>		-			•	
PARAMETER	1700 UNETER STOTE						,	Analytical Resu	lts			
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c					-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	ug/g	450	760	21	22	66	34	<20	<20	<20	<20	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	92	71	1310	503	83	187	181	234	550
F3 (C16-C34) subsoil b,c	ug/g	2500	3500									
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	261	80	<20	95	49	80	88
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards included protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Warehouse	Yard			
			Sample ID:	WR-8289-F-D	WR-8291A-F-C	WR-8292-F-C	WR-8292A-F-C	WR-8293-F-C	WR-8294A-F-C	WR-8466-F-C	WR-8297A-F-C	WR-8465-F-C
		Sa	mple Date:	5-Jul-08	10-Aug-08	5-Jul-08	10-Aug-08	5-Jul-08	10-Aug-08	7-Sep-08	10-Aug-08	7-Sep-08
		Sample	Depth (m):	0.0	0.0	0.0	Repeat of	0.0	0.0	Repeat of	0.0	Repeat of
		Field Scree	en (ppm) <sup>d</sup> :	0	-	0	WR-8292-F-C	5	-	WR-8294A-F-C	-	WR-8297A-F-C
		ACCUT	EST File #:	2816346	2821014	2816346	2821014	2816346	2821014	2823126	2821014	2823126
		Nanisivik M	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL					Analytical Re	esults			
Extractable Hydrocarbo	actable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	0 0	450	760	<20	<20	<20	39	<20	174	41	<20	26
F2 (C10-C16) subsoil b,c	0 0	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	105	23	333	68	127	49	57	372	520
F3 (C16-C34) subsoil b,c	ug/g	2500	3500									
F4 (C34-C50) surface b,c		2800	3300	26	<20	631	<20	36	<20	32	<500	44
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 µm, Coarse >75 µm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Warehous	e Yard				
			Sample ID:	WR-8298A-F-C	WR-8464-F-C	WR-8299A-F-C	WR-8300-F-C	WR-8300A-F-C	WR-8461-F-C	WR-8301A-F-C	WR-8302A-F-C	WR-8361-F-C	WR-8367-F-C
		Sa	mple Date:	10-Aug-08	7-Sep-08	10-Aug-08	5-Jul-08	10-Aug-08	7-Sep-08	10-Aug-08	10-Aug-08	25-Jul-08	25-Jul-08
		Sample	Depth (m):	0.0	Repeat of	0.0	0.0	Repeat of	repeat of	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	WR-8298A-F-C	-	0	WR-8300-F-C	WR-8300-F-C	-	-	5	0
		ACCUT	EST File #:	2821014	2823126	2821014	2816348	2821014	2823126	2821014	2821014	2818514	2818514
		Nanisivik M	line SQROs										
PARAMETER								Analytical	Results				
Extractable Hydrocarbo	ktractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	(C6-C10) surface b,c ug/g 130 33				-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	0	450	760	<20	<20	39	<20	<20	<20	<20	<20	44	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	468	711	1540	468	737	438	105	107	177	577
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	500	141	1560	1020	1010	57	100	46	22	118
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:				\	Warehouse Yard	d			
			Sample ID:	WR-7549-F-Q	WR-8467-F-C	WR-8368-F-D	WR-8369-F-D	WR-8449-F-C	WR-8450-F-C	WR-8451-F-C	WR-8452-F-C	WR-7556-F-Q
		Sa	mple Date:	25-Jul-08	7-Sep-08	25-Jul-08	25-Jul-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08
		Sample	Depth (m):	Duplicate of	Repeat of	0.0	0.0	0.0	0.0	0.0	0.0	Duplicate of
		Field Scree	en (ppm) <sup>d</sup> :	WR-8367-F-C	WR-7549-F-Q	0	0	-	-	-	-	WR-8452-F-C
		ACCUT	EST File #:	2818514	2823126	2818514	2818514	2823125	2823125	2823125	2823126	2823126
		Nanisivik M	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL				Α	nalytical Resul	ts			
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-		-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	00	450	760	37	56	<20	<20	<20	<20	<20	<20	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	656	681	449	329	125	22	<20	63	76
F3 (C16-C34) subsoil b,c	ug/g	2500	3500									
F4 (C34-C50) surface b,c	ug/g	2800	3300	128	191	94	68	<20	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:				\	Warehouse Yard	d			
			Sample ID:	WR-8453-F-D	WR-8454-F-D	WR-8455-F-C	WR-7557-F-Q	WR-8456-F-C	WR-8457-F-C	WR-8458-F-C	WR-8459-F-C	WR-8460-F-C
		Sa	mple Date:	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08
		Sample	Depth (m):	0.0	0.0	0.0	Duplicate of	0.0	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	-	-	WR-8455-F-C	-	-	-	-	-
		ACCUT	EST File #:	2823126	2823126	2823126	2823126	2823126	2823126	2823126	2823126	2823126
		Nanisivik M	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL				Α	nalytical Resul	ts			
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	00	450	760	<20	<20	26	30	<20	<20	<20	<20	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	49	<20	1010	897	416	63	583	451	287
F3 (C16-C34) subsoil b,c	ug/g	2500	3500					·				
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	472	1130	256	<20	406	497	65
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Bold

Concentration Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:				Ţ	Warehouse Yard	d			
			Sample ID:	WR-8462-F-C	WR-8463-F-C	WR-8468-F-C	WR-8469-F-C	WR-8470-F-C	WR-8471-F-C	WR-8472-F-C	WR-7558-F-Q	WR-8473-F-D
		Sa	mple Date:	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Duplicate of	0.0
		Field Scre	en (ppm) <sup>d</sup> :	-	-	-	-	-	-	1	WR-8472-F-C	-
		ACCUT	EST File #:	2823126	2823126	2823126	2823126	2823127	2823127	2823127	2823127	2823127
		Nanisivik N	line SQROs									
PARAMETER	UNITS	CCME RL	CCME CL				Α	nalytical Resul	ts			
Extractable Hydrocarbo	ons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	ug/g	450	760	<20	<20	48	25	<20	38	113	185	100
F2 (C10-C16) subsoil b,c	ug/g	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	387	234	319	173	<20	880	974	1210	1220
F3 (C16-C34) subsoil b,c	ug/g	2500	3500						·			·
F4 (C34-C50) surface b,c	ug/g	2800	3300	313	76	93	54	<20	123	154	207	166
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:		١	Warehouse Yard	d			Road t	o Dock	
			Sample ID:	WR-8474-F-D	WR-8475-F-C	WR-8476-F-C	WR-8477-F-C	WR-8478-F-C	RD-8307-F-C	RD-8487-F-C	RD-8308-F-C	RD-8326-F-C
		Sa	ample Date:	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	21-Jul-08	7-Sep-08	21-Jul-08	21-Jul-08
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	0.0	Repeat of	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	-	-	-	-	0	RD-8307-F-C	5	0
		ACCUT	EST File #:	2823127	2823127	2823127	2823127	2823127	2818271	2823127	2818271	2818272
		Nanisivik M	line SQROs					-				
PARAMETER							Α	nalytical Resul	ts			
Extractable Hydrocarb	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	ug/g	450	760	166	21	64	92	<20	111	111	<20	62
F2 (C10-C16) subsoil b,c	ug/g	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	1350	470	708	1250	363	1890	1590	195	385
F3 (C16-C34) subsoil b,c	ug/g	2500	3500									
F4 (C34-C50) surface b,c	ug/g	2800	3300	176	81	128	103	70	2020	224	21	<500
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:						Road to Dock					
			Sample ID:	RD-8328-F-Q	RD-8422-F-C	RD-8346-F-C	RD-8423-F-C	RD-8358-F-C	RD-8359-F-C	RD-8360-F-C	RD-8362-F-C	RD-8363-F-C	RD-8421-F-C	RD-8364-F-C
		Sa	mple Date:	21-Jul-08	4-Sep-08	24-Jul-08	4-Sep-08	24-Jul-08	24-Jul-08	25-Jul-08	25-Jul-08	25-Jul-08	4-Sep-08	25-Jul-08
		Sample	Depth (m):	Duplicate of	Repeat of	0.0	Repeat of	0.0	0.0	0.0	0.0	0.0	Repeat of	0.0
		Field Scree	en (ppm) <sup>d</sup> :	RD-8326-F-C	RD-8326-F-C	10	RD-8346-F-C	10	10	0	50	10	RD-8362-F-C	5
		ACCUT	EST File #:	2818272	2823124	2818513	2823124	2818514	2818514	2818514	2818514	2818514	2823124	2818514
		Nanisivik M	ine SQROs										<del>-</del>	
PARAMETER								Α	nalytical Resul	ts				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>													
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700											
F2 (C10-C16) surface b,c	ug/g	450	760	74	45	91	289	130	<20	28	216	38	189	23
F2 (C10-C16) subsoil b,c	ug/g	1500	2000											
F3 (C16-C34) surface b,c	ug/g	400	1700	405	672	305	863	116	257	148	129	106	207	134
F3 (C16-C34) subsoil b,c	ug/g	2500	3500											
F4 (C34-C50) surface b,c	ug/g	2800	3300	533	118	46	154	<20	42	27	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000											
					•						•	•		

Bold

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 µm, Coarse >75 µm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Road to Dock				
			Sample ID:	RD-8365-F-C	RD-8366-F-C	RD-8370-F-C	RD-8371-F-C	RD-8378-F-C	RD-7550-F-Q	RD-8379-F-D	RD-8380-F-D	RD-8373-F-C
		Sa	ample Date:	25-Jul-08	25-Jul-08	25-Jul-08	25-Jul-08	23-Aug-08	23-Aug-08	23-Aug-08	23-Aug-08	25-Jul-08
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	Duplicate of	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	0	0	0	0	-	RD-8378-F-C	-	-	0
		ACCUT	EST File #:	2818514	2818514	2818514	2818514	2821650	2821650	2821650	2821650	2818514
		Nanisivik M	line SQROs									
PARAMETER							Α	nalytical Resul	ts			
Extractable Hydrocarb	ractable Hydrocarbons <sup>a</sup>											
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	1	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700									
F2 (C10-C16) surface b,c	0 0	450	760	24	<20	31	<20	28	<20	<20	<20	<20
F2 (C10-C16) subsoil b,c	0 0	1500	2000									
F3 (C16-C34) surface b,c	ug/g	400	1700	138	121	472	259	283	211	327	201	296
F3 (C16-C34) subsoil b,c	ug/g	2500	3500									
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	86	46	47	30	45	45	60
F4 (C34-C50) subsoil b,c	ug/g	10000	10000									

Concentration greater than or equal to the CCME soil guideline for residential (RL) land use, and less than the guideline for commercial land use.

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:	Road t	o Dock				Industrial C	omplex			
			Sample ID:	RD-8483-F-C	RD-8479-F-C	IC-5294-W-C	IC-5295-W-C	IC-5299-F-C	IC-6271-F-C	IC-6272-F-C	IC-6273-F-D	IC-6274-F-D	IC-6275-F-C
		Sa	mple Date:	7-Sep-08	7-Sep-08	14-Jun-05	14-Jun-05	14-Jun-05	22-Sep-06	22-Sep-06	22-Sep-06	22-Sep-06	22-Sep-06
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	-	0	0	0	5	0	5	5	25
		ACCUT	EST File #:	2823127	2823127	2511736	2511736	2511736	2620449	2620449	2620449	2620449	2620450
		Nanisivik M	line SQROs			-							
PARAMETER	.   0.1.1.0		CCME CL					Analytical I	Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	<20	<20	<20	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	20	<20	131.0	<20	142	29	113	<20	176	<20
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	476	481	<20	<20	65	147	852	45	49	213
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	87	103	<20	<20	<20	<20	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Industrial	Complex				
			Sample ID:	IC-8133-W-C	IC-8134-W-C	IC-8136-W-C	IC-8166-F-C	IC-8168-F-C	IC-8169-F-C	IC-8176-F-C	IC-8177-F-C	IC-8193-F-C	IC-8208-F-C
		Sa	ample Date:	29-Aug-07	29-Aug-07	29-Aug-07	1-Sep-07	2-Sep-07	2-Sep-07	3-Sep-07	3-Sep-07	5-Sep-07	10-Sep-07
		Sample	Depth (m):	>3.0	>3.0	>1.5	>1.5	0.0	0.0	>3.0	>3.0	>1.5	>1.5
		Field Scre	en (ppm) <sup>d</sup> :	10	25	100	35	0	0	100	150	500	45
		ACCUT	TEST File #:	2720165	2720165	2720168	2720747	2720747	2720747	2720747	2720747	2818271	2816346
		Nanisivik N	anisivik Mine SQROs CME RL   CCME CL										
PARAMETER	ONITO							Analytica	l Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330					-	-				
F1 (C6-C10) subsoil b,c	ug/g	350	700	-	-	-	-			-	-	-	-
F2 (C10-C16) surface b,c	ug/g	450	760					83	<20				
F2 (C10-C16) subsoil b,c	ug/g	1500	2000	<20	255	980	58			534	557	21	70
F3 (C16-C34) surface b,c	ug/g	400	1700					155	98				
F3 (C16-C34) subsoil b,c	ug/g	2500	3500	96	308	2360	276			323	1860	732	295
F4 (C34-C50) surface b,c	ug/g	2800	3300					20	25				
F4 (C34-C50) subsoil b,c	ug/g	10000	10000	<20	<20	550	52			52	122	884	91

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.

b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.

d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Industrial (	Complex				
			Sample ID:	IC-8282-F-C	IC-8309-F-C	IC-8390-F-C	IC-7551-F-Q	IC-8312-F-C	IC-8314-F-C	IC-8315-F-C	IC-8316-F-D	IC-8317-F-D	IC-8318-F-C
		Sa	ample Date:	3-Jul-08	21-Jul-08	24-Aug-08	24-Aug-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08
		Sample	Depth (m):	0.0	0.0	Repeat of	Duplicate of	0.0	0.0	0.0	0.0	0.0	0.0
		Field Scre	en (ppm) <sup>d</sup> :	30	0	IC-8309-F-C	IC-8390-F-C	5	0	0	0	5	5
		ACCUT	EST File #:	2816346	2818271	2821650	2821650	2818271	2818271	2818271	2818271	2818271	2818271
		Nanisivik M	line SQROs										
PARAMETER								Analytical	Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	70	56	<20	<20	<20	<20	<20	<20	<20	194
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	295	496	180	20	184	28	38	<20	<20	24
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	91	550	37	<20	<20	<20	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

			Location:					Industrial	Complex				
			Sample ID:	IC-8384-F-C	IC-8319-F-D	IC-8320-F-C	IC-8321-F-C	IC-8323-F-C	IC-8325-F-C	IC-8347-F-C	IC-8348-F-C	IC-8349-F-C	IC-8350-F-C
		Sa	mple Date:	24-Aug-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08
		Sample	Depth (m):	Repeat of	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	IC-8318-F-C	5	5	5	5	5	0	5	0	0
		ACCUT	EST File #:	2821650	2818271	2818271	2818271	2818271	2818272	2818513	2818513	2818513	2818513
		Nanisivik M	line SQROs										
PARAMETER	UNITS	CCME RL	CCME CL					Analytica	ıl Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	68	<20	36	<20	<20	79	<20	<20	33	33
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	<20	<20	<20	<20	25	289	274	28	140	<20
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75  $\mu$ m, Coarse >75  $\mu$ m). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:					Industria	l Complex				
			Sample ID:	IC-8351-F-C	IC-8352-F-C	IC-8353-F-C	IC-8354-F-C	IC-8355-F-C	IC-7548-F-Q	RD-8356-F-D	IC-8357-F-D	IC-8374-F-C	IC-8420-F-C
		Sa	ample Date:	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	23-Aug-08	4-Sep-08
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	Duplicate of	0-Jan-00	0.0	0.0	Repeat of
		Field Scree	en (ppm) <sup>d</sup> :	0	0	5	10	10	IC-8355-F-C	10.0	5	-	IC-8374-F-C
		ACCUT	TEST File #:	2818513	2818513	2818513	2818513	2818513	2818514	2818513	2818514	2821650	2823124
		Nanisivik N	line SQROs										
PARAMETER	UNITS	CCME RL						Analytic	al Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	315	31	26	<20	138	104	243	273	223	1450
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	<20	93	37	<20	40	32	22	222	183	509
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										·
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	<20	<20	<20	<20	<20	<20	23	43	75
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

			Location:					Industria	l Complex				
			Sample ID:	IC-8375-F-C	IC-8376-F-C	IC -8377-F-C	IC-8381-F-C	IC-8382-F-C	IC-8383-F-C	IC-8385-F-C	IC-8386-F-C	IC-8387-F-C	IC-8388-F-C
		Sa	mple Date:	23-Aug-08	23-Aug-08	23-Aug-08	23-Aug-08	23-Aug-08	23-Aug-08	24-Aug-08	24-Aug-08	24-Aug-08	24-Aug-08
		Sample	Depth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	-	-	-	-	-	-	-	-	-
		ACCUT	EST File #:	2821650	2821650	2821650	2821650	2821650	2821650	2821650	2821650	2821650	2821650
		Nanisivik M	line SQROs			•	•			•	•	•	
PARAMETER	UNITS	CCME RL						Analytic	al Results				
Extractable Hydrocarbo	ractable Hydrocarbons <sup>a</sup>												
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	ı	-	-	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700										
F2 (C10-C16) surface b,c	ug/g	450	760	<20	131	<20	35	<20	22	29	<20	181	47
F2 (C10-C16) subsoil b,c	ug/g	1500	2000										
F3 (C16-C34) surface b,c	ug/g	400	1700	<20	258	<20	39	21	178	178	42	206	27
F3 (C16-C34) subsoil b,c	ug/g	2500	3500										
F4 (C34-C50) surface b,c	ug/g	2800	3300	<20	44	<20	<20	<20	30	31	<20	28	<20
F4 (C34-C50) subsoil b,c	ug/g	10000	10000										

Bold Concent

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:		Industrial	Complex	
			Sample ID:	IC-8389-F-C	IC-8488-F-C	IC-8485-F-C	IC-8486-F-C
		Sa	mple Date:	24-Aug-08	7-Sep-08	7-Sep-08	7-Sep-08
		Sample	Depth (m):	0.0	Repeat of	0.0	0.0
		Field Scree	en (ppm) <sup>d</sup> :	-	IC-8389-F-C	-	-
		ACCUT	EST File #:	2821650	2823127	2823127	2823127
		Nanisivik M	line SQROs		_	_	_
PARAMETER	UNITS	CCME RL	CCME CL		Analytica	al Results	
Extractable Hydrocarbo	ons <sup>a</sup>						
F1 (C6-C10) surface b,c	ug/g	130	330	-	-	-	-
F1 (C6-C10) subsoil b,c	ug/g	350	700				
F2 (C10-C16) surface b,c	ug/g	450	760	158	1580	<20	51
F2 (C10-C16) subsoil b,c	ug/g	1500	2000				
F3 (C16-C34) surface b,c	ug/g	400	1700	295	749	364	736
F3 (C16-C34) subsoil b,c	ug/g	2500	3500				
F4 (C34-C50) surface b,c	ug/g	2800	3300	54	131	62	116
F4 (C34-C50) subsoil b,c	ug/g	10000	10000				

Bold

Concentration greater than or equal to the CCME soil guideline for commercial (CL) land use.

- "<" = Less than analytical method detection limit.
- "-" = Analysis not conducted, or no guideline.
- a) Petroleum Hydrocarbon Canada-Wide Standards (PHC CWS). The site-specific exposure pathways used to determine the standards include: protection of soil ingestion, soil contact and nutrient cycling.
- b) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.
- c) Guideline is dependant on medium grain size of soil analyzed (<75 μm, Coarse >75 μm). Median grain size of soil sampled is coarse.
- d) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

			Location:	Tank	Farm	Townsite	In	dustrial Comple	ex
			Sample ID:	TF-8281-W-C	TF-7544-W-Q	TS-7923-F-C	IC -5294-W-C	IC -5295-W-C	IC -5299-F-C
		Sa	mple Date:	2-Jul-08	2-Jul-08	18-Aug-07	14-Jun-05	14-Jun-05	14-Jun-05
		Sample	Depth (m):	1.6	Duplicate	1.2	0.0	0.0	0.0
		Field Scre	en (ppm) <sup>d</sup> :	0	TF-8281-W-C	120	0	0	0
		ACCUT	EST File #:	2816346	2816346	2718993	2511736	2511736	2511736
		Nanisivik M	Iine SQROs						
PARAMETER	UNITS	CCME RL	CCME CL			Analytica	l Results		
Non-Halogenated Volatiles <sup>a</sup>									
Benzene	ug/g	0.0095 <sup>g</sup>	0.03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g	0.82	0.082	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	ug/g	0.37	0.37	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Total Xylenes <sup>f</sup>					<0.3	<0.3	<0.3	<0.3	<0.3
Meta- & para- Xylene	ug/g	<11	<11	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ortho-xylene	ug/g	<11	<11	<0.1	<0.1	0.1	<0.1	<0.1	<0.1

Bold

 $Concentration\ greater\ than\ or\ equal\ to\ the\ CCME\ soil\ guideline\ for\ commercial\ (CL)\ land\ use.$ 

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) Canadian Environmental Quality Guidelines (CEQG). The site-specific factors used for determining the soil quality guideline include: soil ingestion, soil contact and nutrient cycling.

c) Guidelines are dependant upon depth of sample (surface, subsoil >1.5m depth). Surface guidelines applied.

d) Guideline is dependant on medium grain size of soil analyzed ( $<75 \mu m$ , Coarse  $>75 \mu m$ ). Median grain size of soil sampled is coarse.

e) Field screening results are measured based on a 'dry headspace' method using a combustible gas meter calibrated to a hexane standard.

f) Total Xylene calculated as the sum of meta, para and ortho Xylenes.

g) Detection limit greater than guideline criteria.

			Location					Tar	ık Farm				
		Sa	mple ID:	TF-8304-F-C	TF-8327-F-Q	TF-8305-F-C	TF-8337-F-D	TF-8338-F-D	TF-8339-W-C	TF-8340-W-C	TF-8341-W-C	TF-8342-W-C	TF-8343-W-C
		Sam	ple Date:	21-Jul-08	Duplicate of	21-Jul-08	24-Jul-08						
		Sample De	epth (m):	1.0	TF-8304-F-C	2.0	2.0	2.0	0.1	1.7	2.5	0.1	2.0
		ACCUTES	ST File #:	2818271	2818272	2818271	2818513	2818513	2818513	2818513	2818513	2818513	2818513
		Nanisivik Mine	e SQROs <sup>a</sup>										
Parameter	Units	<b>General Mine</b>	Dock					Analyti	cal Results				
Total Meta	ls							_			_		_
Cadmium	mg/kg	50	2800	0.98	1.25	1.98	1.06	0.92	60.1	111	9.57	94.5	9.24
Lead	mg/kg	1050	4500	29	44.8	61.6	20.7	21.6	1630	2890	241	2400	300
Zinc	mg/kg	23400	44000	325	412	896	263	364	24000	39700	3710	37100	3570

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location		Tank Farm					Townsite					
		Sa	mple ID:	TF-7547-W-Q	TF-8344-W-D	TF-8345-W-D	TS-8400-F-C	TS-8401-F-C	TS-8402-F-C	TS-8403-F-C	TS-8404-F-C	TS-8405-F-D	TS-8406-F-D		
		Sam	ple Date:	Duplicate of	24-Jul-08	24-Jul-08	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08		
		Sample De	epth (m):	TF-8343-W-C	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	ACCUTEST File			2818514 2818513		2818513	2823123	2823123	2823123	2823123	2823123	2823123	2823123		
		Nanisivik Mine	e SQROs <sup>a</sup>												
Parameter	Units	<b>General Mine</b>	Dock				Analytical Results								
Total Metal	ls														
Cadmium	mg/kg	50	2800	6.85	2.23	4.65	2.1	1.2	1.4	1.3	4.6	1.2	1.9		
Lead	mg/kg	1050	4500	269	47.4	128	126	35	64	141	69	38	68		
Zinc	mg/kg	23400	44000	2640	800	1580	587	301	392	464	1210	361	516		

Bold	Concentrations greater than or equal to the site specific SQRO for the General Mine Area
Bold	Concentrations geater than or equal to the site specific SQRO for the Dock Area

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location						Townsite					
		Sa	ample ID:	TS-8407-F-C	TS-8408-F-C	TS-8409-F-C	TS-7552-F-Q	TS-8410-F-C	TS-8411-F-C	TS-8412-F-C	TS-8413-F-C	TS-8414-F-C	TS-8415-F-C	TS-8416-F-C
		Sam	ple Date:	5-Sep-08	5-Sep-08	5-Sep-08	Duplicate of	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08	5-Sep-08	6-Sep-08	6-Sep-08
		Sample D	epth (m):	0.0	0.0	0.0	TS-8409-F-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	ACCUTEST File #:			2823982	2823982	2823123	2823123	2823124	2823124	2823124	2823124	2823124	2823124	2823124
	Nanisivik Mine SQROs <sup>a</sup>													
Parameter	Units	<b>General Mine</b>	Dock					Α	nalytical Resul	ts				
Total Meta	ls													
Cadmium	mg/kg	50	2800	3.7	2.7	5.8	5.8	12.3	6.8	3.4	4.0	1.3	4.5	2.1
Lead	mg/kg	1050	4500	187	105	412	436	737	347	124	309	80	184	1410
Zinc	mg/kg	23400	44000	1340	1130	2260	2050	4520	2380	969	1690	399	1240	716

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

**Table 10: Remediation Confirmation Soil Samples - Metals** 

Page 4 of 16

		ı	Location						Townsite					
		Sa	mple ID:	TS-8417-F-D	TS-8418-F-D	TS-8419-F-C	TS-8430-F-C	TS-8431-F-C	TS-8432-F-C	TS-8433-F-C	TS-8434-F-C	TS-8435-F-C	TS-8436-F-C	TS-8437-F-C
		Samı	ple Date:	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08
		Sample De	epth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		ACCUTES	ST File #:	2823124	2823124	2823124	2823124	2823124	2823124	2823124	2823124	2823124	2823125/982	2823125
		Nanisivik Mine SQROs <sup>a</sup>												
Parameter	Units	<b>General Mine</b>	Dock					Α	nalytical Resul	ts				
Total Meta	ls													
Cadmium	mg/kg	50	2800	2.3	5.2	14.8	1.0	4.1	1.6	1.3	6.3	5.2	2.9	5.7
Lead	mg/kg	1050	4500	1190	333	607	89	334	60	79	286	209	155	193
Zinc	mg/kg	23400	44000	646	1580	4440	391	1500	475	404	1600	2000	1390	2080

Bold Concentrations greater than or equal to the site specific SQRO for the General Mine Area

Bold Concentrations geater than or equal to the site specific SQRO for the Dock Area

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location					Townsite					Gov't Garage		
		Sa	mple ID:	TS-8438-F-C	TS-8439-F-C	TS-8440-F-C	TS-8441-F-C	TS-8442-F-C	TS-7554-F-Q	TS-8443-F-D	TS-8444-F-D	TS-8445-F-C	GG-8447-F-C		
		Sam	ple Date:	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08	Duplicate of	6-Sep-08	6-Sep-08	6-Sep-08	6-Sep-08		
		Sample De	epth (m):	0.0	0.0	0.0	0.0	0.0	TS-8442-F-C	0.0	0.0	0.0	0.0		
		ACCUTES	ST File #:	2823125	2823125	2823982	2823125	2823125	2823125	2823125	2823125	2823125	2823125		
		Nanisivik Mine	e SQROsª												
Parameter	Units	General Mine	Dock		Analytical Results										
Total Meta	ls														
Cadmium	mg/kg	mg/kg 50 2800		3.3	5.8	2.2	17.6	8.9	8.7	5.9	8.3	7.10	7.3		
Lead	mg/kg	1050	4500	243	470	290	922	358	450	267	294	630.0	359		
Zinc	mg/kg	23400	44000	1010	2180	785	6130	3150	3540	2240	3200	3050	2740		

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location	East	Adit Treatment Fa	cility			Warehou	ise Yard		
		Sa	mple ID:	EATF-8391-F-C	EATF-8395-F-D	EATF-8396-F-D	WR-8287-F-C	WR-8291A-F-C	WR-8292A-F-C	WR-8294A-F-C	WR-8466-F-C	WR-8297A-F-C
		Samı	ple Date:	5-Sep-08	5-Sep-08	5-Sep-08	5-Jul-08	10-Aug-08	10-Aug-08	10-Aug-08	7-Sep-08	10-Aug-08
		Sample De	epth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Repeat of WR-8294A-F-C	0.0
		ACCUTES	ST File #:	2823123	2823123	2823123	2816346	2821014	2821014	2821014	2823126	2821014
		Nanisivik Mine	e SQROs <sup>a</sup>									
Parameter	Units	<b>General Mine</b>	Dock				Α	nalytical Results				
Total Meta	ls											
Cadmium	mg/kg	50	2800	10.4	11.1	9.7	25.7	7.9	2.3	12.7	9.6	5.8
Lead	mg/kg	1050	4500	584	611	686	971	361	111	671	457	295
Zinc	mg/kg	23400	44000	3610	4990	2990	10600	2900	620	4090	3880	1800

Bold	Concentrations greater than or equal to the site specific SQRO for the General Mine Area
Bold	Concentrations geater than or equal to the site specific SQRO for the Dock Area

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location					Warehou	se Yard				
		Sa	mple ID:	WR-8465-F-C	WR-8298A-F-C	WR-8464-F-C	WR-8299A-F-C	WR-8300A-F-C	WR-8301A-F-C	WR-8302A-F-C	WR-8361-F-C	WR-8367-F-C	WR-7549-F-Q
		Sam	ple Date:	7-Sep-08	10-Aug-08	7-Sep-08	10-Aug-08	10-Aug-08	10-Aug-08	10-Aug-08	25-Jul-08	25-Jul-08	Duplicate of
		Sample Do	epth (m):	Repeat of WR-8297A-F-C							0.0	0.0	WR-8367-F-C
		ACCUTES	ST File #:	2823126 2821014 2823126 2821014 2821014 2821014 2821014 2821014 2818								2818514	2818514
		Nanisivik Mine	e SQROs <sup>a</sup>										
Parameter	Units	General Mine Dock						Analytica	l Results				
Total Meta	ls												
Cadmium	mg/kg	50	2800	2.2	2.1	17.5	3.5	11.3	1.9	2.2	63.7	58.4	49.1
Lead	mg/kg	1050	4500	119	127	523	195	396	130	74	1830	2710	2280
Zinc	mg/kg	23400	44000	866	610	7120	958	3180	511	605	23300	22200	17600

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

		I	Location				Wareho	ıse Yard				Road t	o Dock		
		Sa	mple ID:	WR-8467-F-C	WR-8368-F-D	WR-8369-F-D	WR-8469-F-C	WR-8475-F-C	WR-8476-F-C	WR-8477-F-C	WR-8478-F-C	RD-8307-F-C	RD-8487-F-C		
		Sam	ole Date:	7-Sep-08	25-Jul-08	25-Jul-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	21-Jul-08	7-Sep-08		
		Sample De	epth (m):	Repeat of WR-8367-F-C	WR-8367-F-C 0.0 0.0 0.0 0.0 0.0 0.0					0.0	0.0	Repeat of RD-8307-F-C			
		ACCUTES	ST File #:	2823126 2818514 2818514 2823126 2823127 2823127 2823127 2823127						2823127	2818271	2823127			
		Nanisivik Mine SQROs <sup>a</sup>													
Parameter	Units	<b>General Mine</b>	Dock		Analytical Results										
Total Meta	ls					_									
Cadmium	mg/kg	50	2800	48.8	51.6	30.1	23.8	35.0	67.3	60.0	52.8	55.7	71.3		
Lead	mg/kg	1050	4500	2210	3110	1400	2260	1480.0	2650	2410	2610	2130	3470		
Zinc	mg/kg	23400	44000	15500	19500	11100	10700	11900	22800	20100	18400	19900	23900		

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location		Road to Dock										
		Sa	mple ID:	RD-8308-F-C	RD-8326-F-C	RD-8328-F-Q	RD-8422-F-C	RD-8346-F-C	RD-8423-F-C	RD-8358-F-C	RD-8359-F-C	RD-8360-F-C	RD-8362-F-C		
		Sam	ple Date:	21-Jul-08	21-Jul-08	Duplicate of	4-Sep-08	24-Jul-08	4-Sep-08	24-Jul-08	24-Jul-08	25-Jul-08	25-Jul-08		
		Sample De	epth (m):	0.0	0.0	RD-8326-F-C	Repeat of RD-8326-F-C	0.0	Repeat of RD-8346-F-C	0.0	0.0	0.0	0.0		
		ACCUTES	ST File #:	2818271	2818272	2818272	2823124	2818513	2823124	2818514	2818514	2818514	2818514		
		Nanisivik Mine	e SQROs <sup>a</sup>												
Parameter	Units	<b>General Mine</b>	Dock					Analytica	al Results						
Total Meta	ls									_		_			
Cadmium	mg/kg	kg 50 2800		12.9	10.6	11.2	27.9	11.2	6.7	1.68	50.3	40.5	7.91		
Lead	mg/kg	1050	4500	453	389	393	1290	358	274	81	1480	1690	267		
Zinc	mg/kg	23400	44000	5080	3980	4330	8700	3640	1910	497	19600	15400	2800		

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location					Road t	o Dock				
		Sa	mple ID:	RD-8421-F-C	RD-8363-F-C	RD-8364-F-C	RD-8365-F-C	RD-8366-F-C	RD-8370-F-C	RD-8371-F-C	RD-8373-F-C	RD-8378-F-C	RD-7550-F-Q
		Sam	ple Date:	4-Sep-08	25-Jul-08	23-Aug-08	Duplicate of						
		Sample De	epth (m):	Repeat of RD-8362-F-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	RD-8378-F-C
		ACCUTES	ST File #:								2818514	2821652	2821652
		Nanisivik Mine	e SQROs <sup>a</sup>										
Parameter	Units	<b>General Mine</b>	Dock					Analytica	al Results				
Total Meta	ls								_				
Cadmium	mg/kg	ıg/kg 50 2800		6.3	36.3	67.5	11.8	60.5	31.5	41.4	25.1	20.5	18.7
Lead	mg/kg	1050	4500	252	708	1680	305	2540	1280	1220	1150	555	456
Zinc	mg/kg	23400	44000	2190	14400	26500	4330	21900	11100	15400	9790	7670	7050

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location	Road to Dock						Indi	ustrial Comple	х		
		Sa	mple ID:	RD-8379-F-D	RD-8380-F-D	RD-8483-F-C	RD-8479-F-C	IC-8166-F-C	IC-8168-F-C	IC-8169-F-C	IC-8176-F-C	IC-8177-F-C	IC-8182-F-C	IC-8193-F-C
		Sam	ple Date:	23-Aug-08	23-Aug-08	7-Sep-08	7-Sep-08	2-Sep-07	2-Sep-07	3-Sep-07	3-Sep-07	3-Sep-07	5-Sep-07	8-Sep-07
		Sample De	epth (m):	0.0	0.0	0.0	0.0	>1.5	0.0	0.0	>3.0	>3.0	>3.0	>1.5
	ACCUTEST File #:				2821652	2823127	2823127	2720747	2720747	2720747	2720747	2720747	2720747	2721349
		Nanisivik Mine	e SQROs <sup>a</sup>											
Parameter	Units	<b>General Mine</b>	Dock					Ana	llytical Results					
Total Meta	ls													
Cadmium	mg/kg	50	2800	13.2	39.6	209	34.3	-	-	-	-	-	-	11.7
Lead	mg/kg	1050	4500	403	1200	5340	1550	1240	1320	1890	231	1080	175	505
Zinc	mg/kg	23400	44000	4900	14200	67600	11700	7210	11200	20700	1530	10400	1320	4370

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location	Industrial Complex										
	Sample ID:		IC-8206-F-C	IC-8282-F-C	IC-8309-F-C	IC-8390-F-C	IC-7551-F-Q	IC-8312-F-C	IC-8314-F-C	IC-8315-F-C	IC-8316-F-D	IC-8317-F-D	IC-8318-F-C	
	Sample Date:		10-Sep-07	3-Jul-08	21-Jul-08	24-Aug-08	Duplicate of	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	
	Sample Depth (m):		0.0	0.0	0.0	Repeat of IC-8309-F-C	IC-8390-F-C	0.0	0.0	0.0	0.0	0.0	0.0	
	ACCUTEST File #:		2721349	2816346	2818271	2821652	2821652	2818271	2818271	2818271	2818271	2818271	2818271	
		Nanisivik Mine SQROs <sup>a</sup>												
Parameter	Units	General Mine	Dock	Analytical Results										
Total Metals														
Cadmium	mg/kg	50	2800	45.1	11.2	20.7	36.9	14.4	5.91	9.45	6.2	5.76	2.62	3.31
Lead	mg/kg	1050	4500	2630	404	947	1490	610	241	320	160	180	61.4	96.6
Zinc	mg/kg	23400	44000	15900	4210	7590	12300	4670	2500	3780	1770	1950	1050	1220

Bold	Concentrations greater than or equal to the site specific SQRO for the General Mine Area
Bold	Concentrations geater than or equal to the site specific SQRO for the Dock Area

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location	Industrial Complex										
		Sample ID:		IC-8384-F-C	IC-8319-F-D	IC-8320-F-C	IC-8321-F-C	IC-8323-F-C	IC-8324-F-C	IC-8325-F-C	IC-8347-F-C	IC-8348-F-C	IC-8349-F-C	IC-8350-F-C
		Sample Date:		24-Aug-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	21-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08
		Sample Depth (m):		Repeat of IC-8318-F-C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		ACCUTEST File #:		2821652	2818271	2818271	2818271	2818271	2818272	2818272	2818513	2818513	2818513	2818513
		Nanisivik Mine SQROs <sup>a</sup>												
Parameter	Parameter Units General Mine Dock				Analytical Results									
Total Metals														
Cadmium	mg/kg	50	2800	2.6	4.87	6.76	7.00	3.02	2.05	3.77	5.43	2.4	2.84	3.44
Lead	mg/kg	1050	4500	113	114	206	259.0	109	123	76.6	104	71	60	156
Zinc	mg/kg	23400	44000	1050	1380	2620	2700	1190	924	1100	1950	881	938	1140

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location					ln	dustrial Compl	ex				
		Sa	ample ID:	IC-8351-F-C	IC-8352-F-C	IC-8353-F-C	IC-8354-F-C	IC-8355-F-C	IC-7548-F-Q	IC-8356-F-D	IC-8357-F-D	IC-8374-F-C	IC-8375-F-C	IC-8376-F-C
		Sam	ple Date:	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	24-Jul-08	Duplicate of	24-Jul-08	24-Jul-08	23-Aug-08	23-Aug-08	23-Aug-08
		Sample D	epth (m):	0.0	0.0	0.0	0.0	0.0	IC-8355-F-C	0.0	0.0	0.0	0.0	0.0
		ACCUTES		2818513	2818513	2818513	2818513	2818513	2818514	2818513	2818514	2821652	2821652	2821652
		Nanisivik Mine	e SQROs <sup>a</sup>											
Parameter	Units	<b>General Mine</b>	Dock					Α	nalytical Resul	ts				
Total Meta	ls													
Cadmium	mg/kg	50	2800	2.98	5.69	4.73	2.94	1.92	1.70	0.85	1.33	7.30	3.2	20.7
Lead	mg/kg	1050	4500	85.0	196	135	58.8	93.5	80.5	45.6	57.1	238.0	137	422
Zinc	mg/kg	23400	44000	1020	2080	1560	1040	720	496	287	392	3030	1360	8590

Bold Concentrations greater than or equal to the site specific SQRO for the General Mine Area

Bold Concentrations geater than or equal to the site specific SQRO for the Dock Area

## Notes:

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

			Location					lr	ndustrial Comp	lex				
		Sa	mple ID:	IC-8377-F-C	IC-8381-F-C	IC-8382-F-C	IC-8383-F-C	IC-8385-F-C	IC-8386-F-C	IC-8387-F-C	IC-8388-F-C	IC-8389-F-C	IC-8488-F-C	IC-8420-F-C
		Samı	ole Date:	23-Aug-08	23-Aug-08	23-Aug-08	23-Aug-08	24-Aug-08	24-Aug-08	24-Aug-08	24-Aug-08	24-Aug-08	7-Sep-08	4-Sep-08
		Sample De	epth (m):	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Repeat of IC-8389-F-C	0.0
		ACCUTES	ST File #:	2821652	2821652	2821652	2821652	2821652	2821652	2821652	2821652	2821652	2823127	2823124
		Nanisivik Mine	SQROs <sup>a</sup>											
Parameter	Units	<b>General Mine</b>	Dock						Analytical Resu	ılts				
Total Meta	ls													
Cadmium	mg/kg	50	2800	11.7	5.8	6.4	17.9	23.7	4.5	4.4	2.9	4.1	5.1	1.4
Lead	mg/kg	1050	4500	290	188	245	629	1180	161	147	127	166	198	62
Zinc	mg/kg	23400	44000	5670	2060	2870	7390	8320	1620	1710	1110	1650	1770	430

Bold Concentrations greater than or equal to the site specific SQRO for the General Mine Area

Bold Concentrations geater than or equal to the site specific SQRO for the Dock Area

## Notes:

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

# Table 10: Remediation Confirmation Soil Samples - Metals

			Location			Industrial	Complex		
		Sa	mple ID:	IC-8480-F-C	IC-8481-F-C	IC-8482-F-C	IC-8484-F-C	IC-8485-F-C	IC-8486-F-C
		Sam	ple Date:	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08	7-Sep-08
		Sample De	epth (m):	0.0	0.0	0.0	0.0	0.0	0.0
		ACCUTES	ST File #:	2823127	2823127	2823127	2823127	2823127	2823127
		Nanisivik Mine	e SQROs <sup>a</sup>						
Parameter	Units	<b>General Mine</b>	Dock			Analytica	al Results		
Total Meta	s								
Cadmium	mg/kg	50	2800	53.6	242	147	75.6	65.0	78.9
Lead	mg/kg	1050	4500	5400	6050	7510	6170	2610	3490
Zinc	mg/kg	23400	44000	16300	92600	51900	22600	20100	23400

Bold Concentrations greater than or equal to the site specific SQRO for the General Mine Area

Bold Concentrations geater than or equal to the site specific SQRO for the Dock Area

### Notes:

<sup>&</sup>quot;<" = Less than analytical method detection limit.

<sup>&</sup>quot;-" = Analysis not conducted, or no guideline.

a) The site specific Soil Quality Remediation Objectives (SQROs) for the Nanisivik Mine Site are based on the approved Human Health and Ecological Risk Assessment, Nunavut Mine, Nunavut, Jacques Whitford Environmental Limited, October 2003.

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	6-May-05	30-May-05	21-Jun-05	22-Jun-05	22-Jun-05	22-Jun-05	22-Jun-05	23-Jun-05	23-Jun-05	23-Jun-05	25-Jun-05
		Sam	ple ID:	5150	5248	5370	5390	5392	5394	5396	5398	5400	5402	5421
		Duplic	ate ID:	5151	5249	5371	5391	5393	5395	5397	5399	5401	5403	5422
PARAMETER	Units	MRL	PQL					An	alytical Resi	ults				
On Site Field Scre	ening	Duplicate	es <sup>a</sup>											
Lead (Pb)														
Sample Result	%	0.004	0.02	0.035	0.098	0.800	0.035	0.055	0.243	0.095	0.107	0.166	0.145	0.554
Duplicate Result	%	0.004	0.02	0.017	0.061	0.420	0.041	0.038	0.228	0.116	0.102	0.079	0.050	0.616
RpD	%			69%	47%	62%	16%	37%	6%	20%	5%	71%	97%	11%
Zinc (Zn)														
Sample Result	%	0.004	0.02	0.038	0.476	7.410	0.051	0.303	3.919	0.971	0.239	0.398	0.326	3.162
Duplicate Result	%	0.004	0.02	0.040	0.186	7.650	0.056	0.052	3.764	1.310	0.308	0.147	0.047	3.587
RpD	%			5%	88%	3%	9%	141%	4%	30%	25%	92%	150%	13%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	25-Jun-05	27-Jun-05	27-Jun-05	27-Jun-05	7-Jul-05	16-Jul-05	21-Sep-06	21-Sep-06	21-Sep-06	21-Sep-06	21-Sep-06
		Sam	ple ID:	5423	5437	5440	5442	5498	5575	6236	6242	6246	6249	6252
		Duplic	ate ID:	5427	5439	5441	5443	5499	5577	62374	62434	62474	62504	62534
PARAMETER	Units	MRL	PQL					An	alytical Res	ults				
On Site Field Scre	eening	Duplicate	es <sup>a</sup>											
Lead (Pb)														
Sample Result	%	0.004	0.02	0.289	0.662	1.239	0.152	0.146	0.336	0.324	0.085	0.126	0.175	0.404
Duplicate Result	%	0.004	0.02	1.368	0.615	1.559	0.135	0.145	0.363	0.395	0.076	0.388	0.108	0.488
RpD	%			130%	7%	23%	12%	1%	8%	20%	11%	102%	47%	19%
Zinc (Zn)														
Sample Result	%	0.004	0.02	2.377	4.314	6.127	0.653	0.319	3.174	2.635	0.628	1.186	1.740	5.764
Duplicate Result	%	0.004	0.02	2.318	4.404	7.935	0.487	0.279	3.691	4.620	0.465	4.113	0.823	6.248
RpD	%			3%	2%	26%	29%	13%	15%	55%	30%	110%	72%	8%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	28-May-07	28-May-07	30-May-07	30-May-07	30-May-07	31-May-07	1-Jun-07	4-Jun-07	4-Jun-07	5-Jun-07	5-Jun-07
		Sam	ple ID:	7007	7018	7034	7047	7059	7070	7082	7092	7123	7137	7147
		Duplic	ate ID:	7500	7501	7502	7503	7504	7505	7506	7507	7508	7509	7510
PARAMETER	Units	MRL	PQL					An	alytical Resu	ılts				
On Site Field Scre	ening l	Duplicate	es <sup>a</sup>											
Lead (Pb)														
Sample Result	%	0.004	0.02	0.126	0.435	0.101	0.495	0.128	0.248	0.315	0.239	0.711	0.600	0.144
Duplicate Result	%	0.004	0.02	0.136	0.371	0.092	0.496	0.122	0.258	0.309	0.204	0.750	0.618	0.153
RpD	%			8%	16%	9%	0%	5%	4%	2%	16%	5%	3%	6%
Zinc (Zn)														
Sample Result	%	0.004	0.02	0.408	3.949	1.127	3.932	0.837	2.849	3.005	2.123	10.080	13.280	1.104
Duplicate Result	%	0.004	0.02	0.470	3.635	1.043	3.973	0.804	2.944	3.016	1.670	10.740	13.690	1.264
RpD	%			14%	8%	8%	1%	4%	3%	0%	24%	6%	3%	14%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	5-Jun-07	5-Jun-07	8-Jun-07	8-Jun-07	8-Jun-07	10-Jun-07	11-Jun-07	11-Jun-07	11-Jun-07	11-Jun-07	12-Jun-07
		Sam	ple ID:	7157	7167	7188	7198	7208	7218	7259	7269	7279	7289	7299
		Duplic	ate ID:	7511	7512	7513	7514	7515	7516	7517	7518	7519	7520	7521
PARAMETER	Units	MRL	PQL					An	alytical Resi	ults				
On Site Field Scre	eening	Duplicate	es <sup>a</sup>											
Lead (Pb)														
Sample Result	%	0.004	0.02	0.456	0.146	0.683	0.467	0.246	0.473	0.469	0.414	0.357	0.649	0.543
Duplicate Result	%	0.004	0.02	0.425	0.142	0.675	0.500	0.245	0.479	0.462	0.392	0.360	0.653	0.539
RpD	%			7%	3%	1%	7%	0%	1%	2%	5%	1%	1%	1%
Zinc (Zn)														
Sample Result	%	0.004	0.02	5.441	1.392	8.323	6.136	2.799	8.373	6.234	3.361	4.403	9.235	5.011
Duplicate Result	%	0.004	0.02	5.251	1.385	8.160	6.745	2.820	8.106	5.988	3.269	4.420	9.169	5.091
RpD	%			4%	1%	2%	9%	1%	3%	4%	3%	0%	1%	2%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

 $\textit{RpD} \quad \textit{Relative Percent Difference} = (\textit{Difference/Average})*100.$ 

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	12-Jun-07	12-Jun-07	14-Jun-07	11-Jul-07	14-Jul-07	18-Jul-07	18-Jul-07	20-Jul-07	22-Jul-07	25-Jul-07	28-Jul-07
		Sam	ple ID:	7309	7319	7329	7434	7461	7481	7491	7611	7639	7658	7717
		Duplic	ate ID:	7522	7523	7524	7524	7526	7527	7528	7529	7530	7531	7532
PARAMETER	Units	MRL	PQL					An	alytical Resu	ults				
On Site Field Scre	ening l	Duplicate	es <sup>a</sup>											
Lead (Pb)														
Sample Result	%	0.004	0.02	0.059	0.489	0.127	0.306	0.279	0.120	0.113	0.169	0.066	0.133	0.430
Duplicate Result	%	0.004	0.02	0.061	0.497	0.135	0.357	0.278	0.120	0.117	0.171	0.063	0.151	0.484
RpD	%			3%	2%	6%	15%	0%	0%	3%	1%	5%	13%	12%
Zinc (Zn)														
Sample Result	%	0.004	0.02	0.163	9.004	0.249	2.324	2.026	1.055	1.120	1.262	0.261	1.107	3.879
Duplicate Result	%	0.004	0.02	0.181	9.076	0.260	2.797	1.968	1.048	1.027	1.198	0.244	1.242	4.286
RpD	%			10%	1%	4%	18%	3%	1%	9%	5%	7%	11%	10%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 11: Quality Assurance and Quality Control Field Screen Soil Samples - Metals

			Date:	29-Jul-07	30-Jul-07	31-Jul-07	1-Aug-07	4-Aug-07	6-Aug-07	9-Aug-07	19-Aug-07	19-Aug-07	8-Sep-07
		Sam	nple ID:	7727	7745	7757	7762	7799	7809	7820	7909	7919	8190
		Duplic	cate ID:	7533	7534	7535	7536	7537	7538	7539	7541	7542	7543
PARAMETER	Units	MRL	PQL					Analytica	al Results				
On Site Field Scre	ening	Duplicate	es <sup>a</sup>										
Lead (Pb)													
Sample Result	%	0.004	0.02	0.062	0.143	0.041	0.099	0.263	0.244	0.049	0.149	0.074	0.710
Duplicate Result	%	0.004	0.02	0.061	0.129	0.040	0.099	0.289	0.234	0.049	0.151	0.073	0.714
RpD	%			2%	10%	2%	0%	9%	4%	0%	1%	1%	1%
Zinc (Zn)													
Sample Result	%	0.004	0.02	0.379	1.373	0.064	0.523	2.629	3.144	0.177	0.955	0.444	5.431
Duplicate Result	%	0.004	0.02	0.337	1.219	0.052	0.538	2.755	3.022	0.217	1.014	0.499	5.329
RpD	%			12%	12%	21%	3%	5%	4%	20%	6%	12%	2%

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

<sup>&</sup>lt;sup>a</sup> Field screeing results are measured using a Xmet portable X-Ray Florescence elemental analyser that has not been calibrated to a lead or zinc standard

Table 12: Quality Assurance and Quality Control Remediation Soil Samples - Petroleum Hydrocarbons

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		Sample	Parent:	TF-8281-W-C		TF-8304-F-C			TF-8343-W-C		TS-7925-W-C	TS-8394-F-C	TS-8445-F-C
		Sa	mple ID:	TF-8281-W-C	TF-8304-F-C	TF-8304-F-C	TF-8304-F-C	TF-8343-W-C	TF-8343-W-C	TF-8343-W-C	TS-7925-W-C	TS-8394-F-C	TS-8445-F-C
		Dupl	icate ID:	TF-7544-W-Q	TF -8327-F-Q	TF-8337-F-D	TF-8338-F-D	TF-7547-W-Q	TF-8344-W-D	TF-8345-W-D	TS-7540-W-Q	TS-7553-F-Q	TS-7555-F-Q
Parameter	Units	MRL	PQL					Analytica	al Results				
PHC Fraction 1													
Sample Result	ug/g	20	100	<20	-	-	-	-	-	-	-	-	-
Duplicate Result	ug/g	20	100	<20	-	-	-	-	-	-	<20	-	-
RpD	%			na	-	-	-	-	-	-	na	-	-
PHC Fraction 2													
Sample Result	ug/g	20	100	<20	<20	<20	<20	3180	3180	3180	<20	<20	<20
Duplicate Result	ug/g	20	100	<20	24	<20	<20	896	116	3690	<20	<20	21
RpD	%			na	na	na	na	112%	186%	15%	na	na	na
PHC Fraction 3													
Sample Result	ug/g	20	100	<20	<20	<20	<20	266	266	266	<20	37	85
Duplicate Result	ug/g	20	100	<20	<20	<20	<20	143	<20	242	<20	44	92
RpD	%			na	na	na	na	60%	na	9%	na	na	na
PHC Fraction 4													
Sample Result	ug/g	20	100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Duplicate Result	ug/g	20	100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
RpD	%			na	na	na	na	na	na	na	na	na	na

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

## Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

Table 12: Quality Assurance and Quality Control Remediation Soil Samples - Petroleum Hydrocarbons

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		Sample	Parent:	TS-83	97-F-C		WR-8287-F-C			WR-8294-F-C		WR-83	67-F-C
		Sa	mple ID:	TS-8397-F-C	TS-8397-F-C	WR-8287-F-C	WR-8287-F-C	WR-8287-F-C	WR-8294-F-C	WR-8294-F-C	WR-8294-F-C	WR-8367-F-C	WR-8367-F-C
		Dupl	icate ID:	TS-8398-F-D	TS-8399-F-D	WR-7545-F-Q	WR-8288-F-D	WR-8289-F-D	WR-7546-F-Q	WR-8295-F-D	WR-8296-F-D	WR-8368-F-D	WR-8369-F-D
Parameter	Units	MRL	PQL					Analytica	al Results				
PHC Fraction 1													
Sample Result	ug/g	20	100	-	-	-	-	-	-	-	-	-	-
Duplicate Result	ug/g	20	100	-	-	-	-	-	-	-	-	-	-
RpD	%			-	-	-	-	-	-	-	-	-	-
PHC Fraction 2													
Sample Result	ug/g	20	100	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Duplicate Result	ug/g	20	100	<20	50	<20	<20	<20	<20	<20	71	<20	<20
RpD	%			na									
PHC Fraction 3													
Sample Result	ug/g	20	100	24	24	181	181	181	1720	1720	1720	577	577
Duplicate Result	ug/g	20	100	<20	44	234	550	105	1560	1810	13100	449	329
RpD	%			na	na	26%	101%	53%	10%	5%	154%	25%	55%
PHC Fraction 4													
Sample Result	ug/g	20	100	<20	<20	49	49	49	3920	3920	3920	118	118
Duplicate Result	ug/g	20	100	<20	<20	80	88	26	3680	5050	38100	94	68
RpD	%			na	na	na	na	na	6%	25%	163%	na	na

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

## Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

Table 12: Quality Assurance and Quality Control Remediation Soil Samples - Petroleum Hydrocarbons

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		Sample	Parent:	WR-8367-F-C		WR-8452-F-C		WR-8455-F-C		WR-8472-F-C		RD-8326-F-C	RD-8378-F-C
		Sa	mple ID:	WR-8367-F-C	WR-8452-F-C	WR-8452-F-C	WR-8452-F-C	WR-8455-F-C	WR-8472-F-C	WR-8472-F-C	WR-8472-F-C	RD-8326-F-C	RD-8378-F-C
		Dupl	icate ID:	WR-7549-F-Q	WR-7556-F-Q	WR-8453-F-D	WR-8454-F-D	WR-7557-F-Q	WR-7558-F-Q	WR-8473-F-D	WR-8474-F-D	RD-8328-F-Q	RD-7550-F-Q
Parameter	Units	MRL	PQL					Analyitca	al Results				
PHC Fraction 1													
Sample Result	ug/g	20	100	-	-	-	-	-	-	-	-	-	-
Duplicate Result	ug/g	20	100	-	-	-	-	-	-	-	-	-	-
RpD	%			-	-	-	•	-	-	•	-	•	-
PHC Fraction 2													
Sample Result	ug/g	20	100	<20	<20	<20	<20	26	113	113	113	62	28
Duplicate Result	ug/g	20	100	37	<20	<20	<20	30	185	100	166	74	<20
RpD	%			na	na	na	na	na	48%	12%	38%	na	na
PHC Fraction 3													
Sample Result	ug/g	20	100	577	63	63	63	1010	974	974	974	385	283
Duplicate Result	ug/g	20	100	656	76	49	<20	897	1210	1220	1350	405	211
RpD	%			13%	na	na	na	12%	22%	22%	32%	5%	29%
PHC Fraction 4													
Sample Result	ug/g	20	100	118	<20	<20	<20	472	154	154	154	<500	47
Duplicate Result	ug/g	20	100	128	<20	<20	<20	1130	207	166	176	533	30
RpD	%			8%	na	na	na	82%	29%	8%	13%	na	na

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

### Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

Table 12: Quality Assurance and Quality Control Remediation Soil Samples - Petroleum Hydrocarbons

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		Sample	Parent:	RD-83	78-F-C	IC-83°	15-F-C		IC-8355-F-C		IC-8390-F-C	
		Sa	mple ID:	RD-8378-F-C	RD-8378-F-C	IC-8315-F-C	IC-8315-F-C	IC-8355-F-C	IC-8355-F-C	IC-8355-F-C	IC-8390-F-C	
		Dupl	licate ID:	RD-8379-F-D	RD-8380-F-D	IC-8316-F-D	IC-8317-F-D	IC-7548-F-Q	IC-8356-F-D	IC-8357-F-D	IC-7551-F-Q	
Parameter	Units	MRL	PQL		Analytical Results							
PHC Fraction 1												
Sample Result	ug/g	20	100	-	-	-	-	-	-	-	-	
Duplicate Result	ug/g	20	100	-	-	-	-	-	-	-	-	
RpD	%			-	-	1	•	-	1	-	1	
PHC Fraction 2												
Sample Result	ug/g	20	100	28	28	<20	<20	138	138	138	<20	
Duplicate Result	ug/g	20	100	<20	<20	<20	<20	104	243	273	<20	
RpD	%			na	na	na	na	28%	55%	66%	na	
PHC Fraction 3												
Sample Result	ug/g	20	100	283	283	38	38	40	40	40	180	
Duplicate Result	ug/g	20	100	327	201	<20	<20	32	22	222	20	
RpD	%			14%	34%	na	na	na	na	na	na	
PHC Fraction 4												
Sample Result	ug/g	20	100	47	47	<20	<20	<20	<20	<20	37	
Duplicate Result	ug/g	20	100	45	45	<20	<20	<20	<20	23	<20	
RpD	%			na	na	na	na	na	na	na	na	

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

## Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

 Table 13:
 Quality Assurance and Quality Control Remediation Soil Samples - Metals

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		Sample Parent: Sample ID:		TF-8304-F-C	TF-8343-W-C	TS-8409-F-C	TS-8442-F-C	TS-84	42-F-C		WR-8367-F-C		RD-8326-F-C
				TF-8304-F-C	TF-8343-W-C	TS-8409-F-C	TS-8442-F-C	TS-8442-F-C	TS-8442-F-C	WR-8367-F-C	WR -8367-F-C	WR-8367-F-C	RD-8326-F-C
Duplicate ID:				TF-8327-F-Q	TF-7547-W-Q	TS-7552-F-Q	TS-7554-F-Q	TS-8443-F-D	TS-8444-F-D	WR-8368-F-D	WR-8369-F-D	WR-7549-F-Q	RD-8328-F-Q
Parameter	Units	MRL PQL			Analytical Results								
Cadmium (Cd)	Cadmium (Cd)												
Sample Result	mg/kg	0.01	0.05	0.98	9.24	5.8	8.9	8.9	8.9	58.4	58.4	58.4	10.6
Duplicate Result	mg/kg	0.01	0.05	1.25	6.85	5.8	8.7	5.9	8.3	51.6	30.1	49.1	11.2
RpD	%			24%	30%	0%	2%	41%	7%	12%	64%	17%	6%
Lead (Pb)													
Sample Result	mg/kg	0.01	0.05	29.0	300	412	358	358	358	2710	2710	2710	389
Duplicate Result	mg/kg	0.01	0.05	44.8	269	436	450	267	294	3110	1400	2280	393
RpD	%			43%	11%	6%	23%	29%	20%	14%	64%	17%	1%
Zinc (Zn)													
Sample Result	mg/kg	0.05	0.25	325	3570	2260	3150	3150	3150	22200	22200	22200	3980
Duplicate Result	mg/kg	0.05	0.25	412	2640	2050	3540	2240	3200	19500	11100	17600	4330
RpD	%			24%	30%	10%	12%	34%	2%	13%	67%	23%	8%

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

## Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

Table 13: Quality Assurance and Quality Control Remediation Soil Samples - Metals

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		Sample Parent: Sample ID:		RD-8378-F-C		IC-8318-F-C	IC-8315-F-C		IC-8355-F-C		IC-8390-F-C		
				RD-8378-F-C	RD-8378-F-C	RD-8378-F-C	IC-8318-F-C	IC-8315-F-C	IC-8315-F-C	IC-8355-F-C	IC-8355-F-C	IC-8355-F-C	IC-8390-F-C
Duplicate ID:				RD-7550-F-Q	RD-8379-F-D	RD-8380-F-D	IC-8319-F-D	IC-8316-F-D	IC-8317-F-D	IC-7548-F-Q	IC-8356-F-D	IC-8357-F-D	IC-7551-F-Q
Parameter	Units	MRL PQL			Analytical Results								
Cadmium (Cd)													
Sample Result	mg/kg	0.01	0.05	20.5	20.5	20.5	3.31	6.20	6.20	1.92	1.92	1.92	36.9
Duplicate Result	mg/kg	0.01	0.05	18.7	13.2	39.6	4.87	5.76	2.62	1.70	0.85	1.33	14.4
RpD	%			9%	43%	64%	38%	7%	81%	12%	77%	36%	88%
Lead (Pb)													
Sample Result	mg/kg	0.01	0.05	555	555	555	96.6	160	160	93.5	93.5	93.5	1490
Duplicate Result	mg/kg	0.01	0.05	456	403	1200	114	180	61.4	80.5	45.6	57.1	610
RpD	%			20%	32%	74%	17%	12%	89%	15%	69%	48%	84%
Zinc (Zn)													
Sample Result	mg/kg	0.05	0.25	7670	7670	7670	1220	1770	1770	720	720	720	12300
Duplicate Result	mg/kg	0.05	0.25	7050	4900	14200	1380	1950	1050	496	287	392	4670
RpD	%			8%	44%	60%	12%	10%	51%	37%	86%	59%	90%

Bold

RpD Value is greater than or equal to 50% and the concentrations of both samples are greater than the PQL.

## Notes:

na RpD value is not applicable because one or both results are less than the PQL.

RpD Relative Percent Difference = (Difference/Average)\*100.

PQL Practical Quantitation Limit = 5 \* Method Reporting Limit (MRL).

