



Wolverine Project

2007 ANNUAL REPORT

LAND TREATMENT FACILITY

PERMIT 4202-24-022

**Prepared by:
Yukon Zinc Corporation
Vancouver, British Columbia
March 14, 2008**

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1 Introduction

Yukon Zinc Corporation's (YZC) Wolverine Project (Project) is an underground mine in the advanced exploration phase. The Project is located within the Finlayson District in the south eastern Yukon, approximately 280 km east of Whitehorse, 190 km northwest of Watson Lake and 135 km southeast of Ross River, near the headwaters of the Wolverine Lake watershed. The Finlayson area is within the Kaska Nation traditional territory.

YZC applied for a Land Treatment Facility (LTF) Permit in October 2005, and received LTF Permit #4202-24-022 (Permit) in February 2006. In July 2006 a 60 m³ cell (Cell 1) was constructed near the airstrip to remediate soil from a 2005 diesel spill that occurred during a helicopter fuel haul.

With the occurrence of other spills resulting from construction and helicopter fuel transfer activities in 2006 and 2007, plus material from the 2005 spill that exceeded the capacity of Cell 1, YZC submitted an application for a permit amendment in August 2007. In September 2007 a ~400 m³ (Cell 2) cell was constructed as per an amended Permit issued September 19th, 2007. In October 2007 YZC submitted the *Wolverine Project LTF Operating and Monitoring Manual* (October 17th, 2007) to fulfill requirement of Permit condition Part 4.6. The manual is provided in Appendix A.

This annual report provides a summary of the activities conducted and records kept for the Wolverine Project LTF, as per Part 8.2 of the Permit, including:

- The origin of contaminated material being treated
- The volume of contaminated material accepted from each source
- A figure showing the entire facility including the location within the facility of contaminated material from each source
- The total volume of contaminated material being remediated
- Soil and/or liquid analysis results for all contaminated material accepted for treatment or removed from the facility
- Results of any interim sampling of soil and/or liquid conducted
- Results of any confirmatory sampling of soil and/or liquid for the purpose of determining if the soil or liquid was remediated
- Details of tillage performed (including dates, depths and area tilled, and equipment used)
- Details of any nutrients added (including type, dates and quantity)
- A sampling and analysis plan for 2008.

All components listed above are contained herein with the exception of:

- No material was removed from the facility, and hence the volume and soil quality analysis are not presented
- No nutrients were added to the soil in 2007
- No water quality analysis was conducted.

2 Contaminated Site Regulations Requirements

Prior to receipt of the amended Permit, YZC tested all soil samples for petroleum hydrocarbons (PHCs) based on *Yukon Environmental Protocol No.11: Sampling Procedures for Soil Samples taken in relation to the Contaminated Sites Regulation* which provides guidance on sampling protocols for samples being compared to the numerical soil standards listed in *Yukon Contaminated Sites Regulations Schedule 1 – Numerical Soil Standards for Industrial Sites* (CSR). Samples were tested for volatile petroleum hydrocarbons (VPH), light extractable petroleum hydrocarbons (LEPH) and heavy extractable hydrocarbons (HEPH), for which the standards are outlined in Table 2-1.

Table 2-1 Summary of CSR Schedule 1 Generic Numerical Soil Standards for Petroleum Hydrocarbons for Industrial Sites

Contaminant	Aliphatic Hydrocarbon Fraction*	Standard (mg/kg)
Volatile Petroleum Hydrocarbon (VPH)	C ₆ -C ₁₀	200
Light Extractable Petroleum Hydrocarbons (LEPH)	C ₁₀ -C ₁₉	2,000
Heavy Extractable Petroleum Hydrocarbons (HEPH)	C ₁₉ -C ₃₂	5,000

*From *Canada Wide Standard for Petroleum Hydrocarbons in Soil: Scientific Rationale Supporting Technical Document* (www.ccme.ca/assets/pdf/pn_1399_phc_sr_std_1.0_e.pdf)

In August 2007 YZC was informed by the Yukon Department of Environment that the Yukon was considering adopting the Canada-Wide Standard for Petroleum Hydrocarbons in Soil (CWS). As such, YZC began sampling and analysis as per CWS requirements in August, as outlined in the *LTF Operating and Monitoring Manual* (October 17th, 2007). Table 2-2 outlines CWS fraction concentrations for industrial use soil.

Table 2-2 Summary of the CWS Numerical Concentrations (mg/kg) for Industrial Site Surface Soil

Land Use	Soil Texture	Fraction 1	Fraction 2	Fraction 3	Fraction 4
		(C ₆ – C ₁₀)	(C ₁₀ – C ₁₆)	(C ₁₆ – C ₃₄)	(>C ₃₄)
Industrial	Coarse-grained	310	760	1700	3300
	Fine-grained	660	1500	2500	6600

The CWS differentiates sampling into initial, interim and confirmatory characterization and samples are analyzed for hydrocarbon Fractions 1 through 4 and fine and coarse grained soil texture. Initial sampling is taken *in-situ* or as it is being excavated to provide preliminary hydrocarbon concentrations and to establish whether the material is special waste (>30,000 mg/kg). Interim sampling is used to estimate the rate of remediation and confirmatory sampling is conducted to verify that appropriate criteria have been met. Interim and confirmatory samples are taken as a composite of five grab samples for each 100 m³ of soil (i.e. one sub sample for each 20 m³ to comprise a single sample representing 100 m³) in a quincunx pattern within a 26 m x 26 m x 15 cm grid.

Soil texture determines the Fraction concentration requirements (Table 2-2). “Coarse grained” soil has a median grain size of >75 µm and “Fine grained” soil has a median grain size of <75 µm. The median grain size of the sample determines which concentrations the PHC sample is evaluated against. Fine grained soils will tend to have higher concentrations of PHCs than coarse grained soils, due to a larger overall surface area.

In the following sections, to allow for comparisons between CSR and CWS sample analyses, “Fraction 1” is deemed to be synonymous with VPH, “Fraction 2” with LEPH and “Fraction 3” with HEPH. Although LEPH contains some aliphatic hydrocarbon chains in the “Fraction 2” segment (i.e. C₁₇ – C₁₉), for the purposes of discussion in this report, they are assumed to be negligible.

3 LTF Infrastructure

The location of LTF infrastructure is presented in Figure 3-1 with references and/or distances to the Project airstrip, nearest bodies of water, and site and access roads. Cells 1 and 2 are detailed further below.

3.1 Cell 1

Cell 1 was constructed in June 2006 and contains ~60 m³ of contaminated soil from the August 2005 spill that resulted from a defective fuel bladder, as described in the *LTF 2006 Annual Report* (August, 2007).

Throughout the 2007 spring/summer period Cell 1 was routinely tarped as rain events occurred and un-tarped to allow for evaporation and volatilization. Subsequent to June, frequent rain events caused water to collect in the depressions of the LTF (between the windrows). Water removed from Cell 1 was pumped into empty fuel drums for storage. Interim water samples will be analyzed in 2008 prior to treatment with a hydrocarbon water treatment system. Tillage was conducted twice in 2007, using a 320 excavator, once on June 17th then was in July, prior to being leveled, then tarped, clean soil mounded on top and re-tarped to promote drainage away from the cell (Picture 3-1). Details of Cell 1 monitoring activities are presented in the Environmental Monitoring reports provided in Appendix B.



Picture 3-1 Tarped Cell 1 (July 26th, 2007)

3.2 Cell 2 Construction

In September 2007 construction began on a 50 m x 55 m cell (Cell 2) as per the amended Permit to allow for remediation of material previously stored at the temporary soil storage area near Cell 1. Picture 3-2 shows the location of the completed Cell 2 with respect to Cell 1 and the airstrip, as well as the location of the 40 m³ sump at the western corner of the cell constructed to collect runoff from the facility. Environmental Monitoring reports, which summarize the grubbing and clearing of the area, and liner system installation for the construction of Cell 2 are provided in Appendix B. The liner system consists of geo-textile layers above and below the Enviro liner layer. The Enviro liner was installed by the manufacturer (Layfield Environmental Systems Ltd.) and their project completion QA/QC package is provided in Appendix C.



Picture 3-2 Completed Cell 2, prior to acceptance of soil (Sept 18th, 2007)

4 Sources, Volumes and Analyses of Contaminated Material

The volume of soil contained within Cells 1 and 2 totals approximately 407 m³ and the origins and soil quality results are presented below. Figure 4-1 illustrates the locations as of the end of 2007, origin, and volumes of the contaminated material at the LTF. To reiterate, sampling and analysis prior to and including July was conducted as per the CSR requirements, and after that as per the CWS requirements.

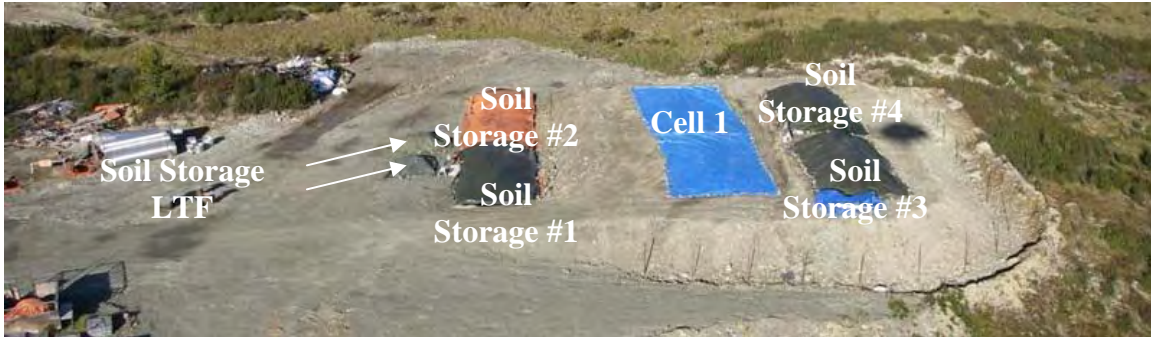
4.1 2005 Diesel Spill

As detailed in the *LTF 2006 Annual Report* (August 2007), Cell 1 was constructed to accept and treat hydrocarbon contaminated soil from the August 12th, 2005 diesel spill resulting during a fuel haul (separation of a defective seam weld on the fuel bladder). Approximately 800 L of diesel was spilt, and during clean up, transferral and storage prior to reception of the soil in LTF Cell 1, ~128 m³ of contaminated material was excavated. Cell 1 currently holds ~60 m³ of this contaminated soil, and the additional ~70 m³ of contaminated soil was stored temporarily at the soil storage area in the areas labeled “Soil Storage LTF” and “Soil Storage #2” in Picture 4-1, prior to being moved to Cell 2.

Soil quality results from 2007 are summarized in Table 4-1 as compared to the CSR standards (June sample) and the CWS standards for coarse or fine grained soils (depending on the median grain size result), and the full lab reports are provided in Appendix D. Figure 4-2 and Figure 4-3 summarize the Fraction 2 and 3 sample results, respectively, through 2005, 2006 and 2007 and compares the values to the CSR standards (2005, 2006 and June 2007 samples) and to the CWS coarse and fine grained standards (September 2007 samples). The full lab reports for the 2005 and 2006 results are provided in the *LTF 2006 Annual Report* (August 2007). VPH (or Fraction 1)

was not analyzed in 2005 and 2006, due to incorrect guidance by an independent consultant retained by YZC, and hence is not compared to 2007 results.

For Fraction 2, only 11% of samples analyzed (red columns) were above the CSR standard (red line), and neither of the fine or coarse grained samples (blue and green columns, respectively) were above the CWS (blue and green line for fine and coarse grained soil texture, respectively). For Fraction 3, all samples analyze in 2005 and 2006 (red columns) were below the CSR standard (red line), and only the coarse grained sample collected in September 2007 was above the CWS (green line).

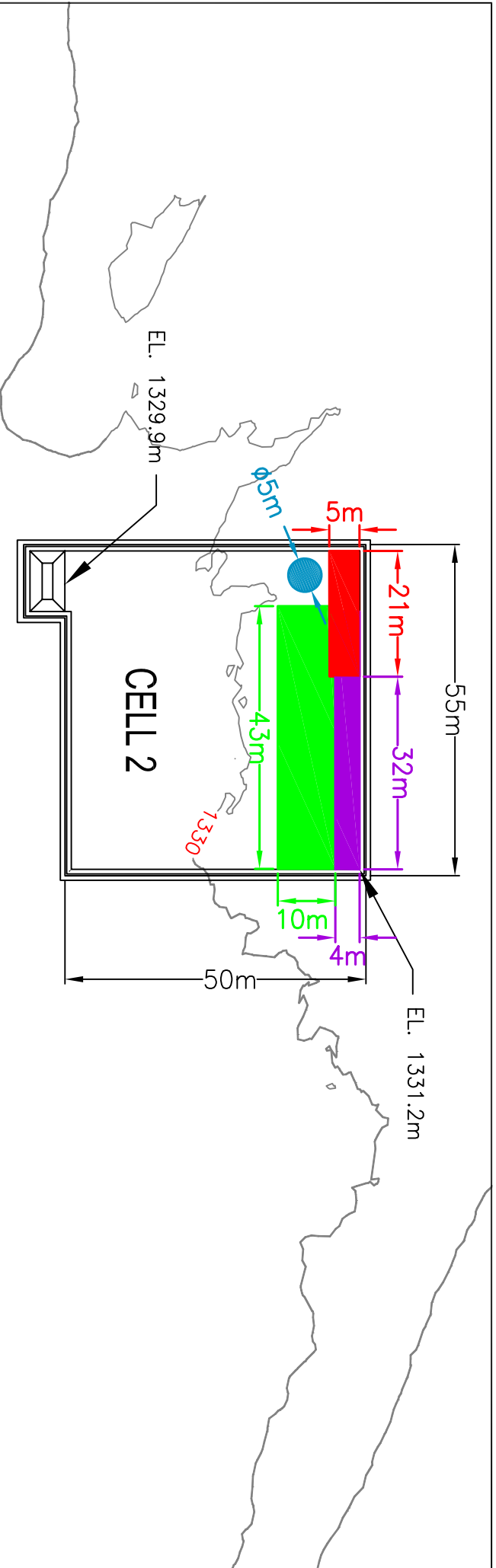


Picture 4-1 Plan view of Storage Sites and Cell 1 Prior to Construction of LTF Cell 2 (August, 2007). All material is tarped due to inclement weather.

Table 4-1 2007 Soil Quality Interim Results from August 2005 Contaminated Soil

Sample name	CSR Standards	CWS – Coarse grained	CWS – Fine grained	LTF (<i>Ex-Situ</i>)	Soil Storage #2	Soil Storage - LTF
Lab Report				A725992	A741283	A741283
Sample Date				15-Jun-07	3-Sep-07	3-Sep-07
Median Grain Size				N/A	FINE	COARSE
Parameters (mg/kg)						
Fraction 1 (VPH)	200	310	600	25	<10	<10
Fraction 2 (LEPH)	2000	760	1500	1060	91	532
Fraction 3 (HEPH)	5000	1700	2500	<100	510	2530
Fraction 4	-	3300	6600		<50	1860

*Bold values indicate exceedances of the standard provided in the shaded columns to the left of the data.



CONTENTS OF CELL 1:

60 m³ FROM 2005 DIESEL SPILL

CONTENTS OF CELL 2:

70 m³ CELL 1 EXCESS MATERIAL

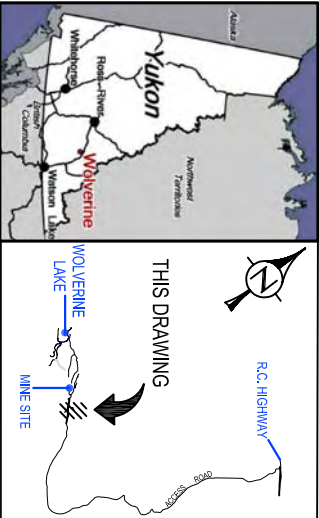
87 m³ FROM 2006 DIESEL SPILL

192 m³ FROM 2007 FUEL CACHE SPILL

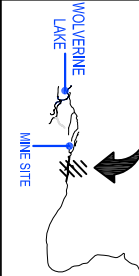
10 m³ FROM 2007 ACCESS ROAD CONSTRUCTION

1325

AIRSTRIP



THIS DRAWING



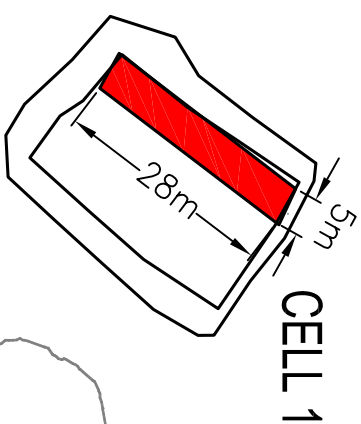
Yukon Zinc CORPORATION

DWG. CHECK	JS/PL
DESIGNED BY	MJM
DRAWN BY	MJM
DATE	MAR 5/08
SCALE:	1:25,000
PROJECT NO.	1614

WOLVERINE MINE PROJECT

LAND TREATMENT FACILITY OUTLINE OF CELLS, MATERIAL ORIGIN AND SOIL VOLUMES

DRAWING NO.	FIGURE 4-1	REV.
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CELL 1

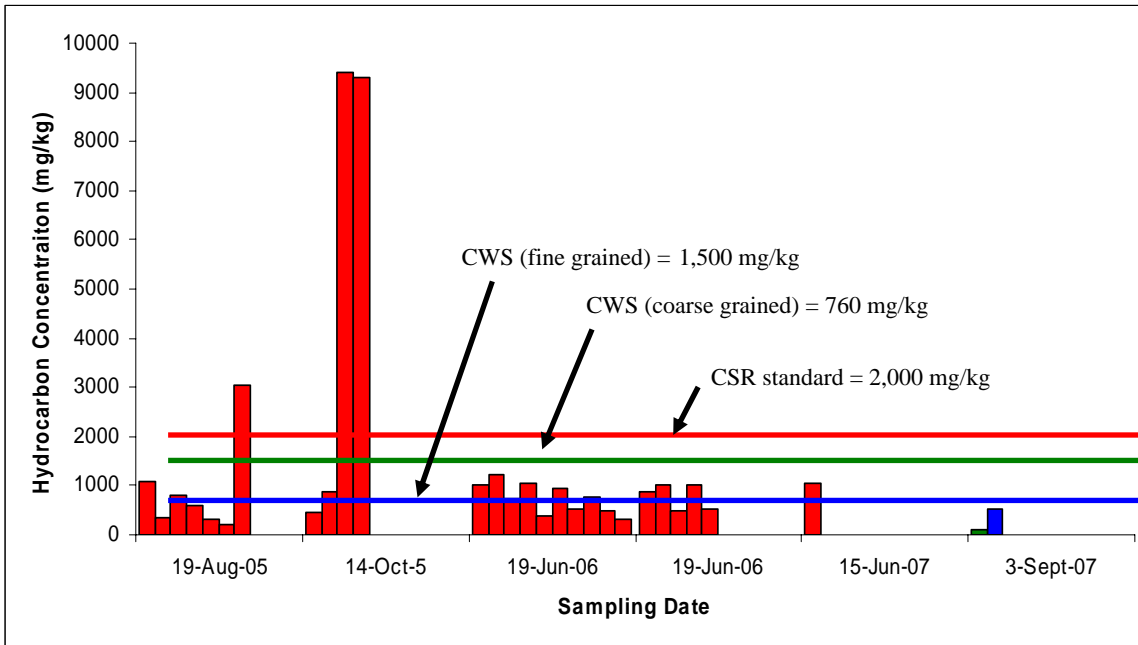
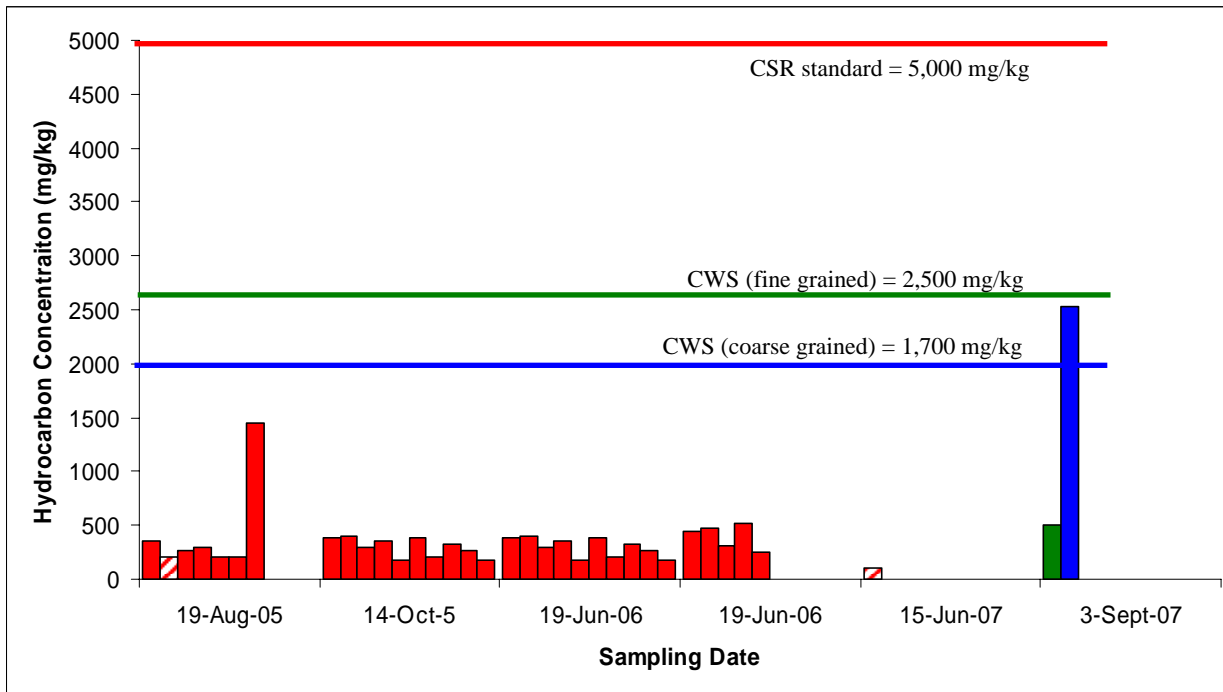


Figure 4-2 August 2005 Contaminated Soil Quality Results 2005, 2006 and 2007 compared to CSR Standards and CWS – Fraction 2



*Hatched columns indicate the sample result was below reportable detection limits

Figure 4-3 August 2005 Contaminated Soil Quality Results 2005, 2006 and 2007 compared to CSR and the CWS Standards – Fraction 3

4.2 2006 Diesel Spill

As detailed in the *LTF 2006 Annual Report* (August 2007), 2006 a diesel spill of approximately 700 L occurred on August 29th as a result of a mechanical failure of a Bell 205 helicopter during diesel fuel transfer activities. Approximately 35 m³ of contaminated soil was stored in the Insta-berm located at the Cell 1 area (labeled “Soil Storage #1” in Picture 4-1). Approximately 87 m³ of material, including the clay that lined the storage area, was transferred to Cell 2 in 2007. Samples of the soil were taken in September 2007 and the results presented in Table 4-2 (full lab reports provided in Appendix D). Initial samples were not taken in 2006 and consequently are not compared. Although soil quality results are well below the CWS for fine grained soil, YZC was not confident that the samples would meet the confirmatory sample requirements (i.e. were representative of the entire soil volume), and hence, the soil was moved to Cell 2 for further remediation. Sampling and monitoring performed in 2008 will confirm the 2007 results.

Table 4-2 2007 Soil Quality from the August 2006 Contaminated Soil

Sample name	CWS – Fine Grained	Soil Storage #1
Lab Report		A741283
Sample Date		3-Sep-07
Median Grain Size		FINE
Parameters (mg/kg)		
Fraction 1 (VPH)	600	<10
Fraction 2 (LEPH)	1500	91
Fraction 3 (HEPH)	2500	351
Fraction 4	6600	61

4.3 2007 Diesel Spill

On May 22nd, 2007 a release of approximately 660 L of diesel fuel from improperly sealed fuel drums was observed at a fuel cache area. Approximately 192 m³ of contaminated soil was removed and a diversion ditch was constructed to minimize contamination of ground and surface water. Excavated material was temporarily stored at soil storage locations #3 and #4 (Picture 4-1) prior to transfer to Cell 2 in September 2007. The full spill report is provided in Appendix E.

Additional details of this spill were outlined in a July 13th, 2007 memo to the Yukon Environmental Programs Branch from Lorax Environmental Services (Lorax) (Appendix E). Table 4-3 summarizes the soil quality results for the excavated soil; initial samples “1” and “7” were taken in-situ and are compared to CSR standards and samples “Soil Storage #3” and “Soil Storage #4” were taken at the temporary storage area and are compared to the CWS for coarse grained soil texture.

Table 4-3 Initial (May 2007) and Interim (September 2007) Soil Quality from the May 2007 Fuel Spill

Sample name	CSR Standards	CWS – Coarse Grained	1	7	Soil Storage#3	Soil Storage#4
Lab Report			L516181	L516181	A741283	A741283
Sample Date			24-May-07	24-May-07	3-Sep-07	3-Sep-07
Median Grain Size			N/A	N/A	COARSE	COARSE
Parameters (mg/kg)						
Fraction 1 (VPH)	200	310	-	-	<10	<10
Fraction 2 (LEPH)	2000	760	2290	2510	83	434
Fraction 3 (HEPH)	5000	1700	<200	260	238	454
Fraction 4	-	3300	-	-	<50	<50

* Bold values indicated the parameter is in exceedance of the applicable soil standard in the shaded columns.

Again, although LEPH values decreased by greater than an order of magnitude from interim sampling and were below the CWS, YZC decided to move the soil from this spill into Cell 2 until further confirmatory sampling is conducted in 2008. Also, as per the Lorax report, excavation is still needed at site 8 at the fuel cache area, and will be performed in spring 2008.

4.4 Access Road Spills

Throughout the construction of the Mine Access Road from June to September 2007, several small (<10 L) spills occurred; the soil was temporarily stored at the contractor's construction camp site near the Robert Campbell Highway. The soil amounted to ~10 m³ and soil quality results for a composite sample taken from five smaller sub-samples are presented in Table 4-4 (full lab reports provided in Appendix D). The soil was in exceedance of the CWS for fine grained soil, and as such was placed in Cell 2 for remediation (see location in Figure 4-1).

Table 4-4 Interim Soil Quality of 2007 Access Road Spills.

Sample name		Road_Soil_01
Lab Report		A740041
Sample Date		27-Aug-07
Median Grain Size		FINE
Parameters (mg/kg)	CWS – Fine Grained	
Fraction 1 (VPH)	600	<10
Fraction 2 (LEPH)	1500	254
Fraction 3 (HEPH)	2500	6620
Fraction 4	6600	1160

*Bold values indicate exceedances from the standard

5 Conclusion and Recommendations

Activities undertaken at YZC's Land Treatment Facility in 2007 consisted of: tarping, tillage and water removal from Cell 1, construction of the new 50 m x 55 m cell (Cell 2), and tarp coverage prior to winter snowfall to minimize water contamination. Approximately 407 m³ is stored at the facility, and consists of 128 m³ from the 2005 diesel spill, 87 m³ from the 2006 diesel spill (including clay lining from initial temporary storage), 192 m³ from the 2007 diesel spill and 10 m³ from various access road construction activities. No material was deemed to be remediated in 2007; however, several samples achieved the standards outlined in the *Canada Wide Standard for Petroleum Hydrocarbons in Soil* and will be sampled again in 2008 to verify these results prior to removal from the LTF.

YZC will perform various activities in 2008 to ensure compliance with the Permit, and to encourage remediation of the hydrocarbon contaminated soil, including:

- Cell 1 and 2 monitoring every two weeks, using the monitoring form provided in *YZCs Operating and Monitoring Manual*
- Water quality sampling of stored hydrocarbon contaminated water to quantify the necessary treatment
- Confirmatory sampling of soil where interim samples indicate that remediation has progressed
- Tillage of all soils >0.15 m deep will be conducted, or else the soil will be distributed so that the depth does not exceed 0.15 m
- The annual report for 2008 will be submitted no later than March 31st, 2009.

**Appendix A Yukon Zinc Land Treatment Facility Operating and
Monitoring Manual (October 19th, 2007)**



Wolverine Project

LAND TREATMENT FACILITY

PERMIT NO. 4202-24-022

OPERATING AND MONITORING MANUAL

**Prepared by:
Yukon Zinc Corporation
Vancouver, British Columbia**

October 17, 2007

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1 Introduction

This manual presents operation and monitoring information pertaining to the Yukon Zinc (YZC) Wolverine Project Land Treatment Facility (LTF) as per permit no. 4202-24-022 (provided in Appendix A). The LTF consists of three hydrocarbon contaminated soil treatment cells (as-built drawings provided in Appendix B):

Cell 1: Built in July 2006, a 5 m x 28 m cell with approximate capacity of 60 m³, containing material from an August 2005 diesel spill;

Cell 2: Built in September 2007, a 50 m x 55 m cell with approximate capacity of 328 m³; and

Cell 3: A 35 m extension to the 50 m x 55 m cell which increases the cell capacity by 264 m³.

This manual, along with the permit, will be read and followed by all personnel associated with the operation of the facility, including employees and contractors. All associated personnel will be trained in handling, management and water/soil sampling techniques of any contaminated material covered by the LTF Permit. Training requirements have and will continue to be overseen by Lorax Environmental Services. This manual may be updated as needed to fulfill the requirements of the permit.

2 Operation

2.1 Incoming Material

The cells will be used to remediate hydrocarbon-contaminated material that is generated by activities conducted at the Wolverine Project. Material will be tested prior to deposition in the LTF to ensure that the hydrocarbon content is below 30,000 ppm. If the material has a hydrocarbon greater than 30,000 ppm, it is designated as a special waste, and a special waste permit will be applied for from the Yukon Government Environmental Programs Branch.

As material from different sources is placed in the cell, its approximate location will be recorded for future sampling campaigns (see existing soil locations in Appendix B). All records will be maintained at the site by an Environmental Technician.

2.2 Operation Activities

Spill kits are readily available at the facility and a sign has been posted to identify that it contains contaminated material.

As the Wolverine Project is a restricted access site, with no access by the public, no unauthorized persons will have access to the site.

Activity will be minimal at the LTF during the winter months of November through March (or during times when the material is snow covered). Once the melt occurs, the cells and water collection sump will be monitored to ensure that water levels remain below the bermed sides. If the water is approaching the top of the berm it will be pumped out to empty drums for subsequent treatment. The Cell 2 water collection sump will be monitored as per the monitoring program described in Section 3.

No cells will contain material at a height greater than 0.5 m. From April to October the height of the material within the cells will either be kept at less than 0.15 m or, if greater than that, it will be tilled at least twice per year. The material in Cell 1 originates from one source and is not segregated so it can be

turned with machinery from the edges of the cell. Because the material height in Cell 1 is greater than 0.15 m, it will be tilled at least twice per year.

The material in Cell 2 originates from various sources and will be kept in distinct areas to avoid mixing of piles when tilled. As long as the material is greater than 0.30 m, it can be driven on by machinery to distribute and till material within the cell (0.30 m required to protect the liner from damage).

If the material passes the *Canada-Wide Standard for Petroleum Hydrocarbons in Soil* for Industrial Sites (Table 2-1), analytical results will be provided to the Branch and, once approval is given, it will be used within the mine site industrial area for fill or reclamation activities.

Table 2-1 Summary of Tier 1 Levels (mg/kg) for Industrial Site Surface Soil

Land Use	Soil Texture	Fraction 1	Fraction 2	Fraction 3	Fraction 4
Industrial	Coarse-grained	310	760	1700	3300
	Fine-grained	660	1500	2500	6600

*Where F1 = Fraction 1, nC6 to nC10; F2 = Fraction 2 >nC10 to nC16; F3 = Fraction 3 >nC16 to nC34; F4 = Fraction 4 >nC34.

The pH of the contaminated material will be kept between 6.5 and 8.5. pH will be measured by paste pH using a distilled water mixture, measured by on-site pH meters and confirmed with independent laboratory analytical results as detailed below.

3 Monitoring

3.1 Soil

The LTF will be monitored at least every two weeks from April 1st to October 31st and more often during inclement weather. The on-site Environmental Technician will fill out a checklist (see Appendix C) each monitoring period, and copies of the completed checklists will be kept for a minimum of three years.

After initial characterization, interim sampling will be conducted annually or as recommended by Lorax Environmental. Analytical results will be kept on-site and in the YZC corporate office for a minimum of three years.

Sampling will be conducted as per the *Yukon Protocol for the Contaminated Sites Regulation under the Environment Act: Draft Protocol No. 11: Sampling Procedures for Land Treatment Facilities* (provided in Appendix D).

Samples will be analyzed by Maxxam Analytics, or an alternate accredited laboratory, under the following requirements outlined in Table 3-1.

Table 3-1 Analytical Requirements for Industrial Site Surface Soil

Volume required	Analysis*
1 x 125 mL glass jar	F1
1 x 125 mL glass jar	F2-F4
1 x 125 mL glass jar	200 Mesh

*Where F1 = Fraction 1, nC6 to nC10; F2 = Fraction 2 >nC10 to nC16; F3 = Fraction 3 >nC16 to nC34; F4 = Fraction 4 >nC34; 200 mesh = percentage >75 µm, and <75 µm.

3.2 Water

Water quality in the collection sump will be monitored as needed for discharge, and the following parameters must be met under the YZC Water Licence QZ01-051 and Contaminated Sites Regulations Schedule 3 (Table 3-2) prior to discharge.

Table 3-2 Water Quality Standards

Parameter	Limit (mg/L)
TSS	15
Ammonia Nitrogen	2.5
Total Arsenic	0.10
Total Cadmium	0.02
Total Copper	0.20
Total Lead	0.20
Total Nickel	0.50
Total Selenium	0.015
Total Zinc	0.50
VPH _w	1.5
LEPH _w	0.5

Samples will be analyzed at Maxxam Analytics, or alternate accredited laboratory, as per the following analytical requirements outlined in Table 3-3.

Table 3-3 Water Quality Analytical Requirements

Volume required	Analysis
1 x 250 mL plastic bottle	Total Metals
1 x 250 mL plastic bottle	Dissolved Metals
1 x 1 L plastic bottle	Nutrients/Physical Parameters
3 x 40 mL vials	BTEX/VPH
1 x 500 mL amber glass bottle	LEPH/HEPH
2 x 250 mL amber glass bottle	LEPH/HEPH

Appendix A Land Treatment Permit No. 4202-24-022



DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon

Certified true copy of original Permit No: 4202-24-022
Date: 19 Sept 07 Initials: JCM

LAND TREATMENT FACILITY PERMIT

Issued for the Operation of a Land Treatment Facility Pursuant to
Part 9 of the *Environment Act* and Part 5 of the *Contaminated Sites Regulation*

Permittee: Yukon Zinc Corporation
Mailing Address: #701 – 475 Howe Street, Vancouver, BC V6C 2B3
Site Location: Wolverine Project, 280km ENE of Whitehorse
(Lat. 61°25' N, Long. 130°7' W)
Phone/Fax: (604) 682-5474 ext. 246 / (604) 682-5404

In accordance with your application, your application for amendment and the following documents:
➤ Memorandum from Melissa Kirby to Matthew Nefstead, dated August 29, 2007, entitled "LTF 4202-24-022 Amendment Application",

Yukon Zinc Corporation, represented by yourself, is hereby permitted to operate a Multi-Use Land Treatment Facility (a "facility") for the collection, storage and treatment of soil and/or liquid contaminated with petroleum hydrocarbons, hereinafter referred to as contaminated material, subject to the following definitions and conditions:

PART 1. DEFINITIONS

1. In this permit, the following terms shall have the following meanings:
 - a) "facility" is the entire developed area of the Land Treatment Facility, including the staging cells, treatment cells and all access roads;
 - b) "prepared area" is that area where an impermeable liner has been installed; and
 - c) "treatment cell" is a designated area in which contaminated material is placed for treatment.

PART 2. GENERAL CONDITIONS

1. The permittee shall comply with any applicable requirements in all federal, territorial and municipal legislation, including the *Environment Act*, the *Contaminated Sites Regulation*, the *Special Waste Regulations* and the *Yukon Environmental and Socio-Economic Assessment Act*.
2. The permittee shall ensure that all associated personnel (employees, contractors or volunteers) involved in the operation of the facility are aware of the conditions and requirements specified in this permit, and shall make a copy of this permit available to all personnel when working at the facility.

3. The permittee shall allow an environmental protection officer, at any reasonable time, to enter any place or premise under the permittee's ownership or occupation, other than a private dwelling, and inspect any activity which is subject to this permit.
4. The permittee shall provide notice in writing to the Environmental Programs Branch (the "Branch") prior to any significant change of circumstances at a permitted operation, site or business, including without limitation:
 - a) closure of the facility;
 - b) a change in the ownership of the facility;
 - c) collecting, storing or treating contaminated material other than that authorized by this permit;
or
 - d) a change in the mailing address, site location or phone number of the permittee.
5. The permittee shall ensure that all associated personnel (employees, contractors or volunteers) involved in the handling or management of any contaminated material covered by this permit receive the appropriate training for the purposes of operating the facility and carrying out the requirements of this permit.
6. Where conflicts exist between the application for a permit, land treatment facility plans, closure plans and this permit, the permit shall prevail. However, where no conflicts exist, the permittee shall ensure that the facility is operated in accordance with the permit application and accompanying documents.
7. All sampling must be conducted in accordance with approved protocols. Sample collection must be carried out by trained personnel using appropriate equipment.
8. All analytical testing required by this permit must be performed by a laboratory accredited by the Canadian Association of Environmental Analytical Laboratories (CAEAL).

PART 3. CONSTRUCTION

1. The permittee shall not construct or operate a facility on any portion of land where:
 - a) The slope is greater than 6%;
 - b) The seasonal high water table is less than 3 metres below the surface;
 - c) The facility would be within 100 metres of a surface water body;
 - d) The land is identified as being within a 25 year floodplain; or
 - e) Residential property lines or buildings are less than 60 metres away.
2. The permittee shall ensure that an impermeable liner is placed beneath the cells, installed according to the manufacturer's specifications, and maintained as needed, and that it is firmly anchored in the berms surrounding all sides of each cell.
3. In accordance with the permit application and supporting documents:
 - a) the facility shall consist of:
 - i. 1 treatment cell, with dimensions of 5 metres by 28 metres and having an approximate capacity of 60 m³;

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- ii. 1 treatment cell, with maximum approximate dimensions of 50 metres by 55 metres and having an approximate capacity of 382 m³;
 - iii. 1 treatment cell, with maximum approximate dimensions of 35 metres by 55 metres and having an approximate capacity of 264 m³;
 - b) the maximum height of piles of contaminated material within the facility shall be 0.5 metres; and
 - c) the maximum total capacity of the facility shall be 706 m³.
4. Prior to altering the size or number of cells or the capacity of the facility, the permittee shall apply for and obtain an amendment to this permit from the Branch.
 5. The permittee shall construct and maintain natural or engineered berms to prevent the escape of contaminated material, runoff and/or leachate from the cells. The height and permeability of such berms must be sufficient to contain all contaminated material placed in the cells and any runoff or leachate generated.
 6. The permittee shall construct and maintain ramps to allow equipment to access the cells without damaging or degrading the berms or the liner(s).
 7. The permittee shall construct and maintain diversion berms and/or ditches, as required, to ensure that runoff cannot enter the cells.
 8. The permittee shall secure the facility to prevent access by unauthorized persons.
 9. The permittee shall post a sign at the entrance to the facility identifying that the facility contains contaminated material.

PART 4. SAMPLING AND ANALYSIS

1. The permittee shall ensure that samples of incoming contaminated material from each source are analyzed for petroleum hydrocarbons within 30 days of the acceptance of the material.
2. If the permittee has reasonable grounds to believe that incoming contaminated material may contain contaminants other than petroleum hydrocarbons, the permittee shall ensure that laboratory analysis for those contaminants is carried out in addition to analysis for petroleum hydrocarbons.
3. The permittee shall ensure that analytical results establishing the type and level of contaminants in incoming contaminated material are received prior to initiating treatment of that material.
4. Should analysis of the incoming contaminated material show that it has a hydrocarbon content of 30,000 parts per million or more, or is otherwise considered a special waste, the permittee shall inform the Branch within five (5) days of receipt of the analytical results. Within 30 days of its acceptance at the facility, the permittee shall either remove the special waste from the facility or obtain a special waste permit from the Branch which authorizes the handling and/or treatment of this special waste material.

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Date: 19 Sept. 07 Initials: JCM

5. Should analysis of incoming contaminated material show that it contains contaminants other than petroleum hydrocarbons above any of the standards for those contaminants in the Yukon *Contaminated Sites Regulation*, the permittee shall contact the Branch for direction on the disposal of the material within five (5) days of receipt of the analytical results, and shall remove the material from the facility within 30 days of receipt of the analytical results or as directed by the Branch.
6. The permittee shall develop and implement a sampling and monitoring program for all contaminated material being treated at the facility, in accordance with all applicable guidance or protocols issued by the Branch.
7. The permittee shall ensure that the pH of the contaminated material is tested when the material is placed in the facility and that the test results are submitted to the Branch. Thereafter, the permittee shall ensure that the pH of the contaminated material is tested whenever other analyses are performed or as otherwise required by the Branch.

PART 5. OPERATION

1. Only contaminated soil generated by the permittee's own activities may be collected, stored or treated at the facility. Contaminated liquids, other than runoff from soil in the facility, may not be collected, stored, or treated at the facility.
2. The permittee shall ensure that contaminated material from different sources is handled, stored and treated separately except as authorized by this permit or as directed by an environmental protection officer.
3. The permittee shall ensure that no contaminated material is mixed with special waste, treated or non-contaminated material, except as authorized by this permit or as directed by an environmental protection officer.
4. The permittee shall ensure that contaminated material is transferred within the facility in a manner that prevents leaks or spills.
5. If the height of the contaminated material within a cell exceeds 0.15 metres, the permittee shall till or turn the material, using appropriate equipment, at least twice per year, and preferably once per month from April through October, or as directed by an environmental protection officer.
6. The permittee shall ensure that there is sufficient separation between piles of contaminated material to allow equipment to access each pile and to prevent inadvertent mixing of piles of material from different sources or containing different levels or types of contamination.
7. The permittee shall ensure that all berms are properly maintained and that berms are repaired as soon as practicable upon noting any deficiencies, or as directed by an environmental protection officer.
8. The permittee shall ensure that no contaminated material is placed on the ramp(s) into the cells or on access road(s) into or within the facility.
9. The permittee shall maintain the pH of the contaminated material at the facility between 6.5 and 8.5.

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10. The permittee shall not remove any material from the facility without the prior written approval of the Branch. Before approval will be given, the permittee must submit analytical results for the material to be removed in accordance with *Protocol 11: Sampling Procedures for Land Treatment Facilities*.

PART 6. SPILLS

1. The permittee shall ensure that substances are stored or handled so as not to cause spills, leakage, leaching or other discharges or releases of the substances from their storage containers, malfunctioning equipment, or other sources.
2. The permittee shall contact either an Environmental Protection Officer or the 24-hour Yukon Spill Report Centre (867-667-7244), as soon as possible under the circumstances, in the event of a release, spill, unauthorized emission, discharge or escape of any material listed in the Spills Regulations.
3. The permittee shall ensure that appropriate clean-up equipment (such as sorbent, shovel, broom, bucket, gloves, boots, etc.) is in a readily available location on site.
4. The permittee shall ensure that emergency spill procedures are written down and available to all associated personnel when working on-site and that all associated personnel are familiar with those procedures.

PART 7. CLOSURE

1. At a minimum of 30 days prior to the intended closure of the facility, the permittee shall submit a detailed Closure Plan to the Branch which includes a schedule for decommissioning the facility, the results of sampling demonstrating the level of contaminants in all soil being treated in the facility, the intended disposition of all soil being treated at the facility and any other information required by the Branch.
2. The permittee shall obtain the Branch's written approval of the Closure Plan prior to the commencement of any work to close the facility.
3. All work to close the facility shall be carried out in accordance with the Closure Plan approved by the Branch.

PART 8. INSPECTIONS, RECORD KEEPING AND REPORTING

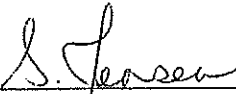
1. The permittee shall ensure that the facility is inspected every two weeks from April 1 to October 31 of each year, that the facility is maintained in good working order, and that the Branch is notified of any irregularities at the facility. The permittee shall immediately undertake appropriate remedial action to correct any such irregularities.
2. The permittee shall submit an annual report to the Branch on or before March 31st which describes activities undertaken at the facility in the previous calendar year. The report shall include, but not be limited to, information which addresses each of the following:
 - a) the origin of all contaminated material being treated;

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Date: 19 Sept 07... Initials: JCM

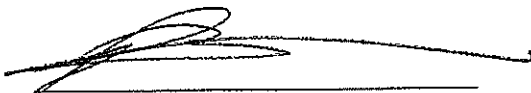
- b) the volume of contaminated material accepted from each source;
 - c) a figure(s) showing the entire facility including the location within the facility of contaminated material from each source;
 - d) the total volume of contaminated material being remediated;
 - e) soil and/or liquid analysis results for all contaminated material accepted for treatment or removed from the facility in that year, as applicable;
 - f) results of any interim sampling of soil and/or liquid conducted in that year;
 - g) results of any confirmatory sampling of soil and/or liquid conducted in that year for the purpose of determining if the soil or liquid was remediated;
 - h) the volume of material removed from the facility and the location of the receiving site(s);
 - i) details of any tillage performed (including dates, depth and area tilled, and equipment used);
 - j) details of any nutrients added (including type, dates, and quantity); and
 - k) a sampling and analysis plan for the following year.
3. The permittee shall ensure that the annual report described in section 8.2 notes and describes any case where a requirement of section 8.2 does not apply (for example, if no nutrients were added in the previous calendar year). The permittee shall submit the annual report described in section 8.2 even if no activity was undertaken in the previous calendar year.
4. The permittee shall keep all records on which each annual report is based for a minimum of three years and shall make them available, upon request, for inspection by an environmental protection officer.
5. An environmental protection officer may take and analyze samples, or may direct the permittee to have samples taken and analyzed, to establish or confirm the type and level of contaminants in:
- a) contaminated material accepted for treatment at the facility;
 - b) contaminated material being treated at the facility;
 - c) contaminated material or remediated material to be removed from the facility; and
 - d) the native soil at the facility.

THIS PERMIT REPLACES PERMIT #24-022 ISSUED ON FEBRUARY 6, 2006 AND SHALL EXPIRE ON DECEMBER 31, 2009.


A/ Director, Environmental Programs Branch
Department of Environment

Sept. 19/07
Date

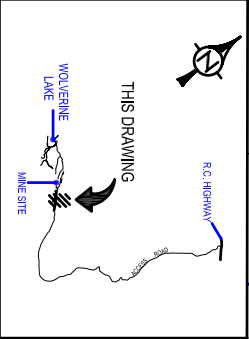
I, Pamela Ladymar (print name clearly), authorized representative of Yukon Zinc Corporation, have read and understood the terms and conditions of this permit.


Authorized Representative
Yukon Zinc Corporation

Sept 12, 2007
Date

DEPARTMENT OF ENVIRONMENT
ENVIRONMENTAL PROGRAMS
Whitehorse, Yukon
Certified true copy of original
Date: 19 Sept. 07. Initials: SLM

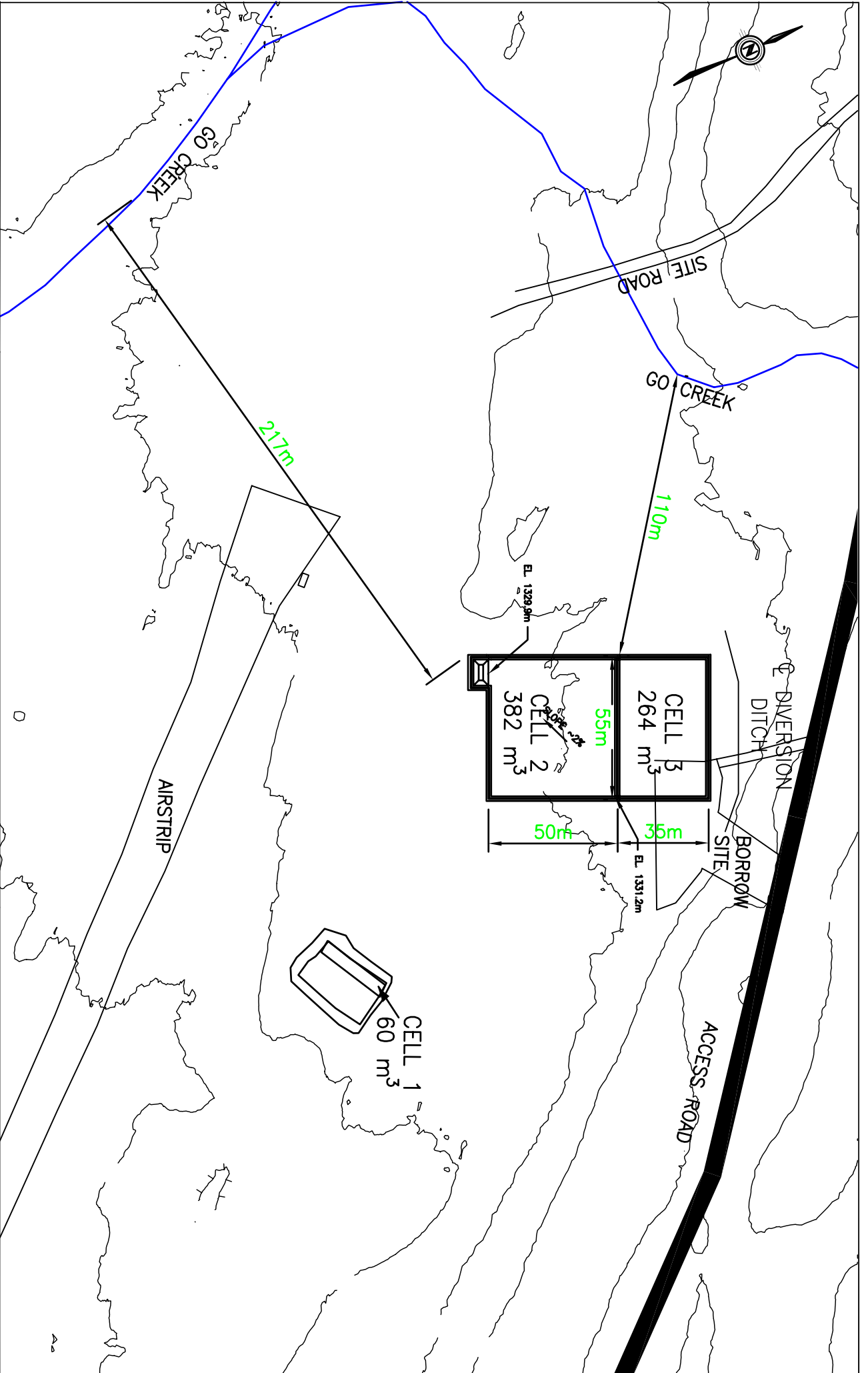
Appendix B As-built Drawings of LTF

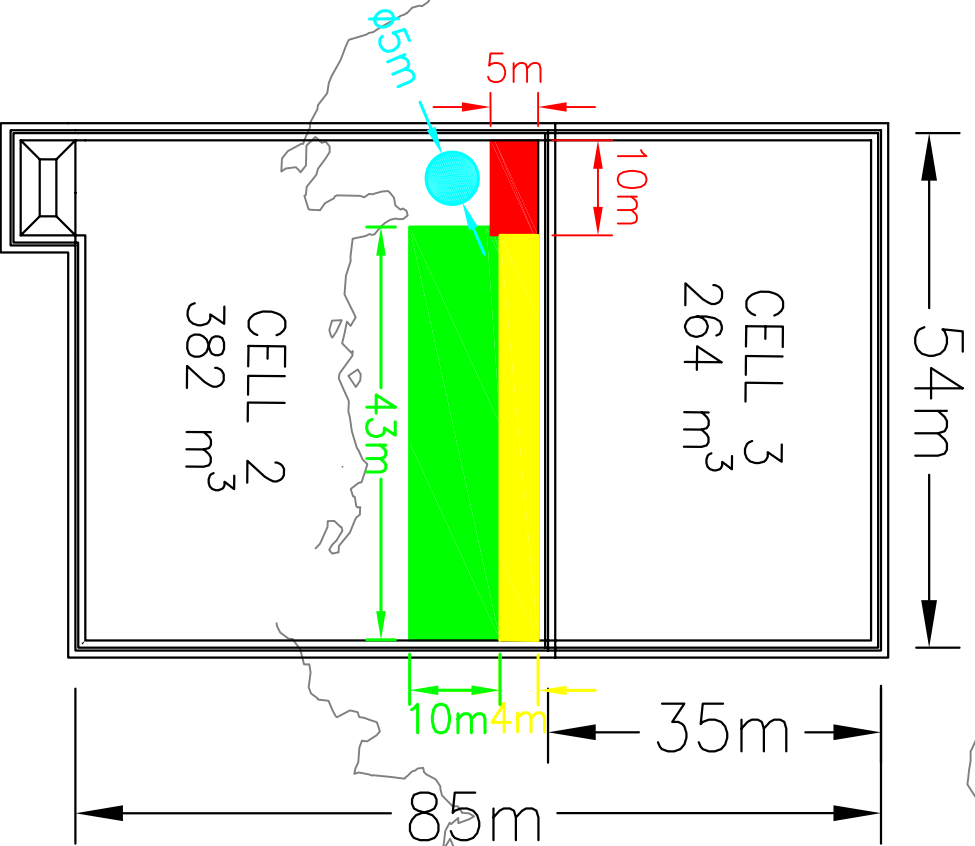


Yukon Zinc CORPORATION

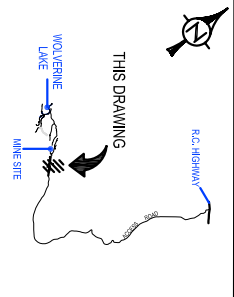
DWG. CHECK	
DESIGNED BY	MJM
DRAWN BY	RMO
DATE	OCT 11/07
SCALE:	1 : 50,000
PROJECT NO.	1614

WOLVERINE MINE PROJECT	
LTF #4202-24-022	
TREATMENT CELLS	
DRAWING NO.	
REV.	





- 21 m³ FROM CELL 1
- 160 m³ FROM 2006 DIESEL SPILL
- 170 m³ FROM 2007 FUEL CACHE SPILL
- 10 m³ FROM 2007 ACCESS ROAD CONSTRUCTION



Yukon Zinc Corporation

DWG. CHECK		WOLVERINE MINE PROJECT	
DESIGNED BY	MAJM	SOIL LOCATIONS WITHIN CELL 2	
DRAWN BY	RMO	OCTOBER 2007	
DATE	OCT 11/07		
SCALE:	1 : 800	DRAWING NO.	
PROJECT NO.	1614	REV.	

Appendix C LTF Monitoring Checklist

LTF Monitoring Checklist

Date: _____

Environmental Technician: _____

Time: _____

Weather Conditions: _____

- Signs posted
- Spill kit in place
- Berms in good condition
- Pile height <0.5 m
- Seepage check
- Water level below upper liner limit

Water moved to empty drums for subsequent treatment: Yes

No

How many drums were filled: _____

Tilling required: Yes

No

Tilling complete Yes Date: _____

No

Separation between piles maintained

Samples taken: Yes Date: _____

No

Comments/Actions Required:

Appendix D

Draft Protocol 11: Sampling Procedures for Land Treatment Facilities

**PROTOCOL FOR THE CONTAMINATED SITES REGULATION
UNDER THE ENVIRONMENT ACT**

**PROTOCOL NO. 11:
Sampling Procedures for Land Treatment Facilities**

Prepared pursuant to Part 6 – Administration, Section 21, *Contaminated Sites Regulation*

Approved: **DRAFT**

Manager, Standards and Approvals Section
Environmental Programs Branch
Department of Environment

Date: **DRAFT**

SAMPLING PROCEDURES FOR LAND TREATMENT FACILITIES

1.0 Introduction

Land treatment facilities are used to remediate soil contaminated with petroleum hydrocarbons. When soil is removed from a land treatment facility, it must be clean enough to be used as fill or cover at other sites. Some contaminants cannot be remediated in a land treatment facility, and not all contaminants remediate at the same rate. For these reasons, it is important to correctly characterise the contaminants in the soil when it is placed in the facility, to monitor the progress of its remediation, and to ensure that remediation was successful before the soil is removed.

Section 21(1) of the *Contaminated Sites Regulation* authorizes the Minister to approve or adopt protocols for sampling soil, sediment, water, snow and other environmental media. In accordance with Section 21(1), this protocol has been designed to ensure that standardized and consistent approaches to sampling procedures are used when sampling soil at land treatment facilities.

2.0 Initial Characterization

If available site assessment data is not sufficient to characterize contaminated material destined for a land treatment facility at a rate of one sample for every 50 m³ of material, the material should be sampled as it is excavated to meet that sample density. If field testing results or knowledge of site characteristics or spill conditions suggest that the material may be special waste, the required sample density is one sample for every 10 m³ of material. If any of the material is confirmed to be special waste, the land treatment facility receiving the material must hold a special waste permit, or the material must be removed from the facility according to the requirements of the land treatment facility permit.

3.0 Interim Sampling

Once contaminated material has been sampled, excavated, and placed in a land treatment facility, there may be a need to analyze samples of the soil to help gauge the rate of soil remediation. Provided that this interim sampling and analysis is not required by a permit or other legal obligation, any sample density may be used, keeping in mind that a greater number of samples will allow for greater confidence in the accuracy of the results.

Interim sampling is to be used only to estimate the rate of remediation; it may not be sufficiently rigorous to be considered confirmatory sampling as described below. In the event that interim sampling conducted at a sample density lower than that normally required to demonstrate regulatory compliance shows that the soil has been sufficiently remediated to meet the criteria specified in Table 1, the proponent must still conduct proper confirmatory sampling as described below in order to demonstrate compliance with the *Contaminated Sites Regulation*.

In most cases where soil has been transferred to a land treatment facility, prior analytical testing will have been completed to determine the initial or interim level of contamination in the soil. In conjunction with knowledge of the remediation activities being carried out at the site (tillage, nutrient/water addition, etc.), and of the climate conditions during the period of remediation, this information can be used to predict the approximate duration of treatment that will be necessary to reduce the contaminant levels to meet the criteria specified in Table 1.

4.0 Confirmatory Sampling

If previous analytical results, duration and type of remediation activities, and site conditions indicate that a given stockpile has likely remediated sufficiently so that the soil will meet the criteria specified in Table 1, the proponent should conduct confirmatory sampling, taking one representative sample for every 50 m³ if the material is destined for a site with agricultural land use, or one representative sample for every 100 m³ if the land use at the destination is not agricultural. Representative samples are formed by combining a number of grab samples from throughout the volume of soil to be represented. The material may not normally be removed from the facility until the contaminant levels are below the criteria specified in Table 1.

Table 1. Criteria for removal of material from a land treatment facility.

Hydrocarbon Fraction:	F1	F2	F3	F4
Standard:	130	450	400	2800

If benzene, toluene, ethylbenzene, xylene (BTEX), polycyclic aromatic hydrocarbon (PAH) compounds, or any other contaminants were detected in excess of the applicable CSR standards at the initial characterization stage, confirmatory samples must also be analyzed for those compounds. The material may not normally be removed from the facility until contaminant levels are below the lowest generic or matrix numerical standards for those substances in the CSR.

When confirmatory samples indicate that the appropriate criteria have been met, the land treatment facility operator must submit the results to the Environmental Programs Branch for approval before the material may be removed from the facility.

Under certain circumstances, it may be permissible to remove contaminated material from a land treatment facility before the criteria referenced above are met. Examples include depositing soil meeting the CSR standards for industrial land use on land considered industrial, or transferring material to another facility for further treatment. The Environmental Programs Branch will consider such circumstances and approve removal on a case-by-case basis.

5.0 Decommissioning

When a land treatment facility is decommissioned, the site must be shown not to be contaminated. In the case of a facility with an artificial liner, this requires sampling the native soil below the liner; if a natural liner is used, the liner soil itself is sampled.

Samples should be taken such that one sample represents 100 m³ of soil. The site should be divided into a grid with squares no larger than 26 x 26 m. In each grid square, 5 grab samples taken from a depth of no more than 15 cm should be combined to form a single sample representative of the soil in that grid square. The five samples should be arranged roughly in a quincunx pattern (as shown in Figure 1 below) to maximize coverage. These dimensions of 26 m x 26 m x 15 cm make for a soil volume of approximately 100 m³ per grid square.

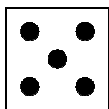


Figure 1. A quincunx pattern. Five samples taken in this pattern may be combined into one representative sample to represent 100 m³ of native soil when decommissioning a land treatment facility.

6.0 Effective Date

The effective date of this protocol shall be **DRAFT**.

7.0 Additional Information

For more information on contaminated sites, please contact:

Coordinator, Contaminated Sites
Environmental Programs Branch (V-8)
Department of Environment
Government of Yukon
Box 2703, Whitehorse, YT Y1A 2C6

T: 867-667-5851 or
1-800-661-0408 ext. 5851
F: 867-393-6205
E: ruth.hall@gov.yk.ca

Appendix B Environmental Monitoring reports

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: June 12 th – June 18 th , 2007	Inspector(s): James Spencer
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
12-Jun-07	Cloudy in morning, sunny and hot in the afternoon, rain in the evening 18
13-Jun-07	Sunny and warm in morning, cloudy in afternoon, rain in the evening 14
14-Jun-07	Cloudy with some sun, showers in the afternoon, clearing in the evening. 14
15-Jun-07	Mixed Sun and cloud, small storm systems all day 17
16-Jun-07	Mixed Sun and cloud, small storm systems all day 16
17-Jun-07	Mixed Sun and cloud, small storm systems all day 15
18-Jun-07	Rain heavy at times, mixed sun and cloud 14
Part 2 – Site Assessment	
Activity: Windrowing of hydrocarbon contaminated soil for summer remediation period.	
Site is over capacity for the amount of material stored there and no windrows are in place, also no barrel to contain any overflow if water capacity is limited. Material has collected on the edge of the berm outside of the liner. See photo #1.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: Med	
Photos Attached: 4	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: Move contaminated material off of the cell sides, remove any excess material to a soil storage area that exceeds the 0.5 m height. Soil to be turned and windrowed to encourage bioremediation	
Mitigation Condition: June 11-16, P; June 18, G	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Monitor for water overflow	
Monitoring Frequency: During rain events or if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

Wolverine Project Environmental Inspection Form – Photos

Site Name: LTF



Photo 1 06/16/07 Containment cell prior to windrowing; facing east



Photo 2 06/18/07 Containment cell after windrowing; facing west



Photo 3 06/18/07 Containment cell after windrowing; facing south-west

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: June 26 th - July 2 nd , 2007	Inspector(s): Jennie Gjertsen
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
26-Jun-07	18
27-Jun-07	17
28-Jun-07	17
29-Jun-07	15
30-Jun-07	18
1-Jul-07	12
2-Jul-07	15
Part 2 – Site Assessment	
Activity: Windrows in place and removal of tarp has resulted in pooling of water during heavy rain fall. Water is threatening to overflow the liner.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: High	
Photos Attached: LTF	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: Re-tarping of LTF during rainfall events and removal when sunny.	
Mitigation: June 29 th : 800 litres of contaminated water removed to used/empty fuel barrels. Site remains uncovered until word from Vancouver office regarding compliance standards for re-tarping.	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Monitor for excess water flow	
Monitoring Frequency: During rain events or if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



Photo 1 07/01/07 Water accumulating in treatment cell: Material from May 24 fuel spill in background; facing south east

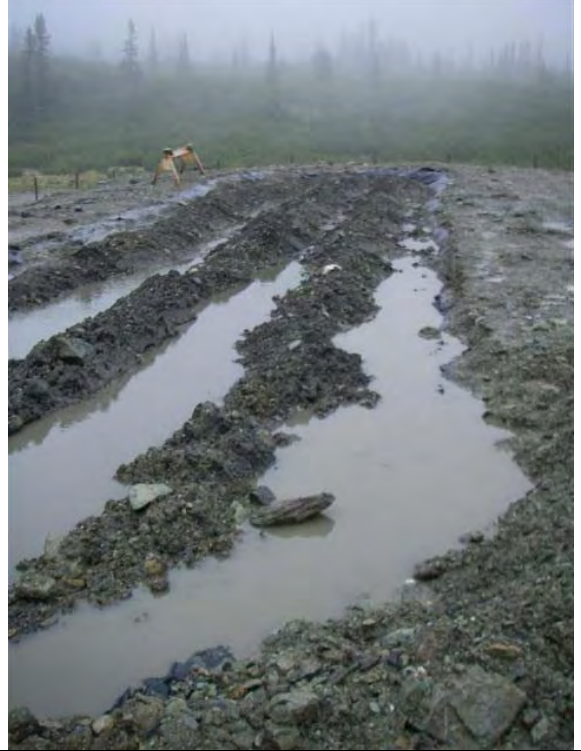


Photo 2 07/01/07 Water accumulating in treatment cell: facing east

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: July 3 rd – July 9 th , 2007	Inspector(s): Jennie Gjertsen
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
3-Jul-07	18
4-Jul-07	16
5-Jul-07	18
6-Jul-07	15
7-Jul-07	15
8-Jul-07	15
9-Jul-07	20
Part 2 – Site Assessment	
Activity: 400 litres of contaminated water was removed from LTF to prevent overflow from liner. Barrels of contaminated water were moved into the centre of the LTF to act as a high point for tarping, although not achieving the desired affect. Water pooling on tarp needs to be removed after any rainfall to prevent more water entering LTF.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: Med	
Photos Attached: LTF	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: Re-tarping of LTF during rainfall events and removal when sunny.	
Mitigation Condition: Fair	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Monitor for excess water flow	
Monitoring Frequency: During rain events or if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



**Photo 1 07/07/07 Water containment in drums:
facing east**



**Photo 2 07/07/07 Water containment in drums:
facing ENE**

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: July 10 th - July 16 th , 2007	Inspector(s): Jennie Gjertsen
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
9-Jul-07	20
10-Jul-07	13
11-Jul-07	16
12-Jul-07	12
13-Jul-07	20
14-Jul-07	22
15-Jul-07	25
Part 2 – Site Assessment	
Activity: Windrows are still in place; site has been tarped and untarped several times. Nine barrels (1800L) of contaminated water have been removed.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: Med	
Photos Attached: LTF (1)	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: Some way of tarping LTF for easier removal/replacement. The alternative would be to even out windrows and make LTF into a temporary storage facility to allow maintenance to be minimized. Windrows need to be turned monthly.	
Mitigation Condition: fair; pooling of water on top of tarp requires frequent removal to prevent pulling tarp from edges.	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Monitor for excess water flow	
Monitoring Frequency: During rain events or if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



Photo 1 07/10/2007 Tarpred LTF cell: facing east

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: July 17 th - July 23 rd , 2007	Inspector(s): Jennie Gjertsen
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
17-Jul-07	Mixed Sun and cloud, warm, rain in evening 20
18-Jul-07	Mixed Sun and cloud, warm 20
19-Jul-07	Fog in morning then sunny followed by cloud in afternoon 20
20-Jul-07	Mixed sun and cloud, no rain 22
21-Jul-07	Light rain in morning, sunny afternoon, heavy rain early evening 20
22-Jul-07	Mixed sun and cloud, no rain 19
23-Jul-07	Rain overnight, clearing to sun in afternoon, late afternoon showers 21
Part 2 – Site Assessment	
Activity: Windrows are still in place; Barrels have been removed from the cell to prepare for turning in to a storage facility that will shed water, 9 barrels slung out with excavator on to pad. Tarp replaced to gather the majority of pooling water.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: Med	
Photos Attached: No Photo	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: We will even out windrows and make LTF into a temporary storage facility to allow maintenance to be minimized. Not sure yet on method.	
Mitigation Condition: fair, pooling of water on top of tarp requires frequent removal to prevent pulling tarp from edges.	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Monitor for excess water flow	
Monitoring Frequency: During rain events or if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: July 24 th - July 30 th , 2007	Inspector(s): James Spencer
Site Name: LTF	Location/Co-ordinates: East side of airstrip built up on knoll
Site Location Description: The LTF was designed to hold and treat 90 m ³ of soil within a 30 m long x 6 m wide containment cell(actual as-built size is 28 m long x 5 m wide), with the soil windrowed to 0.5 m high. The LTF has been lined with a layer of clay to allow turning of the windrows monthly, without damaging the liner.	
Weather Conditions:	
24-Jul-07	Sunny most of day until showers late afternoon 22
25-Jul-07	Rain at night, Rain in afternoon, sunny in morning 18
26-Jul-07	Mixed Sun and scattered cloud, No rain, black flys, cool 3 deg. In morning 22
27-Jul-07	Rain throughout day, short sunny breaks 18
28-Jul-07	Sunny all morning thunder showers threatening at 2pm 22
29-Jul-07	Sunny all day, isolated rain showers 23
Part 2 – Site Assessment	
Activity: Windrows have been flattened, tarps were placed on top to separate from capping material, 13 loads (~100m ³) of material used to cap the LTF in a convex shape. Two 30x50 tarps placed on top and drainage in place to shed water.	
Site Description: Treatment cell for ~60 m ³ of hydrocarbon contaminated soil	
Assessed Risk: Low	
Photos Attached: LTF (3)	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: When road is through we will re-excavate and separate good material. Contaminated material will be shipped out.	
Mitigation Condition: Excellent, all water is shed and draining away from the LTF cell	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: N/A	
Monitoring Frequency: Only if condition changes	
Reporting Requirements: LTF Permit 4202-24-022	

Wolverine Project Environmental Inspection Form – Photos

Site Name: LTF



Photo 1 07/26/07 Placing clean soil over the flattened and tarped contaminated material; facing east



Photo 2 07/26/07 Placing clean soil over the flattened and tarped contaminated material; facing north



Photo 3 07/26/07 Final tarped cell; facing east

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: September 12 th – 18 th , 2007	Inspector(s): James Spencer
Site Name: Installation of new LTF cell	Location/Co-ordinates: North-east side of airstrip
Site Location Description: An original LTF was undersized, and consequent fuel spills have resulted in ~400 m ³ of hydrocarbon contaminated material requiring storage & bioremediation. As such, an amendment to LTF permit 4202-24-022 was received in September, 2007. This 50 m x 55 m cell is the result of the amendment.	
Weather Conditions:	
12-Sep-07 Sunny and warm	14
13-Sep-07 Sunny and warm	14
14-Sep-07 Mixed sun and cloud	13
15-Sep-07 rain showers all day, clearing in afternoon	11
16-Sep-07 Bright sunny	14
17-Sep-07 Cool and overcast, dusting of snow on high peaks	9
18-Sep-07 cool and light flurries	8
Part 2 – Site Assessment	
Activity: Construction of LTF cell	
Site Description: Area north east of the airstrip will be cleared and lined, with a water collection sump at the west side.	
Assessed Risk: Low	
Photos Attached: LTF (7)	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: The water level in the sump needs to be monitored as per the “LTF operation and monitoring manual”.	
Mitigation Condition:	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Soil needs to be placed in the LTF	
Monitoring Frequency: As weather events warrant, and at least twice a month April - October of each year	
Reporting Requirements: LTF Permit 4202-24-022	

Wolverine Project Environmental Inspection Form – Photos

Site Name: LTF



12/09/07 Clearing and grubbing of site (facing N)



13/09/07 Cleared and grubbing of site (facing W)



14/09/07 Sloping the cell to drain into the sump (N)



16/09/07 Sump, prior to liner installation (W)

Wolverine Project Environmental Inspection Form – Photos

Site Name: LTF



16/09/07 Geotech lined LTF cell, prior to liner installation (W)



16/09/07 Liner installation (NNE)



18/09/07 Completed LTF cell (W)

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: September 19 th – October 1 st , 2007	Inspector(s): James Spencer
Site Name: new LTF cell	Location/Co-ordinates: North-east side of airstrip
Site Location Description: An original LTF was undersized, and consequent fuel spills have resulted in ~400 m ³ of hydrocarbon contaminated material needed treatment. As such, an amendment to LTF permit 4202-24-022 was received in September, 2007. This 50 m x 55 m cell is the result of the amendment.	
Weather Conditions:	
23-Sep-07 mixed overcast flurries	-4
24-Sep-07 mixed rain and flurries	0
25-Sep-07 rain showers all day, clearing in evening	5
26-Sep-07 Overcast, foggy	-2
27-Sep-07 Overcast, foggy	-3
28-Sep-07 Some clearing still overcast with low ceilings	-1
29-Sep-07 coolish, broken cloud cover	-5
30-Sep-07 Cool snow flurries	-2
01-Oct-07 Overcast with sunny breaks	-1
Part 2 – Site Assessment	
Activity: Movement of soil into the LTF cell and extending the sump to maximize the liner. The initial sump was built smaller than the liner, and as such will be extended. The berms around the cell are also to be covered in dirt to lock in the liner. The water that has accumulated in the sump was pumped out into organics.	
Site Description: LTF cell north of the airstrip	
Assessed Risk: Low	
Photos Attached: LTF (5)	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: The water level in the sump needs to be monitored as per the “LTF operation and monitoring manual”.	
Mitigation Condition:	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Water treatment options are to be explored	
Monitoring Frequency: As weather events warrant, and at least twice a month April-October of each year	
Reporting Requirements: LTF Permit 4202-24-022	

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



09/27/07 Soil moved into the LTF (~15" height) facing north west



09/27/07 Soil moved into the LTF (~15" height) facing west



09/27/07 Old LTF cell, tarped; facing south-east



09/27/07 Old LTF cell, tarped; facing south

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



09/27/07 soil storage area, after soil removal – used tarps piled at west end; facing north

Wolverine Project Environmental Inspection Form

Part 1 – Site Description	
Date and Time: October 2 nd – October 9 th , 2007	Inspector(s): Mary McDougall
Site Name: new LTF cell	Location/Co-ordinates: North-east side of airstrip
Site Location Description: An original LTF was undersized, and consequent fuel spills have resulted in ~400 m ³ of hydrocarbon contaminated material needed treatment. As such, an amendment to LTF permit 4202-24-022 was received in September, 2007. This 50 m x 55 m cell is the result of the amendment.	
Weather Conditions:	
02-Oct-07 Overcast with sunny breaks	-2
03-Oct-07 Overcast with snow flurries	-5
04-Oct-07 Overcast with sunny breaks; windy and cold	-8
05-Oct-07 Overcast and continuous snow flurries; windy and cold	-4
06-Oct-07 High overcast, breaking clouds	-4
07-Oct-07 Flurries all day	-3
08-Oct-07 Flurries off and on all day	-2
09-Oct-07 High overcast, breaking clouds	-2
Part 2 – Site Assessment	
Activity: Tarping the soil in the cell to minimize contaminated water in the spring; folding the soil storage berm over itself to prevent snow accumulation	
Site Description: LTF cell north of the airstrip	
Assessed Risk: Low	
Photos Attached: LTF (5)	
Samples Taken:	
Additional Information Attached:	
Part 3 –Mitigation Requirements	
Mitigation Required: The water level in the sump needs to be monitored as per the “LTF operation and monitoring manual”.	
Mitigation Condition:	
Part 4 –Monitoring Requirements	
Follow-up Monitoring: Water treatment options are being explored with Filterco	
Monitoring Frequency: As weather events warrant, and at least twice a month April-October of each year	
Reporting Requirements: LTF Permit 4202-24-022	

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



10/07/07 Moving plywood on soil storage berm



10/07/07 Folding over the berm



10/07/07 Tarp over ½ of the stored soil in the LTF



10/07/07 Tear in the middle of the berm from being pulled over

**Wolverine Project
Environmental Inspection Form – Photos**

Site Name: LTF



10/07/07 Final folded over berm

**Appendix C Layfield Environmental Systems Ltd., Project
Completion QA/QC**

Layfield Environmental Systems Ltd.

**Project Completion QA/QC Package
for**

Yukon Zinc Corp. Landfarm Treatment Cell

Wolverine Mine Site, Yukon

Supply and Install of Enviro Liner 6030, LP 8 Geotextile

Prepared By: Jesse Langmo

Reviewed By: Fred Cross

Date Submitted: November 28, 2007



Layfield Environmental Systems Ltd.

Table of Contents

for

Yukon Zinc Corp.

Install of Enviro Liner 6030, LP 8

Wolverine Mine Site, Yukon

New Construction

1) Certificate of Acceptance of Soil Subgrade Surface	1 pg.
2) Certificate of Final Inspection and Acceptance	1 pg.
3) Enviro Liner 6030 As-Built Drawing and details	1 pg.
4) Geosynthetics Inventory Log	1 pg.
5) Geomembrane Deployment Log	1 pg.
6) Geomembrane Trial Seam Log	1 pg.
7) Geomembrane Seam Log	1 pg.
8) Geomembrane Seam Pressure Test Log	1 pg.
9) Geomembrane Vacuum / Air Lance Test Log	2 pgs.
10) Geomembrane Defect/Repair Log	2 pgs.
11) Enviroliner 6030 Mill Certificates and Shop QC	6 pgs.
12) Installation Warranty	2 pgs.





**CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE**

PROJECT NAME: Yukon Zinc Land Farm Treatment Cell
PROJECT NUMBER: 07C-107
OWNER: Yukon Zinc Corp.
LOCATION: Wolverine Mine Site (Air Strip)

I, the undersigned, a duly appointed representative of Layfield Environmental Systems Ltd. (LESL), have visually observed the soil subgrade described below, and found it to be an acceptable surface on which to install geomembrane.

This certification is based on observations of the surface of the subgrade only. No subterranean inspections or tests have been performed by Layfield Environmental Systems, and LESL makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Layfield Environmental Systems accepts no responsibility for conformance of the subgrade to this project's specifications.

The soil subgrade accepted on this date refers to its present condition. Any changes in the subgrade condition that result from the effects of inclement weather and/or other forces beyond the control of Layfield Environmental Systems and remedial work to correct the resulting deficiencies, will be the direct responsibility of the General Contractor.

Area Being Accepted: 55 m x 50 m (2750 m²) area of Land Farm Treatment Cell + 19.3 m x 19.3 m (335 m²) of Land Farm Treatment Sump

LAYFIELD ENVIRONMENTAL SYSTEMS REPRESENTATIVE:

Date: Sept. 16, 2007
Signature: [Signature]
Name: Cody Berg
Title: Project Supervisor

OWNERS REPRESENTATIVE:

Date: Sept 16 / 07
Signature: [Signature]
Name: Michael Pitts
Title: Camp Manager
Company: Yukon Zinc

CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE


PROJECT NAME: Wolverine Land Farm Treatment Cell
 PROJECT NUMBER: 07C-107 DATE: Sept 17/07
 OWNER: Yukon Zinc Corp.
 LOCATION: Wolverine Mine Site, Yukon Territory, Canada

Scope of Installation(s): **THE WORK**
Install approx - 3150 m² Enviro liner 6030 within
Land Farm Treatment Cell. Repair all damage from
rock truck transport.

Part 1 – LAYFIELD ENVIRONMENTAL SYSTEMS LTD.

I, Corby Berg, a duly appointed representative of Layfield Environmental Systems Ltd. (LESLS) have visually observed the installations (as outlined above), and have found the Work to be complete and free of defects and declare that the Work was completed in accordance with the project specifications, Layfield Environmental Systems' QC program and the terms and conditions of the contract.

Layfield Environmental Systems Representative:

Name: Corby Berg
 Title: Project Supervisor
 Date: Sept. 17/07 Signature: 

Part 2 – OWNER (or Representative)

I, Michael Pitts, a duly appointed representative of Yukon Zinc, do hereby take over and accept the installation(s) described above, and confirm that the work has been completed in accordance with the project specifications and the terms of the conditions of the contract.

I have evaluated and measured the work together with the Layfield Environmental Systems representative, and agree that the measurements shown are both true and correct, and that the installation has met our approval.

Owners Representative:

Name: Michael Pitts
 Title: Camp Manager
 Company: Yukon Zinc
 Date: Sept 17/07 Signature: Michael Pitts

Comments: _____

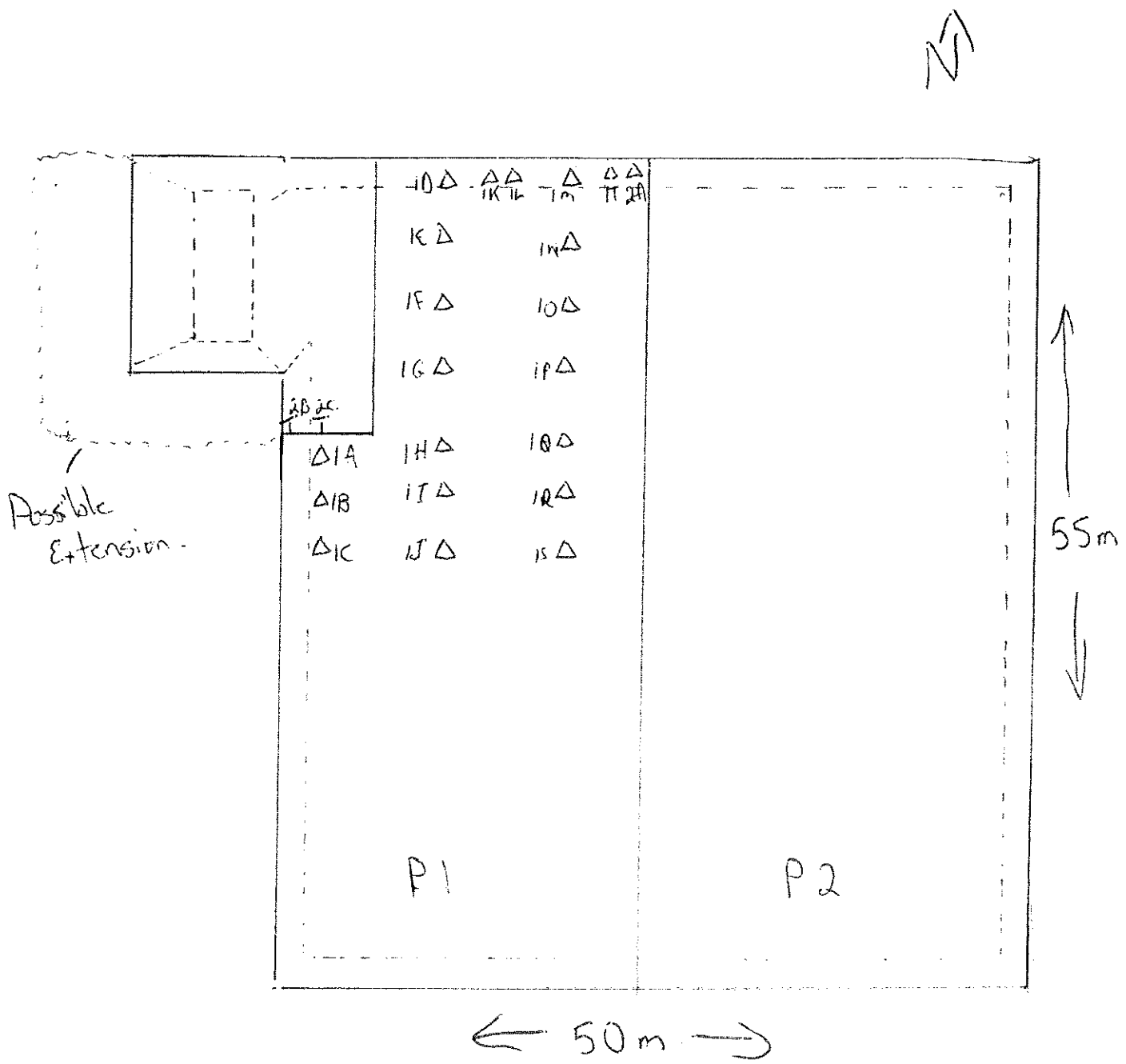
Geomembrane Manufacturing
Mechanically Stabilized Earth

Secondary Containment
Erosion / Sediment Control

Floating Covers
Baffle Curtains

Design & Construction Services
Moisture / Vapor Barriers

Project	<u>07C-107</u>	Calculated By	<u>Cosby Berg</u>	Date	<u>Sept 17/07</u>
Client	<u>Yukon Zinc Corp</u>	Checked By	<u>Ludarm Treatment Cell</u>	Sheet No.	<u>1</u>



60037



GEOMEMBRANE DEPLOYMENT LOG

PROJECT NUMBER: 07C-107

PROJECT TITLE: Land Farm Treatment Cell

OWNER: Yukon Zinc Corp

CONTRACTOR: Yukon Zinc

LOCATION: Wolverine Mine Site (Air Strip)

GEOMEMBRANE SECONDARY PRIMARY CLOSURE OTHER _____

SUBGRADE CONDITION (SURFACE COMPACTION, PROTRUSIONS, DESICCATION, EXCESSIVE MOISTURE):

REMARKS: Compacted pit run LPS top & bottom

DATE: Sept. 16/07
SHEET NUMBER: 1

DEPLOYMENT EQUIPMENT: Btl - Truck - Labour.

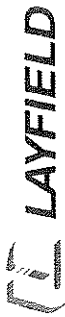
DESCRIPTION	PANEL LOCATION REFERENCE NUMBER <u>1</u>	PANEL LOCATION REFERENCE NUMBER <u>2</u>	PANEL LOCATION REFERENCE NUMBER <u>Sump</u>
PANEL/ROLL NUMBER	<u>P-1</u>	<u>P-2</u>	<u>Sump</u>
DEPLOYMENT LENGTH	<u>164'</u>	<u>164'</u>	<u>15'</u>
AMBIENT AIR TEMP.	<u>15°C</u>	<u>15°C</u>	<u>15°C</u>
VISUAL OBSERVATION	<u>Exhaust damage -</u>	<u>Good</u>	<u>Good</u>
OBSERVED OVERLAP	<u>4"</u>	<u>4"</u>	<u>15"</u>
CHECKED BY	<u>CB</u>	<u>CB</u>	<u>CB</u>
ADJACENT PANEL	N= <u>berm</u> S= <u>Berm</u> E= <u>P2</u> W= <u>Sump berm</u>	N= <u>berm</u> S= <u>berm</u> E= <u>berm</u> W= <u>P1</u>	N= <u>berm</u> S= <u>berm</u> E= <u>P1</u> W= <u>berm</u>

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

DESCRIPTION	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____	PANEL LOCATION REFERENCE NUMBER _____
PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
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PANEL/ROLL NUMBER			
DEPLOYMENT LENGTH			
AMBIENT AIR TEMP.			
VISUAL OBSERVATION			
OBSERVED OVERLAP			
CHECKED BY			
ADJACENT PANEL	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____	N= _____ S= _____ E= _____ W= _____

SUBMITTED BY: CB
DATE: Sept. 16/07



GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 67C-107 PROJECT TITLE: Land Farm Treatment Cell
 OWNER: Yukon Zinc Corp. CONTRACTOR: Yukon Zinc
 LOCATION: Wolverine Mine Site

PASSING TRIAL SEAMS

NO.	TIME	TECHID
TF #1	17:30 15:30	CB

SHEET NUMBER: 1

DATE: Sept 16/07

X FUSION
 _____ EXTRUSION
 _____ SOLVENT

SEAM NUMBER	SEAM SECTION # START POINT	FINISH POINT	APPROX. START TIME	AMB AIR TEMP	WELD TECH.	PREHEAT OR MACH SPEED	MACHINE TEMPERATURES		APPROX LENGTH WELDED	DISTR. NUMBER	CHK'D BY	REMARKS	NON-DESTRUCTIVE	
							DIGITAL SET WEDGE OR BARREL	DIGITAL SET WEDGE OR BARREL					TEST DATE	CHECKED BY
1/2	News	Sens	16:30	12°C	CB	820	740°	-	194'		CB		9-16	CB
1	Swamp	News	17:00	12°C	CB	820	740°	-	75'		CB		9-16	CB
/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
/	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DAILY TOTAL														

SUBMITTED BY: CB
 DATE: Sept 16/07

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM LOGS, 1 REF. HR. OR 1 POINT LOG TO BOX ON THE SEAM.
 LAYFIELD ENVIRONMENTAL SYSTEMS
 LS FORM 4

LAYFIELD GEOMEMBRANE VACUUM / AIR LANCE TEST LOG

PROJECT NUMBER: JAL-107 PROJECT TITLE: Land Seam Treatment Cell
 OWNER: Yukon Zinc Corp. CONTRACTOR: Yukon Zinc
 LOCATION: Wolverine Mine Site DATE: Sept 16/07

VACUUM BOX AIR LANCE _____ SHEET NUMBER: 1

SEAM NUMBER	SEAM SECTION #		SEAMS				REPAIRS				REMARKS **			
	FROM	TO	TEST DATE	UCCI ID	DEFECTS **	SEAM COMPLETE	CHK'D BY	REMARKS **	DEFECT CODE	TEST DATE		UCCI ID	DEFECTS **	CHK'D BY
	-	-							1A	9-17	CB		CB	
	-	-							1B	9-17	CB		CB	
	-	-							1C	9-17	CB		CB	
	-	-							1D	9-17	CB		CB	
	-	-							1E	9-17	CB		CB	
	-	-							1F	9-17	CB		CB	
	-	-							1G	9-17	CB		CB	
	-	-							1H	9-17	CB		CB	
	-	-							1I	9-17	CB		CB	
	-	-							1J	9-17	CB		CB	
	-	-							1K	9-17	CB		CB	
	-	-							1L	9-17	CB		CB	
	-	-							1M	9-17	CB		CB	
	-	-							1N	9-17	CB		CB	
	-	-							1O	9-17	CB		CB	
	-	-							1P	9-17	CB		CB	
	-	-							1Q	9-17	CB		CB	
	-	-							1R	9-17	CB		CB	
	-	-							1S	9-17	CB		CB	
	-	-							1T	9-17	CB		CB	

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (LOSS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS

SUBMITTED BY: CB
 DATE: Sept 17/07

GEOMEMBRANE DEFECT / REPAIR LOG

PROJECT NUMBER: 07C 107 PROJECT TITLE: Lead Farm Treatment Cell
 OWNER: Yukon Zinc Corp CONTRACTOR: Yukon Zinc
 LOCATION: Wolverine Mine Site (Arstap) SHEET NUMBER: 1

DEFECT CODE	LOG DATE	DEFECT LOCATION		DEFECT TYPE	REPAIR TYPE	WELD TECH.	REPAIR DATE	REMARKS **	TEST DATE	CHECKED BY
		SEAM OR PANEL NO.	DEFECT LOCATION DESCRIPTION							
1A	9-17	P-1		FC	P	CB	9-17		9-17	CB
1B	9-17	P-1		EE	P	CB	9-17		9-17	CB
1C	9-17	P-1		EE	P	CB	9-17		9-17	CB
1D	9-17	P-1		EE	P	CB	9-16		9-17	CB
1E	9-17	P-1		EE	P	CB	9-16		9-17	CB
1F	9-17	P-1		EE	P	CB	9-16		9-17	CB
1G	9-17	P-1		EE	P	CB	9-16		9-17	CB
1H	9-17	P-1		EE	P	CB	9-16		9-17	CB
1I	9-17	P-1		EE	P	CB	9-16		9-17	CB
1J	9-17	P-1		EE	P	CB	9-16		9-17	CB
1K	9-17	P-1		EE	P	CB	9-17		9-17	CB
1L	9-17	P-1		EE	P	CB	9-17		9-17	CB
1M	9-17	P-1		EE	P	CB	9-17		9-17	CB
1N	9-17	P-1		EE	P	CB	9-17		9-17	CB
1O	9-17	P-1		EE	P	CB	9-17		9-17	CB
1P	9-17	P-1		EE	P	CB	9-17		9-17	CB
1Q	9-17	P-1		EE	P	CB	9-17		9-17	CB
1R	9-17	P-1		EE	P	CB	9-17		9-17	CB
1S	9-17	P-1		EE	P	CB	9-17		9-17	CB
1T	9-17	P-1		EE	P	CB	9-17		9-17	CB

PASSING TRIAL SEAMS	
NO	TIME
TX#1	17:00
TX#2	08:00

- DEFECT TYPE: A- SEAM OR PANEL DAMAGE B- C- CRACKS D- DISBURSED E- F- G- H- I- J- K- L- M- N- O- P- Q- R- S- T- U- V- W- X- Y- Z- OTHER
- LOG DATE: 9-17
- SEAM OR PANEL NO.: P-1
- DEFECT LOCATION DESCRIPTION:
- DEFECT TYPE: FC
- REPAIR TYPE: P
- WELD TECH.: CB
- REPAIR DATE: 9-17
- REMARKS: **
- TEST DATE: 9-17
- CHECKED BY: CB

SUBMITTED BY: CB
 DATE: 9/17/07



SHOP
QC

Job Desc.	STOCK		
Customer:	0		
Sales Person:	0		
Material Type:	EL 6030 Black 148" wide 30 mil	Date:	25-May-07
Prod Code:	33606030		
Fab Code:	03LE1030		
Length	60	Width	60.0

Special Fabrication Instructions
Description of Operations/Procedures

In-Process Inspection

#1	#2	#3	Completed

Roll Tag #	#	Piece #	Liner# / Panels	Quantity	Repairs
34997 34986	222484 222484	2 2	1-3 + 4 (panels 1-3)		
34999	622497	8	4 (panels 4-5) + 5		
34997	622497	08	4		
34997	622497	05	1		
					#3

Mach: PFS Speed: 650 Temp: 850 Splice:

Liner #	Shear (Seam #)				Peel (Seam #)				Tech/Date (Seam #)							
	1	2	3	4	1L	R	4L	R	L	R	L	R	1	2	3	4
46391	56	56			44	47	46	42					AM	AM		
46391	52	50			51	48	51	47					AM	AM		
46391	57	55			52	49	47	47					AM	AM		
46391	58	67			51	50	48	49					AM	AM		
46391	55	62			47	48	51	52					AM	AM		
46391	60	59			48	51	47	48					AM	AM		
46391																
46391																
46391																

Inspections Paul #1 ALZEDU #2 DANNA #3 Final

JUNE 2007
JUNE 3/07



Geomembrane Certificate of Analysis

Web: www.geomembranes.com
E-Mail: millcerts@LayfieldGroup.com

Phone: (604) 275-5588
Fax: (604) 275-7867

LAYFIELD POLY FILMS LTD.
11120 Silversmith Place, Richmond, BC, V7A 5E4

Customer **Layfield Geosynthetics and Industrial Fabrics Ltd.**

Address 11603-180 Street NW
Edmonton
Alberta
T5S 2H6
Canada

Customer PO# E22950

Layfield Job #	35256
Values (US/Metric)	US

Enviro Liner 6030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 6	Roll 10	Roll 15	Roll 19
Thickness	ASTM D5199	US mil	28.5	32.5	32.9	32.1	30.0	31.9
Tensile Strength MD	D638	lbs	115	214.2	209.9	204.3	198.9	209.4
Elongation MD	D638	%	800	1865	1831	2230	1837	1838
Tensile Strength TD	D638	lbs	115	211.7	434.7	200.2	195.3	199.8
Elongation TD	D638	%	800	1881	1473	1869	5230	1851
Tear Strength MD	D1004	lbs	16	21.3	21.3	20.8	21.1	21.3
Tear Strength TD	D1004	lbs	16	21.9	20.1	20.6	21.3	21.1
Puncture Strength	D4833	lbs	42	71.3	70.9	67.0	71.8	69.9
Dim. Stab. MD (max)		%	1.5	0.0	0.0	0.0	0.0	0.0
Dim. Stab. TD (max)		%	1.5	0.0	0.0	0.0	0.0	0.0
Carbon Black Content	D1603	%	2	2.10	2.30	2.20	2.10	2.30
Carbon Black Dispersion	D5596	1 or 2	2					
Specific Gravity (max)	D1505	g/cc	0.939	0.927	0.931	0.930	0.931	0.931
HP OIT	D5885	min	2000	**				

We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

November 26, 2007
Date

Authorized Signature



Geomembrane Certificate of Analysis

LAYFIELD POLY FILMS LTD.

11120 Silversmith Place, Richmond, BC, V7A 5E4

Phone: (604) 275-5588

Fax: (604) 275-7867

Web: www.geomembranes.com

E-Mail: millicerts@LayfieldGroup.com

Customer **Layfield Geosynthetics and Industrial Fabrics Ltd.**

Address 11603-180 Street NW

Edmonton

Alberta

T5S 2H6

Canada

Customer PO#

Layfield Job #
Values (US/Metric)

35140
US

Enviro Liner 6030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	28.5	✓ 30.6	✓ 30.0	✓ 30.1
Tensile Strength	D638	lbs	115	✓ 206.3	✓ 166.9	✓ 178.2
Elongation	D638	%	800	✓ 1784	✓ 1683	✓ 1692
Tensile Strength	D638	lbs	115	✓ 203.5	✓ 168.5	✓ 188.4
Elongation	D638	%	800	✓ 1815	✓ 1693	✓ 1769
Tear Strength	D1004	lbs	16	✓ 20.3	✓ 20.0	✓ 20.6
Tear Strength	D1004	lbs	16	✓ 20.0	✓ 20.0	✓ 21.5
Puncture Strength	D4833	lbs	42	✓ 70.5	✓ 71.0	✓ 71.0
Dim. Stab. MD (max)		%	1.5	✓ 0.0		
Dim. Stab. TD (max)		%	1.5	✓ 0.0		
Carbon Black Content	D1603	%	2	✓ 2.20		
Carbon Black Dispersion	D5596	1 or 2	2	✓		
Specific Gravity (max)	D1505	g/cc	0.939	✓ 0.929		
HP OIT	D5885	min	2000	✓ **		

We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

November 26, 2007

Date

Authorized Signature



Geomembrane Certificate of Analysis

Web: www.geomembranes.com
E-Mail: millicerts@LayfieldGroup.com

Phone: (604) 275-5588
Fax: (604) 275-7867

LAYFIELD POLY FILMS LTD.
11120 Silversmith Place, Richmond, BC, V7A 5E4

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW
Edmonton
Alberta
T5S 2H6
Canada

Customer PO# E22439

Layfield Job #	34986
Values (US/Metric)	US

Enviro Liner 6030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	28.5	30.1	32.2	31.5
Tensile Strength	D638	lbs	115	191.3	206.4	194.3
Elongation	D638	%	800	1788	1797	1789
Tensile Strength	D638	lbs	115	187.1	200.2	170.6
Elongation	D638	%	800	1779	1797	1637
Tear Strength	D1004	lbs	16	18.7	19.6	19.7
Tear Strength	D1004	lbs	16	19.3	19.7	19.7
Puncture Strength	D4833	lbs	42	65.6	67.9	67.9
Dim. Stab. MD (max)		%	1.5	0.0		
Dim. Stab. TD (max)		%	1.5	0.0		
Carbon Black Content	D1603	%	2	2.30		
Carbon Black Dispersion	D5596	1 or 2	2			
Specific Gravity (max)	D1505	g/cc	0.939	0.928		
HP OIT	D5885	min	2000	**		

We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

November 26, 2007
Date

Authorized Signature



Geomembrane Certificate of Analysis

Web: www.geomembranes.com
E-Mail: millcerts@LayfieldGroup.com

Customer PO# E22497

Layfield Job #	34997
Values (US/Metric)	US

Phone: (604) 275-5588
Fax: (604) 275-7867

LAYFIELD POLY FILMS LTD.
11120 Silversmith Place, Richmond, BC, V7A 5E4

Customer Layfield Geosynthetics and Industrial Fabrics Ltd.

Address 11603-180 Street NW
Edmonton
Alberta
T5S 2H6
Canada

Enviro Liner 6030

Manufacturing Test Results

Property	Method*	Units	Spec	Roll 1	Roll 10	Roll 19
Thickness	ASTM D5199	US mil	28.5	29.5	31.5	30.6
Tensile Strength	D638 MD	lbs	115	191.2	198.3	202.2
Elongation	D638 MD	%	800	1791	1775	1857
Tensile Strength	D638 TD	lbs	115	194.6	199.4	196.4
Elongation	D638 TD	%	800	1787	1789	1843
Tear Strength	D1004 MD	lbs	16	18.8	19.6	19.7
Tear Strength	D1004 TD	lbs	16	19.7	19.7	19.7
Puncture Strength	D4833	lbs	42	66.0	67.3	67.3
Dim. Stab. MD (max)		%	1.5	0.0		
Dim. Stab. TD (max)		%	1.5	0.0		
Carbon Black Content	D1603	%	2	2.10		
Carbon Black Dispersion	D5596	1 or 2	2			
Specific Gravity (max)	D1505	g/cc	0.939	0.929		
HP OIT	D5885	min	2000	**		

We hereby certify that the geomembrane produced meets or exceeds Layfield's specifications outlined above.

*Please refer to testing notes on reverse.

**Formulation Tested Previously Successfully

November 26, 2007
Date

Authorized Signature



LAYFIELD ENVIRONMENTAL SYSTEMS LTD.
11603 – 180 Street Edmonton, Alberta T5S 2H6 Canada

Phone: (780) 453-6731
Fax: (780) 452-9495
Toll Free: 1 800 840-2884

Web: www.layfieldgroup.com
E-Mail: edm@layfieldgroup.com

INSTALLATION WARRANTY

Layfield Reference No. : 07C-107

LAYFIELD ENVIRONMENTAL SYSTEMS LTD. (LAYFIELD) hereby warrants to Yukon Zinc Corp.; (the Customer) that the work performed by LAYFIELD on the Installation described as Wolverine Landfarm Treatment Cell – Enviro Liner 6030 will:

1. Meet the field seam specifications set out in the contract between LAYFIELD and the Customer (as amended by LAYFIELD's quotation), all workmanship to meet the requirements of LAYFIELD's Field Installation Quality Assurance program, and be free of defects at the time of completion of the Installation; and
2. Be free of installation defects from the date of the completion of the Installation (as identified on the Layfield Certificate of Final Inspection and Acceptance), for a period of 1 year so long as the completed Installation is used for the purposes and in the manner for which the Installation was designed.

Should damage or defects within the scope of the aforesaid warranties occur, LAYFIELD shall repair the damage or defects, PROVIDED THAT the area to be repaired must first be made ready by the Customer and be in a clean, dry, unencumbered condition, free from all water, soil, sludge, residuals, and liquids of any kind.

To enable LAYFIELD to investigate and determine the cause of any alleged damage or defect, notice and details of any claim hereunder must be presented in writing to LAYFIELD within thirty (30) days after the alleged damage or defect was first noticed or observed. Failure to provide such notice and details shall invalidate all warranties provided hereunder.

The liability of LAYFIELD under the aforesaid warranties are subject to the following conditions:

- a. LAYFIELD's only obligation shall be to repair or replace any defective workmanship and in no event shall LAYFIELD be liable for any amount in excess of the cost of the Installation;
- b. No allowance will be made for repairs, replacements or alterations made by the Customer unless with the prior written consent of LAYFIELD;
- c. The warranties hereunder extend only to the Customer and are not transferable;
- d. The warranties hereunder shall not apply to any damage or defects resulting from misuse, mechanical abuse by machinery, equipment or persons, excessive pressures or stresses, exposure of the completed Installation of harmful chemicals, unusual weather conditions, casualty catastrophe such as (but not limited to) earthquake, flood, hail, tornado, or any other act of God;

- e. Under no circumstances shall LAYFIELD be liable for any special, direct, indirect, or consequential damages including the loss of use of the Installation howsoever caused;
- f. All liner materials provided for the Installation are covered by a separate warranty provided by Layfield Geosynthetics and Industrial Fabrics Ltd. , shall not be liable for material failure claims hereunder;
- g. The warranties hereunder are given in lieu of all other warranties, express, implied, statutory, or otherwise, and the Customer expressly waives all other warranties and claims whatsoever except those specifically given herein, and the Customer acknowledges that the warranties hereunder are accepted in preference to and to the exclusion of any or all other warranties; and
- h. An Installation Warranty will not be provided for lining projects unless the installation is completed by LAYFIELD personnel or designated LAYFIELD subcontractors.

LAYFIELD ENVIRONMENTAL SYSTEMS LTD.



Al McRae, Director of Construction Operations

Appendix D Soil Quality Lab Reports



Environmental Division

ANALYTICAL REPORT

YUKON ZINC CORPORATION

ATTN: PAMELA LADYMAN

701 - 475 HOWE STREET

VANCOUVER BC V6C 2B3

Reported On: 22-JUN-07 05:19 PM

Lab Work Order #: **L516181**

Date Received: **11-JUN-07**

Project P.O. #:

Job Reference:

Legal Site Desc:

CofC Numbers:

Other Information:

Comments: Please note that the extraction for BTEX/VH analysis was done on June 15th.

Timothy Guy Crowther
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

Andre Langlais

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L516181-1	L516181-2	L516181-3	L516181-4	L516181-5
		24-MAY-07	24-MAY-07	07-JUN-07	07-JUN-07	07-JUN-07
		1	7	1	2	3
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	9.86	9.59	9.65	10.7	9.57
Non-Halogenated Volatiles	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					
	Toluene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	ortho-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 2,4-Dichlorotoluene (SS) (%)					
	Surrogate: Fluorobenzene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.40	<0.40	<0.040	<0.040	<0.040
	Acenaphthylene (mg/kg)	<0.50	<0.50	<0.050	<0.050	<0.050
	Anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benz(a)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(a)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Chrysene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluorene (mg/kg)	<0.20	<0.20	<0.050	<0.050	<0.050
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	2-Methylnaphthalene (mg/kg)	<0.50	<0.50	<0.050	<0.050	<0.050
	Naphthalene (mg/kg)	<0.50	<0.50	<0.050	<0.050	<0.050
	Phenanthrene (mg/kg)	<0.090	<0.070	<0.050	<0.050	<0.050
	Pyrene (mg/kg)	0.062	0.060	<0.050	<0.050	<0.050
	Surrogate: d8-Naphthalene (SS) (%)	91	88	85	97	91
	Surrogate: d10-Acenaphthene (SS) (%)	123	113	88	97	90
	Surrogate: d10-Phenanthrene (SS) (%)	96	79	93	99	92
	Surrogate: d12-Chrysene (SS) (%)	78	77	83	87	76
Extractable Hydrocarbons	EPH10-19 (mg/kg)	2290	2510	930	<200	<200
	EPH19-32 (mg/kg)	<200	260	<200	<200	<200

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L516181-6	L516181-7	L516181-8	L516181-9	L516181-10
		07-JUN-07	07-JUN-07	07-JUN-07	07-JUN-07	07-JUN-07
		4	5	6	7	8
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	8.80	8.10	10.0	8.99	9.97
Non-Halogenated Volatiles	Benzene (mg/kg)					<0.040
	Ethylbenzene (mg/kg)					<0.050
	Methyl t-butyl ether (MTBE) (mg/kg)					<0.20
	Styrene (mg/kg)					<0.050
	Toluene (mg/kg)					<0.050
	meta- & para-Xylene (mg/kg)					0.059
	ortho-Xylene (mg/kg)					0.329
	Xylenes (mg/kg)					0.39
	Volatile Hydrocarbons (VH6-10) (mg/kg)					132
	VPH (C6-C10) (mg/kg)					130
	Surrogate: 4-Bromofluorobenzene (SS) (%)					107
	Surrogate: 2,4-Dichlorotoluene (SS) (%)					124
	Surrogate: Fluorobenzene (SS) (%)					95
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.040	<0.040	<0.040	<0.040	<0.20
	Acenaphthylene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benz(a)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(a)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Chrysene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluorene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.20
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	2-Methylnaphthalene (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.814
	Naphthalene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.30
	Phenanthrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.070
	Pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.081
	Surrogate: d8-Naphthalene (SS) (%)	93	87	90	90	87
	Surrogate: d10-Acenaphthene (SS) (%)	93	88	93	92	90
	Surrogate: d10-Phenanthrene (SS) (%)	92	89	93	91	89
	Surrogate: d12-Chrysene (SS) (%)	73	79	72	76	83
Extractable Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	490	370	2050
	EPH19-32 (mg/kg)	<200	<200	<200	<200	<200

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description	L516181-11	L516181-12			
	Sampled Date	07-JUN-07	07-JUN-07			
	Sampled Time					
	Client ID	9	10			
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	11.6	10.2			
Non-Halogenated Volatiles	Benzene (mg/kg)					
	Ethylbenzene (mg/kg)					
	Methyl t-butyl ether (MTBE) (mg/kg)					
	Styrene (mg/kg)					
	Toluene (mg/kg)					
	meta- & para-Xylene (mg/kg)					
	ortho-Xylene (mg/kg)					
	Xylenes (mg/kg)					
	Volatile Hydrocarbons (VH6-10) (mg/kg)					
	VPH (C6-C10) (mg/kg)					
	Surrogate: 4-Bromofluorobenzene (SS) (%)					
	Surrogate: 2,4-Dichlorotoluene (SS) (%)					
	Surrogate: Fluorobenzene (SS) (%)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.20	<0.040			
	Acenaphthylene (mg/kg)	<0.050	<0.050			
	Anthracene (mg/kg)	<0.050	<0.050			
	Benz(a)anthracene (mg/kg)	<0.050	<0.050			
	Benzo(a)pyrene (mg/kg)	<0.050	<0.050			
	Benzo(b)fluoranthene (mg/kg)	<0.050	<0.050			
	Benzo(g,h,i)perylene (mg/kg)	<0.050	<0.050			
	Benzo(k)fluoranthene (mg/kg)	<0.050	<0.050			
	Chrysene (mg/kg)	<0.050	<0.050			
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050			
	Fluoranthene (mg/kg)	<0.050	<0.050			
	Fluorene (mg/kg)	<0.050	<0.050			
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050	<0.050			
	2-Methylnaphthalene (mg/kg)	0.365	<0.050			
	Naphthalene (mg/kg)	<0.20	<0.050			
	Phenanthrene (mg/kg)	<0.050	<0.050			
	Pyrene (mg/kg)	<0.050	<0.050			
	Surrogate: d8-Naphthalene (SS) (%)	92	95			
	Surrogate: d10-Acenaphthene (SS) (%)	93	96			
	Surrogate: d10-Phenanthrene (SS) (%)	95	94			
	Surrogate: d12-Chrysene (SS) (%)	84	80			
Extractable Hydrocarbons	EPH10-19 (mg/kg)	750	<200			
	EPH19-32 (mg/kg)	<200	<200			

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L516181-1	L516181-2	L516181-3	L516181-4	L516181-5
		Description					
		Sampled Date	24-MAY-07	24-MAY-07	07-JUN-07	07-JUN-07	07-JUN-07
		Sampled Time					
		Client ID	1	7	1	2	3
Grouping	Analyte						
SOIL							
Extractable Hydrocarbons	LEPH (mg/kg)		2290	2510	930	<200	<200
	HEPH (mg/kg)		<200	260	<200	<200	<200

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L516181-11 07-JUN-07 9	L516181-12 07-JUN-07 10		
Grouping	Analyte				
SOIL					
Extractable Hydrocarbons	LEPH (mg/kg)	750	<200		
	HEPH (mg/kg)	<200	<200		

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BCMELP CSR
<p>Extractable Hydrocarbons in Sediment/Soil This analysis is carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Extractable Petroleum Hydrocarbons in Solids by GC/FID, Version 2.1 July 1999". The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene or kept in hexane/acetone and analyzed by capillary column gas chromatography with flame ionization detection (GC/FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).</p>			
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
<p>Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
MOISTURE-VA	Soil	% Moisture	ASTM METHOD D2794-00
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
PAH-TUMB-H/A-MS-VA	Soil	PAH by Tumbler HEX/ACE with GCMS	EPA METHODS 3570 & 8270.
<p>Polycyclic Aromatic Hydrocarbons in Sediment/Soil This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation.</p>			
VH-MET-DI-FID-VA	Soil	CSR VH by MeOH with DI GCFID	BCMELP CSR Analytical Method 2
<p>This analysis involves the extraction of a subsample of the sediment/soil with methanol. Aliquots of the methanol extract are then analyzed for Volatile Hydrocarbons (VH) by capillary column gas chromatography with flame-ionization detection (GC/FID). The methanol extraction and VH analysis are carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999).</p>			
VOC7-MET-DI-MS-VA	Soil	BTEX by MeOH with DI GCMS	EPA 8260b & 524.2
<p>Volatile Organic Compounds (VOC) are extracted from sediment or soil with methanol, following a procedure from the British Columbia Ministry of Water Land and Air Protection (BCWLAP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999). Aliquots of the extract are analyzed by direct injection capillary column gas chromatography with mass spectrometric detection (GC/MS), using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 8260B, published by the United States Environmental Protection Agency (EPA). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation.</p>			
VPH-MET-DI-CALC-VA	Soil	CSR VH by MeOH with DI GCFID	BC MOE LABORATORY MANUAL (2005)
<p>These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Volatile Petroleum Hydrocarbons in Solids or Water" (Version 2.1, July 20, 1999). According to this method, the concentrations of specific Monocyclic Aromatic Hydrocarbons (Benzene, Toluene, Ethylbenzene, Xylenes and Styrene) are subtracted from the collective concentration of Volatile Hydrocarbons (VH) that elute between n-hexane (nC6) and n-decane (nC10). Analysis of Volatile Hydrocarbons adheres to all prescribed elements of BCMELP method "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
XYLENES-CALC-VA	Soil	CSR VOC7 by MeOH with DI GCMS	EPA 8260B & 524.2
<p>Calculation of Total Xylenes Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.</p>			

** Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies. The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
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GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.

The reported surrogate recovery value provides a measure of method efficiency.

mg/kg (units) - unit of concentration based on mass, parts per million

mg/L (units) - unit of concentration based on volume, parts per million

N/A - Result not available. Refer to qualifier code and definition for explanation

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

Your C.O.C. #: F84170

Attention: PAMELA LADYMAN

Yukon Zinc Corporation
VANCOUVER
701-475 Howe Street
Vancouver, BC
CANADA V6C 2B3

Report Date: 2007/06/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A725992

Received: 2007/06/18, 10:50

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/MTBE Soil LH, VH, F1 SIM/MS	2	2007/06/19	2007/06/20	BRN-SOP-0303 R11.0	Based on EPA 8260B
Moisture	2	N/A	2007/06/20	BRN SOP-00321 R3.0	Ont MOE -E 3139
PAH in Soil by GC/MS (SIM)	2	2007/06/21	2007/06/21	BRN SOP-00332 R5.0	Based on EPA 8270C
Total LMW, HMW, Total PAH Calc	2	N/A	2007/06/22		
EPH less PAH in Soil By GC/FID ¶	2	N/A	2007/06/22		
BC Hydrocarbons in Soil by GC/FID ¶	2	2007/06/19	2007/06/20	BRN SOP-00341 R5.0	BCMOE Soil Method 3
Volatile HC-BTEX	2	N/A	2007/06/21		

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

(1) SCC/CAEAL

Encryption Key

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

ELKA DADMAND,
Email: edadmand@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

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

Total cover pages: 1

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		F67592	F67593		
Sampling Date		2007/06/15 11:00	2007/06/15 11:00		
COC Number		F84170	F84170		
	Units	LTF	FC SITE 1.5	RDL	QC Batch

Physical Properties					
Moisture	%	8.8	7.6	0.3	1683451

RDL = Reportable Detection Limit

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

BCCSR BTEX/VPH BY HS - SOIL (SOIL)

Maxxam ID		F67592	F67593		
Sampling Date		2007/06/15 11:00	2007/06/15 11:00		
COC Number		F84170	F84170		
	Units	LTF	FC SITE 1.5	RDL	QC Batch

Volatiles					
VPH (VH6 to 10 - BTEX)	mg/kg	25	<10	10	1682467
VH C6-C10	mg/kg	25	<10	10	1688583
Monocyclic Aromatics					
Benzene	mg/kg	<0.005	<0.005	0.005	1688583
Ethylbenzene	mg/kg	<0.01	<0.01	0.01	1688583
m & p-Xylene	mg/kg	<0.1	<0.1	0.1	1688583
o-Xylene	mg/kg	<0.1	<0.1	0.1	1688583
Styrene	mg/kg	<0.1	<0.1	0.1	1688583
Toluene	mg/kg	<0.05	<0.05	0.05	1688583
Xylenes (Total)	mg/kg	<0.1	<0.1	0.1	1688583
Volatiles					
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	<0.1	0.1	1688583
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	101	101		1688583
D10-ETHYLBENZENE (sur.)	%	102	100		1688583
D4-1,2-DICHLOROETHANE (sur.)	%	95	94		1688583
D8-TOLUENE (sur.)	%	108	110		1688583
RDL = Reportable Detection Limit					

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

LEPH & HEPH FOR CSR - SOIL (SOIL)

Maxxam ID		F67592		F67593		
Sampling Date		2007/06/15 11:00		2007/06/15 11:00		
COC Number		F84170		F84170		
	Units	LTF	RDL	FC SITE 1.5	RDL	QC Batch

Polycyclic Aromatics						
Low Molecular Weight PAH's	mg/kg	<0.1	0.1	<0.01	0.01	1682464
High Molecular Weight PAH's	mg/kg	0.05	0.02	<0.02	0.02	1682464
Total PAH	mg/kg	0.1	0.1	<0.02	0.02	1682464
Naphthalene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
2-Methylnaphthalene	mg/kg	0.05	0.01	<0.01	0.01	1688993
Acenaphthylene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
Acenaphthene	mg/kg	<0.03 (1)	0.03	<0.01	0.01	1688993
Fluorene	mg/kg	<0.1 (1)	0.1	<0.01	0.01	1688993
Phenanthrene	mg/kg	<0.05 (1)	0.05	<0.01	0.01	1688993
Anthracene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
Fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Pyrene	mg/kg	0.05	0.01	<0.01	0.01	1688993
Benzo(a)anthracene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Chrysene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(b&j)fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(k)fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(a)pyrene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Indeno(1,2,3-cd)pyrene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
Dibenz(a,h)anthracene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
Benzo(g,h,i)perylene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
.						
HEPH (C19-C32 less PAH)	mg/kg	<100	100	<100	100	1682465
LEPH (C10-C19 less PAH)	mg/kg	1060	100	202	100	1682465
Hydrocarbons						
EPH (C10-C19)	mg/kg	1060	100	202	100	1685295
EPH (C19-C32)	mg/kg	<100	100	<100	100	1685295
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	86		85		1688993
D12-BENZO(A)PYRENE (sur.)	%	53		46		1688993
D8-ACENAPHTHYLENE (sur.)	%	81		83		1688993
TERPHENYL-D14 (sur.)	%	77		77		1688993
O-TERPHENYL (sur.)	%	104		102		1685295

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

General Comments

Results relate only to the items tested.

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: VA725992

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1683451 TL4	BLANK	Moisture	2007/06/20	<0.3		%	
	RPD	Moisture	2007/06/20	9.3		%	20
1685295 IT1	MATRIX SPIKE	O-TERPHENYL (sur.)	2007/06/20		104	%	70 - 130
		EPH (C10-C19)	2007/06/20		89	%	50 - 130
		EPH (C19-C32)	2007/06/20		88	%	50 - 130
	BLANK	O-TERPHENYL (sur.)	2007/06/20		101	%	70 - 130
		EPH (C10-C19)	2007/06/20	<100		mg/kg	
		EPH (C19-C32)	2007/06/20	<100		mg/kg	
	RPD	EPH (C10-C19)	2007/06/20	NC		%	50
		EPH (C19-C32)	2007/06/20	NC		%	50
1688583 AC2	MATRIX SPIKE	Benzene	2007/06/20		108	%	60 - 140
		Ethylbenzene	2007/06/20		111	%	60 - 140
		m & p-Xylene	2007/06/20		104	%	60 - 140
		o-Xylene	2007/06/20		108	%	60 - 140
		Toluene	2007/06/20		110	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		101	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		102	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		92	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		108	%	70 - 130
	SPIKE	Benzene	2007/06/20		98	%	80 - 120
		Ethylbenzene	2007/06/20		102	%	80 - 120
		m & p-Xylene	2007/06/20		96	%	80 - 120
		o-Xylene	2007/06/20		100	%	80 - 120
		Toluene	2007/06/20		101	%	80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		100	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		90	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		91	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		107	%	70 - 130
	BLANK	VH C6-C10	2007/06/20	<10		mg/kg	
		Benzene	2007/06/20	<0.005		mg/kg	
		Ethylbenzene	2007/06/20	<0.01		mg/kg	
		m & p-Xylene	2007/06/20	<0.1		mg/kg	
		o-Xylene	2007/06/20	<0.1		mg/kg	
		Styrene	2007/06/20	<0.1		mg/kg	
		Toluene	2007/06/20	<0.05		mg/kg	
		Xylenes (Total)	2007/06/20	<0.1		mg/kg	
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		100	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		100	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		91	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		113	%	70 - 130
		Methyl-tert-butylether (MTBE)	2007/06/20	<0.1		mg/kg	
	RPD	VH C6-C10	2007/06/20	NC		%	50
		Benzene	2007/06/20	NC		%	50
		Ethylbenzene	2007/06/20	NC		%	50
		m & p-Xylene	2007/06/20	NC		%	50
		o-Xylene	2007/06/20	NC		%	50
		Styrene	2007/06/20	NC		%	50
		Toluene	2007/06/20	NC		%	50
		Xylenes (Total)	2007/06/20	NC		%	50
1688993 SY	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2007/06/21		72	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2007/06/21		78	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2007/06/21		81	%	30 - 130
		TERPHENYL-D14 (sur.)	2007/06/21		84	%	30 - 130
		Naphthalene	2007/06/21		75	%	40 - 130
		2-Methylnaphthalene	2007/06/21		71	%	40 - 130

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: VA725992

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1688993 SY	MATRIX SPIKE	Acenaphthylene	2007/06/21		71	%	40 - 130
		Acenaphthene	2007/06/21		74	%	40 - 130
		Fluorene	2007/06/21		72	%	40 - 130
		Phenanthrene	2007/06/21		67	%	40 - 130
		Anthracene	2007/06/21		74	%	40 - 130
		Fluoranthene	2007/06/21		68	%	40 - 130
		Pyrene	2007/06/21		74	%	40 - 130
		Benzo(a)anthracene	2007/06/21		72	%	40 - 130
		Chrysene	2007/06/21		76	%	40 - 130
		Benzo(b&j)fluoranthene	2007/06/21		67	%	40 - 130
		Benzo(k)fluoranthene	2007/06/21		70	%	40 - 130
		Benzo(a)pyrene	2007/06/21		73	%	40 - 130
		Indeno(1,2,3-cd)pyrene	2007/06/21		67	%	40 - 130
		Dibenzo(a,h)anthracene	2007/06/21		67	%	40 - 130
		SPIKE	Benzo(g,h,i)perylene	2007/06/21		59	%
	D10-ANTHRACENE (sur.)		2007/06/21		80	%	30 - 130
	D12-BENZO(A)PYRENE (sur.)		2007/06/21		79	%	30 - 130
	D8-ACENAPHTHYLENE (sur.)		2007/06/21		82	%	30 - 130
	TERPHENYL-D14 (sur.)		2007/06/21		82	%	30 - 130
	Naphthalene		2007/06/21		97	%	40 - 130
	2-Methylnaphthalene		2007/06/21		92	%	40 - 130
	Acenaphthylene		2007/06/21		88	%	40 - 130
	Acenaphthene		2007/06/21		91	%	40 - 130
	Fluorene		2007/06/21		88	%	40 - 130
	Phenanthrene		2007/06/21		89	%	40 - 130
	Anthracene		2007/06/21		91	%	40 - 130
	Fluoranthene		2007/06/21		90	%	40 - 130
	Pyrene		2007/06/21		90	%	40 - 130
	Benzo(a)anthracene		2007/06/21		86	%	40 - 130
	Chrysene		2007/06/21		90	%	40 - 130
	Benzo(b&j)fluoranthene		2007/06/21		89	%	40 - 130
	Benzo(k)fluoranthene		2007/06/21		93	%	40 - 130
	Benzo(a)pyrene	2007/06/21		93	%	40 - 130	
Indeno(1,2,3-cd)pyrene	2007/06/21		82	%	40 - 130		
Dibenzo(a,h)anthracene	2007/06/21		84	%	40 - 130		
Benzo(g,h,i)perylene	2007/06/21		78	%	40 - 130		
BLANK	D10-ANTHRACENE (sur.)	2007/06/21		93	%	30 - 130	
	D12-BENZO(A)PYRENE (sur.)	2007/06/21		81	%	30 - 130	
	D8-ACENAPHTHYLENE (sur.)	2007/06/21		88	%	30 - 130	
	TERPHENYL-D14 (sur.)	2007/06/21		85	%	30 - 130	
	Naphthalene	2007/06/21	<0.01		mg/kg		
	2-Methylnaphthalene	2007/06/21	<0.01		mg/kg		
	Acenaphthylene	2007/06/21	<0.01		mg/kg		
	Acenaphthene	2007/06/21	<0.01		mg/kg		
	Fluorene	2007/06/21	<0.01		mg/kg		
	Phenanthrene	2007/06/21	<0.01		mg/kg		
	Anthracene	2007/06/21	<0.01		mg/kg		
	Fluoranthene	2007/06/21	<0.01		mg/kg		
	Pyrene	2007/06/21	<0.01		mg/kg		
	Benzo(a)anthracene	2007/06/21	<0.01		mg/kg		
	Chrysene	2007/06/21	<0.01		mg/kg		
Benzo(b&j)fluoranthene	2007/06/21	<0.01		mg/kg			
Benzo(k)fluoranthene	2007/06/21	<0.01		mg/kg			
Benzo(a)pyrene	2007/06/21	<0.01		mg/kg			
Indeno(1,2,3-cd)pyrene	2007/06/21	<0.02		mg/kg			

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: VA725992

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1688993 SY	BLANK	Dibenz(a,h)anthracene	2007/06/21	<0.02		mg/kg	
		Benzo(g,h,i)perylene	2007/06/21	<0.02		mg/kg	
	RPD	Naphthalene	2007/06/21	NC		%	50
		2-Methylnaphthalene	2007/06/21	NC		%	50
		Acenaphthylene	2007/06/21	NC		%	50
		Acenaphthene	2007/06/21	NC		%	50
		Fluorene	2007/06/21	NC		%	50
		Phenanthrene	2007/06/21	NC		%	50
		Anthracene	2007/06/21	NC		%	50
		Fluoranthene	2007/06/21	NC		%	50
		Pyrene	2007/06/21	NC		%	50
		Benzo(a)anthracene	2007/06/21	NC		%	50
		Chrysene	2007/06/21	NC		%	50
		Benzo(b&j)fluoranthene	2007/06/21	NC		%	50
		Benzo(k)fluoranthene	2007/06/21	NC		%	50
		Benzo(a)pyrene	2007/06/21	NC		%	50
		Indeno(1,2,3-cd)pyrene	2007/06/21	NC		%	50
		Dibenz(a,h)anthracene	2007/06/21	NC		%	50
		Benzo(g,h,i)perylene	2007/06/21	NC		%	50
NC = Non-calculable RPD = Relative Percent Difference							

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Your Project #: WOLVERINE ACCESS ROAD
Site:2+850M
Your C.O.C. #: 08196595

Attention: Pamela Ladyman

Yukon Zinc Corporation
VANCOUVER
701-475 Howe Street
Vancouver, BC
CANADA V6C 2B3

Report Date: 2007/09/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A740041

Received: 2007/08/29, 15:00

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/MTBE Soil LH, VH, F1 SIM/MS	1	2007/08/30	2007/09/06	BRN-SOP-0303 R11.0	Based on EPA 8260B
Volatile F1-BTEX	1	N/A	2007/09/07		
CCME Hydrocarbons (F2-F4 in soil)	1	2007/09/05	2007/09/05	BRN SOP-00342 R5.0	CCME Soil Tier 1
Particulate Mesh 200 @	1	N/A	2007/09/04	NA	NA
Moisture	1	N/A	2007/08/31	BRN SOP-00321 R3.0	Ont MOE -E 3139

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

(1) SCC/CAEAL

Encryption Key

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

ELKA DADMAND,
Email: edadmand@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

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

Total cover pages: 1

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Maxxam Job #: A740041
Report Date: 2007/09/07

Yukon Zinc Corporation
Client Project #: WOLVERINE ACCESS ROAD
Site Reference: 2+850M
Sampler Initials: DB

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		G70978		
Sampling Date		2007/08/27		
COC Number		08196595		
	Units	ROAD SOIL 01	RDL	QC Batch

Physical Properties				
<200 mesh (>.075 mm)	%	36.5	0.1	1823833
>200 mesh (<.075 mm)	%	63.5	0.1	1823833
Moisture	%	20.3	0.3	1822464

RDL = Reportable Detection Limit

Maxxam Job #: A740041
Report Date: 2007/09/07

Yukon Zinc Corporation
Client Project #: WOLVERINE ACCESS ROAD
Site Reference: 2+850M
Sampler Initials: DB

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		G70978		
Sampling Date		2007/08/27		
COC Number		08196595		
	Units	ROAD SOIL 01	RDL	QC Batch

Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	254	50	1828840
F3 (C16-C34 Hydrocarbons)	mg/kg	6620	50	1828840
F4 (C34-C50 Hydrocarbons)	mg/kg	1160	50	1828840
Reached Baseline at C50	mg/kg	Yes	N/A	1828840
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	97		1828840
RDL = Reportable Detection Limit				

Maxxam Job #: A740041
Report Date: 2007/09/07

Yukon Zinc Corporation
Client Project #: WOLVERINE ACCESS ROAD
Site Reference: 2+850M
Sampler Initials: DB

CCME BTEX/F1 BY HS - SOIL (SOIL)

Maxxam ID		G70978		
Sampling Date		2007/08/27		
COC Number		08196595		
	Units	ROAD SOIL 01	RDL	QC Batch

Calculated Parameters				
F1 (C06-C10) - BTEX	mg/kg	<10	10	1821717
Monocyclic Aromatics				
Benzene	mg/kg	<0.005	0.005	1830331
Ethylbenzene	mg/kg	<0.01	0.01	1830331
m & p-Xylene	mg/kg	<0.1	0.1	1830331
o-Xylene	mg/kg	<0.1	0.1	1830331
Styrene	mg/kg	<0.1	0.1	1830331
Toluene	mg/kg	<0.05	0.05	1830331
Xylenes (Total)	mg/kg	<0.1	0.1	1830331
Extractable Hydrocarbons				
F1 (C06-C10)	mg/kg	<10	10	1830331
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	105		1830331
D10-ETHYLBENZENE (sur.)	%	98		1830331
D4-1,2-DICHLOROETHANE (sur.)	%	96		1830331
D8-TOLUENE (sur.)	%	105		1830331
RDL = Reportable Detection Limit				

Maxxam Job #: A740041
Report Date: 2007/09/07

Yukon Zinc Corporation
Client Project #: WOLVERINE ACCESS ROAD
Site Reference: 2+850M
Sampler Initials: DB

General Comments

Results relate only to the items tested.

Yukon Zinc Corporation
Attention: Pamela Ladyman
Client Project #: WOLVERINE ACCESS ROAD
P.O. #:
Site Reference: 2+850M

Quality Assurance Report
Maxxam Job Number: VA740041

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1822464 TL4	BLANK	Moisture	2007/08/31	<0.3		%	
	RPD [G70978-01]	Moisture	2007/08/31	17.9		%	20
1823833 AL8	RPD [G70978-01]	<200 mesh (>.075 mm)	2007/09/04	4.9		%	35
		>200 mesh (<.075 mm)	2007/09/04	2.9		%	35
1828840 IT1	MATRIX SPIKE	O-TERPHENYL (sur.)	2007/09/05		101	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/05		108	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2007/09/05		97	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2007/09/05		83	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2007/09/05		100	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/05		107	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2007/09/05		95	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2007/09/05		84	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2007/09/05		95	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/05	<50		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2007/09/05	<50		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2007/09/05	<50		mg/kg	
	RPD	F2 (C10-C16 Hydrocarbons)	2007/09/05	NC		%	50
		F3 (C16-C34 Hydrocarbons)	2007/09/05	NC		%	50
		F4 (C34-C50 Hydrocarbons)	2007/09/05	NC		%	50
		Reached Baseline at C50	2007/09/05	NC		%	50
1830331 MM6	MATRIX SPIKE [G70978-01]	Benzene	2007/09/06		103	%	60 - 140
		Ethylbenzene	2007/09/06		114	%	60 - 140
		m & p-Xylene	2007/09/06		118	%	60 - 140
		o-Xylene	2007/09/06		114	%	60 - 140
		Toluene	2007/09/06		115	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		109	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		102	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		95	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		104	%	70 - 130
	SPIKE	Benzene	2007/09/06		99	%	80 - 120
		Ethylbenzene	2007/09/06		109	%	80 - 120
		m & p-Xylene	2007/09/06		113	%	80 - 120
		o-Xylene	2007/09/06		108	%	80 - 120
		Toluene	2007/09/06		108	%	80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		98	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		92	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		95	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		103	%	70 - 130
	BLANK	Benzene	2007/09/06	<0.005		mg/kg	
		Ethylbenzene	2007/09/06	<0.01		mg/kg	
		m & p-Xylene	2007/09/06	<0.1		mg/kg	
		o-Xylene	2007/09/06	<0.1		mg/kg	
		Styrene	2007/09/06	<0.1		mg/kg	
		Toluene	2007/09/06	<0.05		mg/kg	
		Xylenes (Total)	2007/09/06	<0.1		mg/kg	
		F1 (C06-C10)	2007/09/06	<10		mg/kg	
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		97	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		100	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		97	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		104	%	70 - 130
	RPD [G70978-01]	Benzene	2007/09/06	NC		%	50
		Ethylbenzene	2007/09/06	NC		%	50
		m & p-Xylene	2007/09/06	NC		%	50
		o-Xylene	2007/09/06	NC		%	50

Yukon Zinc Corporation
 Attention: Pamela Ladyman
 Client Project #: WOLVERINE ACCESS ROAD
 P.O. #:
 Site Reference: 2+850M

Quality Assurance Report (Continued)

Maxxam Job Number: VA740041

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1830331 MM6	RPD [G70978-01]	Styrene	2007/09/06	NC		%	50
		Toluene	2007/09/06	NC		%	50
		Xylenes (Total)	2007/09/06	NC		%	50
		F1 (C06-C10)	2007/09/06	NC		%	50

NC = Non-calculable
 RPD = Relative Percent Difference

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Your C.O.C. #: 08196682

Attention: Pamela Ladyman

Yukon Zinc Corporation
VANCOUVER
701-475 Howe Street
Vancouver, BC
CANADA V6C 2B3

Report Date: 2007/09/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A741283

Received: 2007/09/05, 14:45

Sample Matrix: Soil
Samples Received: 5

Analyses	Quantity	Date		Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/MTBE Soil LH, VH, F1 SIM/MS	4	2007/09/06	2007/09/06	BRN-SOP-0303 R11.0	Based on EPA 8260B
BTEX/MTBE Soil LH, VH, F1 SIM/MS	1	2007/09/07	2007/09/09	BRN-SOP-0303 R11.0	Based on EPA 8260B
Volatile F1-BTEX	1	N/A	2007/09/10		
Volatile F1-BTEX	4	N/A	2007/09/11		
CCME Hydrocarbons (F2-F4 in soil)	5	2007/09/07	2007/09/10	BRN SOP-00342 R5.0	CCME Soil Tier 1
Particulate Mesh 200 µ	5	N/A	2007/09/11	NA	NA
Moisture	4	N/A	2007/09/07	BRN SOP-00321 R3.0	Ont MOE -E 3139
Moisture	1	N/A	2007/09/08	BRN SOP-00321 R3.0	Ont MOE -E 3139

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

(1) SCC/CAEAL

Encryption Key

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

ELKA DADMAND,
Email: edadmand@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

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Total cover pages: 1

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Maxxam Job #: A741283
Report Date: 2007/09/11

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials:

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		G80275	G80276	G80277	G80278		
Sampling Date		2007/09/03	2007/09/03	2007/09/03	2007/09/03		
COC Number		08196682	08196682	08196682	08196682		
	Units	SOIL STORAGE-LTF	SOIL STORAGE-#1	SOIL STORAGE-#2	SOIL STORAGE-#3	RDL	QC Batch

Physical Properties							
<200 mesh (>.075 mm)	%	56.2	49.7	49.7	61.4	0.1	1838176
>200 mesh (<.075 mm)	%	43.8	50.3	50.3	38.6	0.1	1838176
Moisture	%	8.6	13.4	12.4	9.7	0.3	1831393
RDL = Reportable Detection Limit							

Maxxam ID		G80279		
Sampling Date		2007/09/03		
COC Number		08196682		
	Units	SOIL STORAGE-#4	RDL	QC Batch

Physical Properties				
<200 mesh (>.075 mm)	%	57.5	0.1	1838176
>200 mesh (<.075 mm)	%	42.5	0.1	1838176
Moisture	%	8.8	0.3	1833720
RDL = Reportable Detection Limit				

Maxxam Job #: A741283
Report Date: 2007/09/11

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials:

PETROLEUM HYDROCARBONS (CCME)

Maxxam ID		G80275	G80276	G80277	G80278		
Sampling Date		2007/09/03	2007/09/03	2007/09/03	2007/09/03		
COC Number		08196682	08196682	08196682	08196682		
	Units	SOIL STORAGE-LTF	SOIL STORAGE-#1	SOIL STORAGE-#2	SOIL STORAGE-#3	RDL	QC Batch

Ext. Pet. Hydrocarbon							
F2 (C10-C16 Hydrocarbons)	mg/kg	532	91	91	83	50	1834365
F3 (C16-C34 Hydrocarbons)	mg/kg	2530	351	510	238	50	1834365
F4 (C34-C50 Hydrocarbons)	mg/kg	1860	61	<50	<50	50	1834365
Reached Baseline at C50	mg/kg	Yes	Yes	Yes	Yes	N/A	1834365
Surrogate Recovery (%)							
O-TERPHENYL (sur.)	%	106	100	104	101		1834365

RDL = Reportable Detection Limit

Maxxam ID		G80279		
Sampling Date		2007/09/03		
COC Number		08196682		
	Units	SOIL STORAGE-#4	RDL	QC Batch

Ext. Pet. Hydrocarbon				
F2 (C10-C16 Hydrocarbons)	mg/kg	434	50	1834365
F3 (C16-C34 Hydrocarbons)	mg/kg	454	50	1834365
F4 (C34-C50 Hydrocarbons)	mg/kg	<50	50	1834365
Reached Baseline at C50	mg/kg	Yes	N/A	1834365
Surrogate Recovery (%)				
O-TERPHENYL (sur.)	%	105		1834365

RDL = Reportable Detection Limit

Maxxam Job #: A741283
Report Date: 2007/09/11

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials:

CCME BTEX/F1 BY HS - SOIL (SOIL)

Maxxam ID		G80275	G80276	G80277	G80278		
Sampling Date		2007/09/03	2007/09/03	2007/09/03	2007/09/03		
COC Number		08196682	08196682	08196682	08196682		
	Units	SOIL STORAGE-LTF	SOIL STORAGE-#1	SOIL STORAGE-#2	SOIL STORAGE-#3	RDL	QC Batch

Calculated Parameters							
F1 (C06-C10) - BTEX	mg/kg	<10	<10	<10	<10	10	1830451
Monocyclic Aromatics							
Benzene	mg/kg	<0.005	0.028	0.014	<0.005	0.005	1835290
Ethylbenzene	mg/kg	<0.01	0.01	<0.01	<0.01	0.01	1835290
m & p-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1	1835290
o-Xylene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1	1835290
Styrene	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1	1835290
Toluene	mg/kg	<0.05	<0.05	<0.05	<0.05	0.05	1835290
Xylenes (Total)	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1	1835290
Extractable Hydrocarbons							
F1 (C06-C10)	mg/kg	<10	<10	<10	<10	10	1835290
Volatiles							
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	<0.1	<0.1	<0.1	0.1	1835290
Surrogate Recovery (%)							
4-BROMOFLUOROBENZENE (sur.)	%	98	98	100	101		1835290
D10-ETHYLBENZENE (sur.)	%	100	98	101	101		1835290
D4-1,2-DICHLOROETHANE (sur.)	%	103	107	106	109		1835290
D8-TOLUENE (sur.)	%	98	99	97	97		1835290
RDL = Reportable Detection Limit							

Maxxam Job #: A741283
Report Date: 2007/09/11

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials:

CCME BTEX/F1 BY HS - SOIL (SOIL)

Maxxam ID		G80279		
Sampling Date		2007/09/03		
COC Number		08196682		
	Units	SOIL STORAGE-#4	RDL	QC Batch

Calculated Parameters				
F1 (C06-C10) - BTEX	mg/kg	<10	10	1830451
Monocyclic Aromatics				
Benzene	mg/kg	<0.005	0.005	1835677
Ethylbenzene	mg/kg	<0.01	0.01	1835677
m & p-Xylene	mg/kg	<0.1	0.1	1835677
o-Xylene	mg/kg	<0.1	0.1	1835677
Styrene	mg/kg	<0.1	0.1	1835677
Toluene	mg/kg	<0.05	0.05	1835677
Xylenes (Total)	mg/kg	<0.1	0.1	1835677
Extractable Hydrocarbons				
F1 (C06-C10)	mg/kg	<10	10	1835677
Volatiles				
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	0.1	1835677
Surrogate Recovery (%)				
4-BROMOFLUOROBENZENE (sur.)	%	93		1835677
D10-ETHYLBENZENE (sur.)	%	98		1835677
D4-1,2-DICHLOROETHANE (sur.)	%	95		1835677
D8-TOLUENE (sur.)	%	104		1835677
RDL = Reportable Detection Limit				

Maxxam Job #: A741283
Report Date: 2007/09/11

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials:

General Comments

Results relate only to the items tested.

Yukon Zinc Corporation
Attention: Pamela Ladyman
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: VA741283

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1831393 TL4	BLANK	Moisture	2007/09/07	<0.3		%	
	RPD	Moisture	2007/09/07	4.7		%	20
1833720 JH9	BLANK	Moisture	2007/09/08	<0.3		%	
	RPD	Moisture	2007/09/08	3.3		%	20
1834365 JP1	MATRIX SPIKE [G80275-01]	O-TERPHENYL (sur.)	2007/09/10		95	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/10		95	%	50 - 130
		F3 (C16-C34 Hydrocarbons)	2007/09/10		95	%	50 - 130
		F4 (C34-C50 Hydrocarbons)	2007/09/10		107	%	50 - 130
	SPIKE	O-TERPHENYL (sur.)	2007/09/10		102	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/10		117	%	80 - 120
		F3 (C16-C34 Hydrocarbons)	2007/09/10		101	%	80 - 120
		F4 (C34-C50 Hydrocarbons)	2007/09/10		92	%	80 - 120
	BLANK	O-TERPHENYL (sur.)	2007/09/10		101	%	50 - 130
		F2 (C10-C16 Hydrocarbons)	2007/09/10	<50		mg/kg	
		F3 (C16-C34 Hydrocarbons)	2007/09/10	<50		mg/kg	
		F4 (C34-C50 Hydrocarbons)	2007/09/10	<50		mg/kg	
		Reached Baseline at C50	2007/09/10	YES		mg/kg	
	RPD [G80275-01]	F2 (C10-C16 Hydrocarbons)	2007/09/10	4.9		%	50
		F3 (C16-C34 Hydrocarbons)	2007/09/10	23.6		%	50
		F4 (C34-C50 Hydrocarbons)	2007/09/10	35.2		%	50
		Reached Baseline at C50	2007/09/10	NC		%	50
1835290 MM6	MATRIX SPIKE	Benzene	2007/09/06		111	%	60 - 140
		Ethylbenzene	2007/09/06		103	%	60 - 140
		m & p-Xylene	2007/09/06		110	%	60 - 140
		o-Xylene	2007/09/06		110	%	60 - 140
		Toluene	2007/09/06		103	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		101	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		103	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		104	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		101	%	70 - 130
	SPIKE	Benzene	2007/09/06		101	%	80 - 120
		Ethylbenzene	2007/09/06		93	%	80 - 120
		m & p-Xylene	2007/09/06		101	%	80 - 120
		o-Xylene	2007/09/06		101	%	80 - 120
		Toluene	2007/09/06		93	%	80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		101	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		86	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		108	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		99	%	70 - 130
	BLANK	Benzene	2007/09/06	<0.005		mg/kg	
		Ethylbenzene	2007/09/06	<0.01		mg/kg	
		m & p-Xylene	2007/09/06	<0.1		mg/kg	
		o-Xylene	2007/09/06	<0.1		mg/kg	
		Styrene	2007/09/06	<0.1		mg/kg	
		Toluene	2007/09/06	<0.05		mg/kg	
		Xylenes (Total)	2007/09/06	<0.1		mg/kg	
		F1 (C06-C10)	2007/09/06	<10		mg/kg	
		4-BROMOFLUOROBENZENE (sur.)	2007/09/06		100	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/09/06		92	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/06		101	%	70 - 130
		D8-TOLUENE (sur.)	2007/09/06		101	%	70 - 130
	RPD	Methyl-tert-butylether (MTBE)	2007/09/06	<0.1		mg/kg	
		Benzene	2007/09/06	NC		%	50
		Ethylbenzene	2007/09/06	NC		%	50

Yukon Zinc Corporation
Attention: Pamela Ladyman
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)
Maxxam Job Number: VA741283

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1835290 MM6	RPD	m & p-Xylene	2007/09/06	NC		%	50	
		o-Xylene	2007/09/06	NC		%	50	
		Styrene	2007/09/06	NC		%	50	
		Toluene	2007/09/06	NC		%	50	
		Xylenes (Total)	2007/09/06	NC		%	50	
		Methyl-tert-butylether (MTBE)	2007/09/06	NC		%	50	
1835677 NS4	MATRIX SPIKE [G80279-01]	Benzene	2007/09/09		94	%	60 - 140	
		Ethylbenzene	2007/09/09		99	%	60 - 140	
		m & p-Xylene	2007/09/09		99	%	60 - 140	
		o-Xylene	2007/09/09		93	%	60 - 140	
		Toluene	2007/09/09		93	%	60 - 140	
		4-BROMOFLUOROBENZENE (sur.)	2007/09/09		93	%	70 - 130	
		D10-ETHYLBENZENE (sur.)	2007/09/09		98	%	50 - 130	
		D4-1,2-DICHLOROETHANE (sur.)	2007/09/09		94	%	70 - 130	
	SPIKE	D8-TOLUENE (sur.)	2007/09/09		104	%	70 - 130	
		Benzene	2007/09/09		91	%	80 - 120	
		Ethylbenzene	2007/09/09		97	%	80 - 120	
		m & p-Xylene	2007/09/09		99	%	80 - 120	
		o-Xylene	2007/09/09		94	%	80 - 120	
		Toluene	2007/09/09		90	%	80 - 120	
		4-BROMOFLUOROBENZENE (sur.)	2007/09/09		100	%	70 - 130	
		D10-ETHYLBENZENE (sur.)	2007/09/09		90	%	50 - 130	
	BLANK	D4-1,2-DICHLOROETHANE (sur.)	2007/09/09		96	%	70 - 130	
		D8-TOLUENE (sur.)	2007/09/09		102	%	70 - 130	
		Benzene	2007/09/09	<0.005			mg/kg	
		Ethylbenzene	2007/09/09	<0.01			mg/kg	
		m & p-Xylene	2007/09/09	<0.1			mg/kg	
		o-Xylene	2007/09/09	<0.1			mg/kg	
		Styrene	2007/09/09	<0.1			mg/kg	
		Toluene	2007/09/09	<0.05			mg/kg	
RPD [G80279-01]	Xylenes (Total)	2007/09/09	<0.1			mg/kg		
	F1 (C06-C10)	2007/09/09	<10			mg/kg		
	4-BROMOFLUOROBENZENE (sur.)	2007/09/09		97	%	70 - 130		
	D10-ETHYLBENZENE (sur.)	2007/09/09		97	%	50 - 130		
	D4-1,2-DICHLOROETHANE (sur.)	2007/09/09		96	%	70 - 130		
	D8-TOLUENE (sur.)	2007/09/09		103	%	70 - 130		
	Methyl-tert-butylether (MTBE)	2007/09/09	<0.1			mg/kg		
	Benzene	2007/09/09	NC			%	50	
	Ethylbenzene	2007/09/09	NC			%	50	
	m & p-Xylene	2007/09/09	NC			%	50	
	o-Xylene	2007/09/09	NC			%	50	
	Styrene	2007/09/09	NC			%	50	
	Toluene	2007/09/09	NC			%	50	
	Xylenes (Total)	2007/09/09	NC			%	50	
	F1 (C06-C10)	2007/09/09	NC			%	50	
	Methyl-tert-butylether (MTBE)	2007/09/09	NC			%	50	
1838176 WAY	RPD	<200 mesh (>.075 mm)	2007/09/11	4.1		%	35	
		>200 mesh (<.075 mm)	2007/09/11	5.6		%	35	

NC = Non-calculable
RPD = Relative Percent Difference

**Appendix E May 2007 Spill Report and Report on Remediation
Results (Lorax Environmental Services)**



#701 – 475 Howe Street
Vancouver, British Columbia
Canada V6C 2B3
Telephone: (604) 682-5474
Toll-free: 1-877-682-5474
Fax: (604) 682-5404
info@yukonzinc.com
www.yukonzinc.com

Wolverine Project - Spill Report

Report Date: May 24, 2007

Date and time of spill: Unknown, first observed diesel staining around drum storage area May 22, 2007

Date and time reported to government: May 25, 2007 11:30 am (24hr Yukon Spill Report Line); Reported to EMR and Water Resources Inspectors at 10 am May 25, 2007

Location and map co-ordinates: Diesel fuel cache in previously disturbed area along road route just north of the portal area. GPS Coordinates: UTM 09V 439409m E, 6811157m N (Elevation =1343m) (see attached photos and map)

Party Responsible: Yukon Zinc Corporation

Product Spilled and Quantity: Diesel, approximately 660 L. Two 205 L drums were nearly empty, one drum was $\frac{3}{4}$ empty and two drums were $\frac{1}{4}$ empty. Upon discovery of the staining, it was estimated that between 50 to 150 L had spilled (reportable quantity for diesel is 200 L). Upon removal of the drums and start of excavation, the estimate was revised.

Cause and Effect of Spill: Fuel was delivered from Trans North Helicopters on November 5th, 2006 and January 5th, 2007. Most of the fuel delivery was pumped to the envirotanks near the portal and surplus fuel was transfer to empty drums. In total there were 60 drums that were filled and tightened with bung wrenches. Of the five drums that leaked, two drums had defective seals and three drums did not have seals. The drums had been placed on their sides to prevent contamination from rain water.

Status of spill (terminated or continuing): Terminated

Extent of Contamination: Diesel migrated from the barrels and followed the terrain sloping to the north east where it terminated approximately 50 m from the drum cache location (see attached photos). Based on excavations conducted May 24th, most of the soil contamination is confined to a 5 m x 5 m area directly beneath the stored drums. The depth of penetration of the spill in this area varies (0.2 m to 0.6 m) and post-excavation samples will be taken by an external consultant to ensure that the remaining soil is not contaminated.

Factors affecting spill or recovery (temperatures, wind, snow, ice, terrain, buildings, etc.): Initially, it was difficult at first to ascertain which barrels had leaked due to spring

snow melt and a surface seep in the area. It was also difficult to ascertain the degree of contamination as the area is fairly wet (see attached photos – note that area is wet from surface runoff).

Containment (natural, booms, dykes or other)/no containment: Hydrocarbon absorbent pads were placed in the small areas of pooling water, but are not showing evidence of hydrocarbons.

Action (if any) taken or proposed to control, recover, clean up or dispose of spill:

At 5:30 pm on May 22nd five drums in the area where the ground was stained were righted after being identified as the sources of the spill (cache A in the photos). On May 23rd, the remaining 55 drums were righted to prevent any possible leakage. They were then moved towards the north end of the cache area, away from the spill area (cache B in the photos), and tarped. The 55 remaining drums did not show any signs of leaking. The spill area was delineated prior to excavation of the contaminated material (see Photo 1). Three loads (~7.5 m³ each) were hauled to a lined area near the airstrip and tarped. On May 24th a further four loads (~7.5 m³ each) were moved. YZC has limited the amount of excavation to minimize seepage of groundwater into the excavation site. A diversion ditch is being constructed upslope of the area to prevent clean water from entering the site. A hydrocarbon metabolizing bacterial culture will be applied to the affected area, and confirmatory sampling of the area will be conducted by Lorax Environmental Services Ltd. on June 4th, 2007.

Do you require assistance? No assistance is required.

Hazards to persons, property or environment (fire, drinking water, threat to fish or wildlife): No hazards – nearest water body is Wolverine Creek, ~100 m to the southwest. The road between the camp and portal parallels the cache area to the west (Wolverine Creek is on the other side of the road).

Agencies on site: None. 24hr Yukon Spill Report Line and Energy, Mines and Resources notified on May 25, 2007.

Others notified of spill: Pamela Ladyman, VP Environment and Raymond Mah, Chief Operating Officer, Yukon Zinc Corporation. Ross River Dena Council and Liard First Nation (May 25, 2007).

Comments and/or recommendations/further action required:

YZC will store the contaminated material in a lined and covered area until it is trucked offsite to an approved facility in August 2007. Lorax Environmental Services Ltd. will conduct confirmatory sampling of the excavated area and provide additional direction as necessary.

Reported by: Jimmy Spencer, Environmental Technician, Yukon Zinc Corporation

Location: Wolverine Camp

Telephone: (604) 678-4928 ext. 3

Reported to: Pamela Ladyman, VP Environment and Community Affairs, YZC

Telephone: (604) 682-5474 x 246 or (604) 644-7655

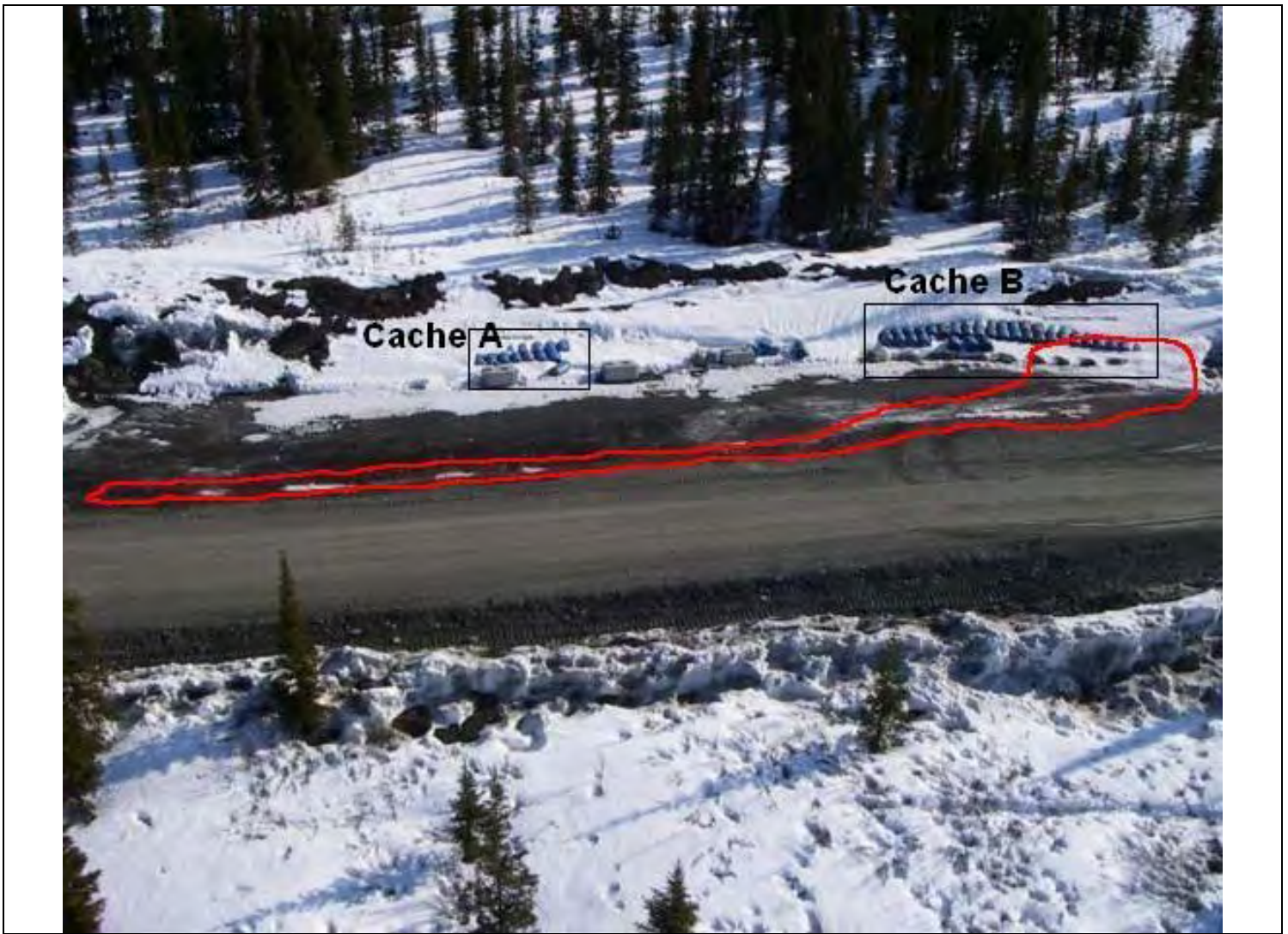


Photo 1. Aerial photo of site prior to spill; red outline depicts the affected area. Photo taken May 1, 2007 looking east.



Photo 2. Arrangement of stored diesel drums in Cache A with spilled containers placed upright. The sealed drums are on their side to prevent contamination by rain water. Taken May 23, 2007.



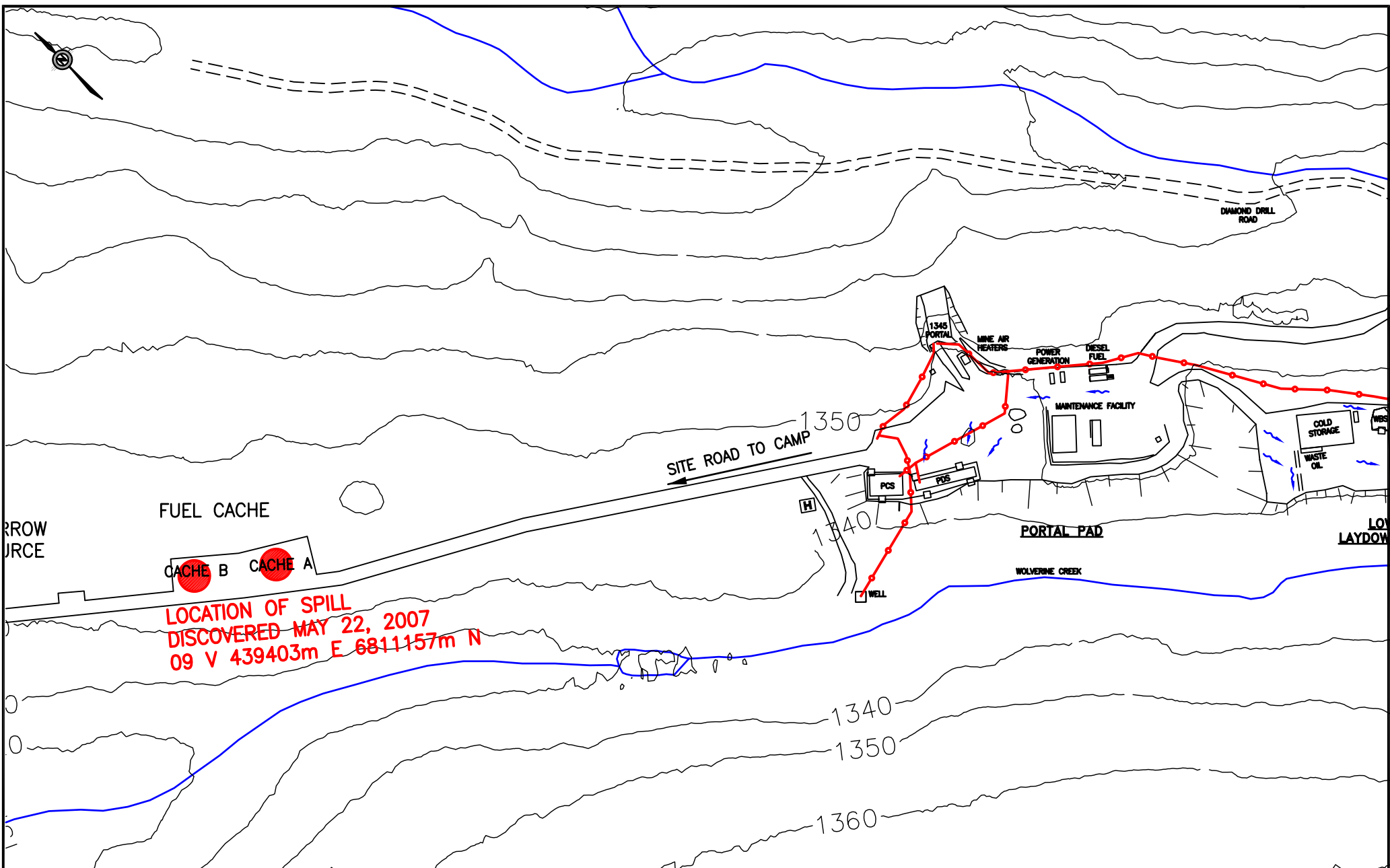
Photo 3. Area of spill (Cache A) with righted drums that had leaked. Note: Wetted area is from seeping surface water. No product was observed in puddles. Taken May 23, 2007





Photo 4. Start of contaminated soil excavation (approx. 30 cm deep). Taken May 23, 2007



Photo 5. After the drums were moved from Cache A north to Cache B; midway through excavation of the contaminated soil. The red line outlines the contaminated area viewed from the north-west, looking down the site road towards the portal area. Taken May 23, 2007.



LEGEND

-  LAKES, STREAMS AND PONDS
-  WATER LINES



DWG. CHECK		WOLVERINE PROJECT	
DESIGNED BY		LOCATION OF MAY 22, 2007 FUEL SPILL	
DRAWN BY			
DATE			
SCALE:			
PROJECT NO.	1614	DRAWING NO.	REV.



July 13, 2007

**Yukon Environment
Box 2703
Whitehorse, Yukon
Y1A 2C6**

**Attention: Mr. Jules Farkas
Environmental Protection Officer**

Re: Report on Remediation Results following May 24, 2007 Fuel Spill Report.

The following report discusses the results of remedial efforts initiated immediately following discovery of an accidental spill of diesel fuel that occurred at Yukon Zinc Corporation's (YZC) Wolverine project. The spill was detected on May 22, 2007. This document was prepared to satisfy the reporting requirements of the Yukon Environment Act Section 135 (b.) and Section 136, as well as the requirements of Yukon Spills Regulations. In addition, results are presented with respect to the status of the Land Treatment Facility (LTF) adjacent to the existing airstrip. Specifically, the letter addresses the requirement of YZC to provide the timing of relocation of the soil material added to the LTF and temporary storage area.

A spill report issued by YZC on May 24th, 2007 detailed the accidental release of approximately 660 L of diesel fuel. The cause of the spill was the result of improperly sealed fuel drum containers at a fuel cache north of the portal area (UTM 09V 439409m E; 68111157m N). Five of the sixty drums located at the fuel cache leaked diesel fuel. Two drums had defective seals and three drums did not have seals. Figure 1 depicts the location of the fuel spill, which occurred at "Cache A".

Diesel fuel migrated from the barrels downhill, approximately 50 meters to the northeast. Immediately after the spill was discovered, the leaking drums were turned upright and absorbent pads were placed on the stained area. Contaminated soil at the spill site was mainly confined to a "source zone" of approximately 5 m x 5 m directly beneath the leaking drums. A "smear zone" extended beyond the drum location approximately 50 meters resulting from snowmelt runoff flowing across the fuel cache site. This smear zone is outlined in red in Figure 2.

Reclamation of the spill site was initiated immediately with the placement of absorbent pads in the spill area. Additionally, absorbent pads were placed in the lined area containing excavated contaminated soils. A diversion ditch was constructed upslope of the spill area to prevent clean water (snowmelt and shallow groundwater) from entering the spill area. The source zone and smear zone was immediately excavated (Figure 3) and relocated. The depth of penetration of the spill varied from 0.6 m in the source zone to 0.2 m in the smear zone. Approximately 52.5 m³ of contaminated soil was excavated from the site and placed in the 2007 Temporary Storage Area.

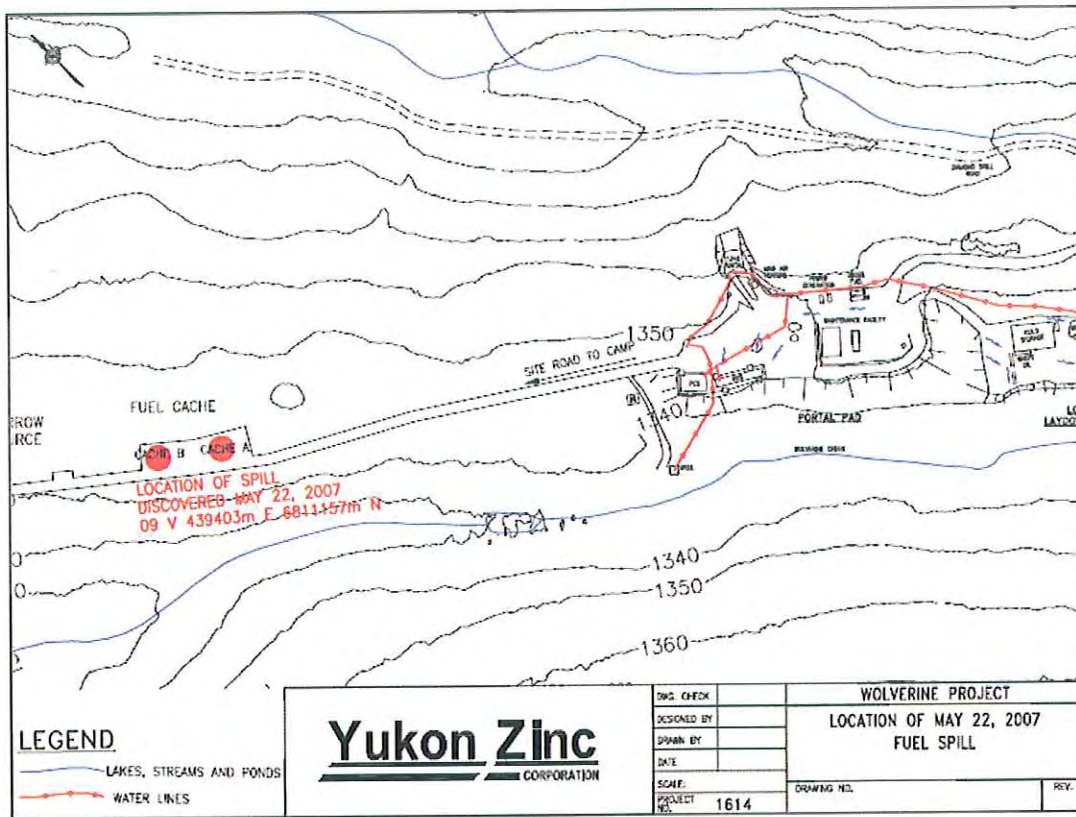


Figure 1: Location of May 22, 2007 Fuel Spill.

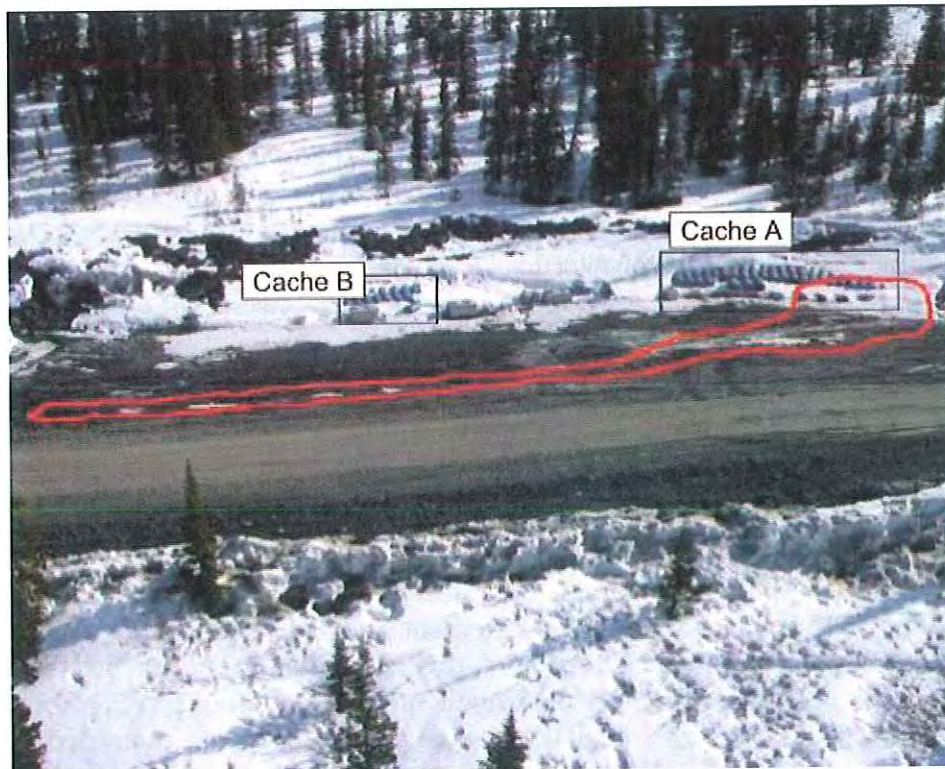


Figure 2: Extent of May 22, 2007 Fuel Spill with the Smear Zone Outlined in Red.



Figure 3: Excavation of Contaminated Soils with “Smear Zone” Soils in the Foreground.

Soil Sampling and Analysis

A total of fourteen samples were collected and analyzed for hydrocarbons. The location and dates that samples were collected are provided in Table 1.

Initial characterization of the contaminated soil was conducted by YZC. Two samples were collected *in situ* on May 24th. An additional sample was collected on June 15th to test for VPH. This sample was collected *ex situ* from within the LTF. For the volume excavated (52.5 m³), three samples adequately characterize the contaminated soil. Sampling and analytical details are summarized in Table 1. Results are presented and discussed in the following sections. Complete results are presented in entirety in Attachment A.

Following excavation of the contaminated soil, eleven samples were collected for confirmatory characterization. Ten samples were collected by Lorax on June 7th. These samples were collected along a transect of the affected area, as illustrated in Figure 4. An additional confirmatory sample was collected by YZC on June 15th (Sample ID 1.5). All eleven samples were collected *in situ*.

Soil samples were analyzed for volatile petroleum hydrocarbons (VPH) and/or light extractable petroleum hydrocarbons (LEPH) and heavy extractable hydrocarbons (HEPH). Details of analyses per sample are provided in Table 1.

Clean methods were employed for soil sampling, which involved soil removal using clean latex gloves. Samples were collected in 500 mL glass jars specifically designed for hydrocarbon sampling. *In situ* rocks were used to scoop the soil into the jars. The jars were tightly sealed, labeled and stored at 4°C prior to analysis in Vancouver, BC. Samples were collected within the top 10 cm of soil and sampling was spaced

approximately 8 m apart. Analytical results of the hydrocarbon test-work are presented and discussed in the following sections. Complete results are presented in entirety in Attachment A.

Table 1: Description of sample collection for May 22nd, 2007 diesel spill.

Report ID	Sample ID	Collected by	Date Collected	Analysis	Location
<i>Spill Characterization Sampling</i>					
1	LTF	YZC	June 15	VPH, LEPH, HEPH	Ex Situ (LTF)
2*	1	YZC	May 24	LEPH, HEPH	In Situ
3*	7	YZC	May 24	LEPH, HEPH	In Situ
<i>Confirmatory Characterization Sampling</i>					
1	1	Lorax	June 7	LEPH, HEPH	In Situ
1.5	FC Site 1.5	YZC	June 15	VPH, LEPH, HEPH	In Situ
2	2	Lorax	June 7	LEPH, HEPH	In Situ
3	3	Lorax	June 7	LEPH, HEPH	In Situ
4	4	Lorax	June 7	LEPH, HEPH	In Situ
5	5	Lorax	June 7	LEPH, HEPH	In Situ
6	6	Lorax	June 7	LEPH, HEPH	In Situ
7	7	Lorax	June 7	LEPH, HEPH	In Situ
8	8	Lorax	June 7	VPH, LEPH, HEPH	In Situ
9	9	Lorax	June 7	LEPH, HEPH	In Situ
10	10	Lorax	June 7	LEPH, HEPH	In Situ

Note: * Samples 2 and 3 collected by YZC were taken prior to excavation efforts, but reflect material in the LTF.

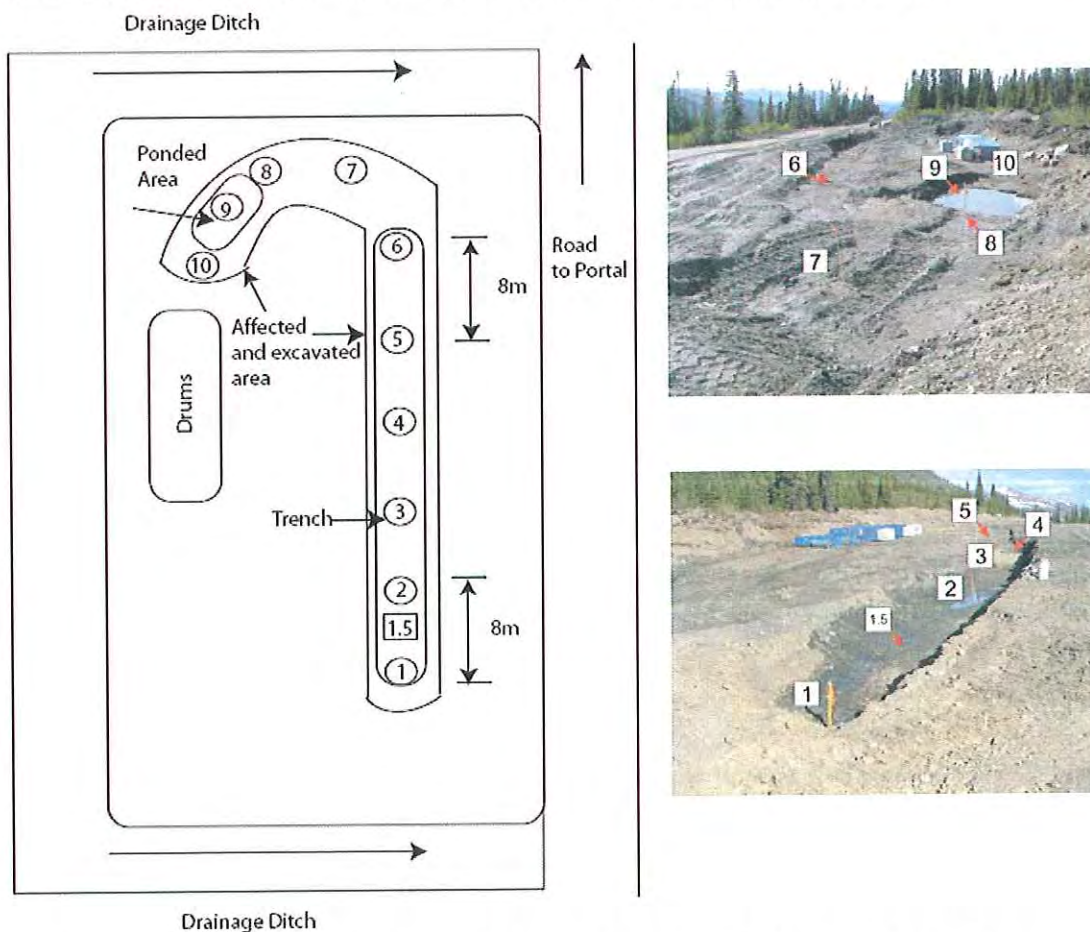


Figure 4: Confirmatory Sampling Scheme of Spill Area following Excavation.

Spill Characterization Results

Three (3) samples of contaminated soil were collected by YZC (Table 1) and submitted for hydrocarbon analyses. Results of the soil sampling are presented in entirety in Attachment A and are summarized below.

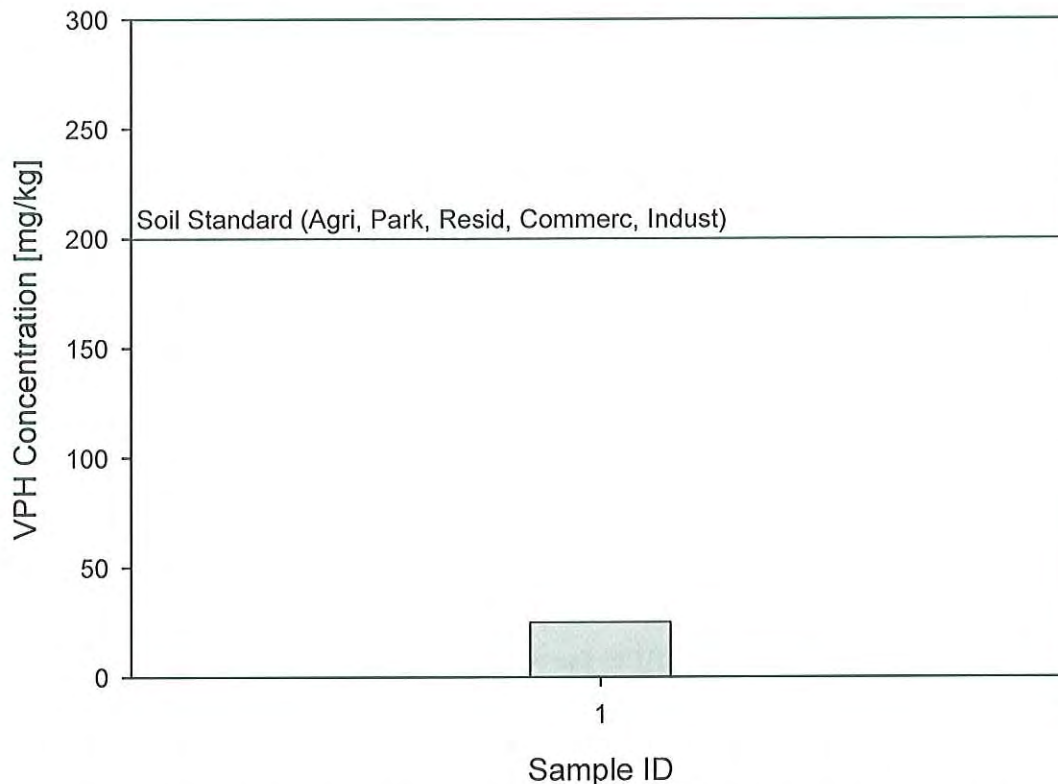


Figure 5: Concentration of VPH for Sample Collected from Contaminated Soil.

Volatile petroleum hydrocarbons (VPH) can be defined as 6 – 10 carbon chain-linked organic compounds such as gasoline, paint thinners, and mineral spirits. Only one sample (Sample 1) was analyzed for VPH concentrations by YZC. The analyses indicate VPH values were well below maximum soil standards, as shown in Figure 5. VPH values were a factor of 4 *lower* than the maximum allowable limit for VPH (200 mg/kg).

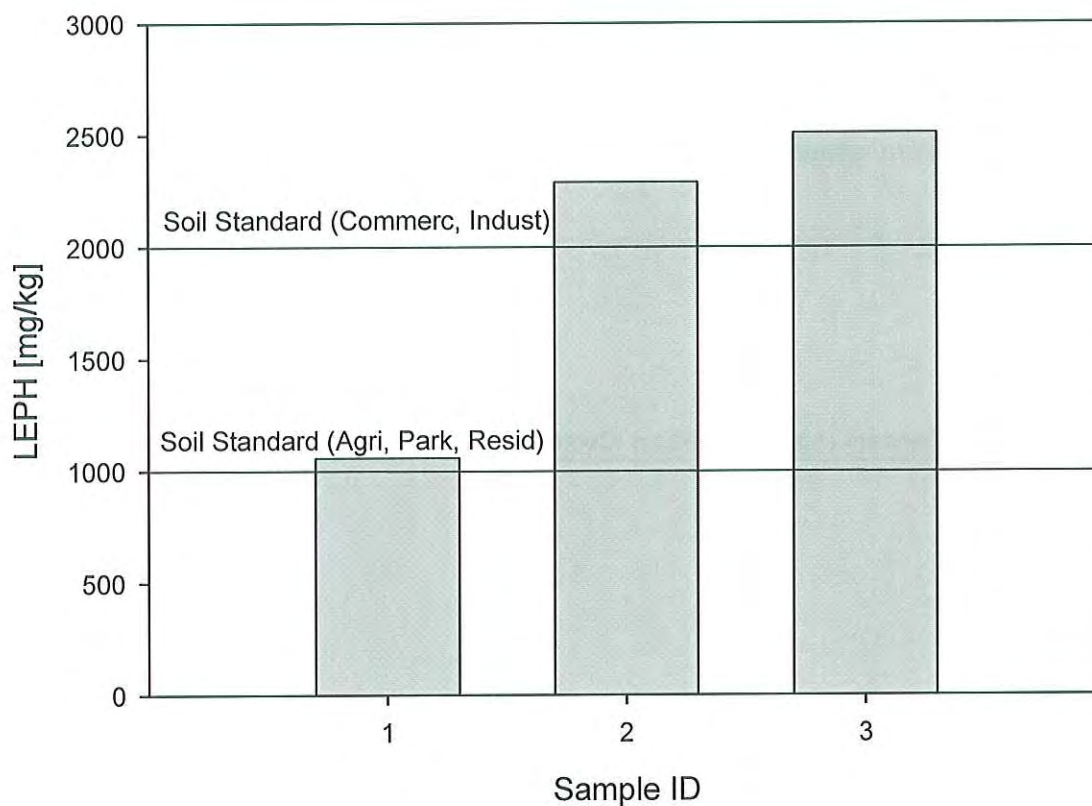


Figure 6: Concentrations of LEPH for Samples Collected from Contaminated Soil.

Light and heavy extractable petroleum hydrocarbons (LEPH and HEPH) are organic compounds containing 10 – 19 and 20 – 32 carbon groups (respectively). Both LEPH and HEPH concentrations were analyzed in pre-excavation or remediation efforts, as shown in Figures 6 and 7, respectively. Analyses indicate that LEPH concentrations are marginally above commercial/industrial soil standards (*i.e.*, 2000 mg LEPH/kg).

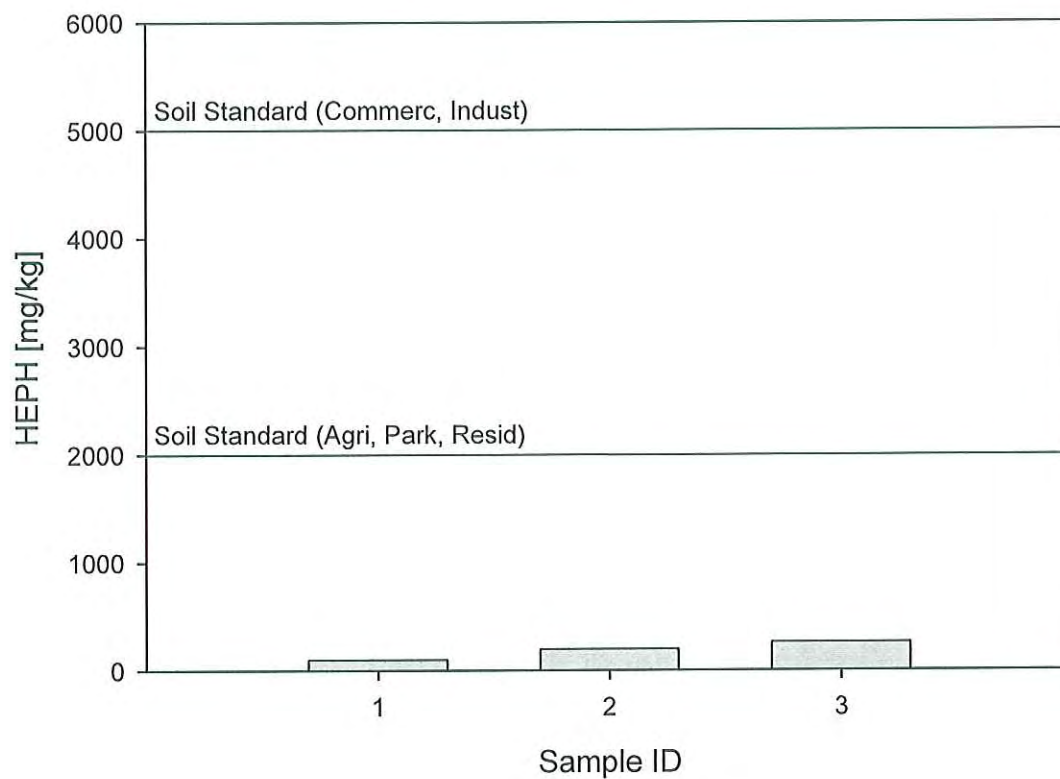


Figure 7: Concentrations of HEPH for Samples Collected from Contaminated Soil.

HEPH concentrations in soils collected from contaminated soil are shown in Figure 7. HEPH concentrations are significantly below agricultural/residential soil standards (*i.e.*, 200 mg HEPH/kg) and pose little risk to the surrounding environment.

Based on these results, the levels of contamination are adequately low and are not subject to special waste regulation requirements.

Confirmatory Characterization Results

Eleven (11) samples were collected for confirmatory characterization and hydrocarbon analysis (e.g., VPH, LEPH, and HEPH). These samples were collected *in situ* following excavation of the spill area. Results of the soil analysis are presented in entirety in Attachment A and are summarized below.

VPH was analyzed in 2 samples (Sample 1.5 and Sample 8) taken from the excavated area. Results are illustrated in Figure 8 and were significantly below the maximum allowable concentration (i.e., 200 mg/kg), as per the Yukon Contaminated Sites Regulations Schedule 1 limits for VPH. Analysis of VPH in Sample 1.5 was recorded as below the analytical detection limit (i.e., 10 mg VPH/kg).

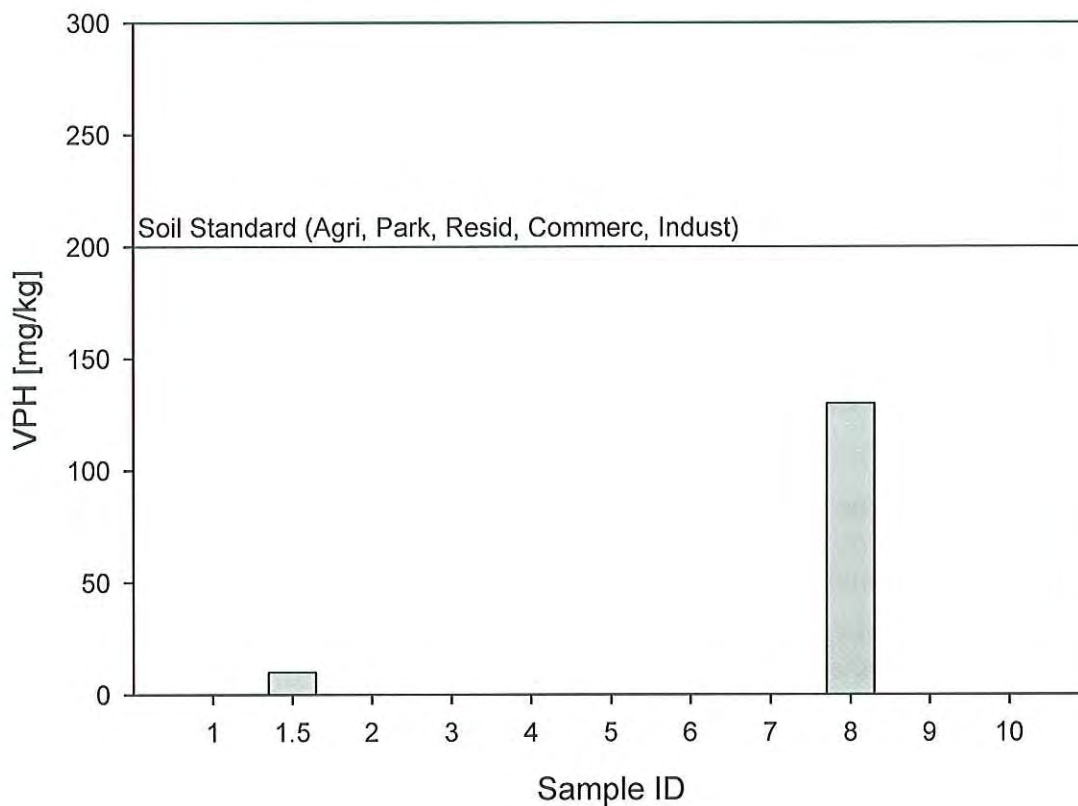


Figure 8: Concentrations of VPH for Samples Collected within the Remediated Area.

Soil sample analyses of light extractable petroleum hydrocarbons (LEPH) are presented in Figure 9. LEPH levels were typically below the analytical detection limit of 200 mg/kg (*i.e.*, Samples 1.5, 2 – 5 and 10) and well below the most stringent limit of 1000 mg/kg set for agricultural, park and residential soils. The one exception to this was Sample 8, which had an LEPH concentration of 2050 mg/kg. This concentration exceeds the commercial or industrial maximum allowable limit by 2.5% or 50 mg LEPH per kg soil. Sample 8 was collected from directly below the location of the leaking drums and represents the initial discharge area of leaking diesel fuel.

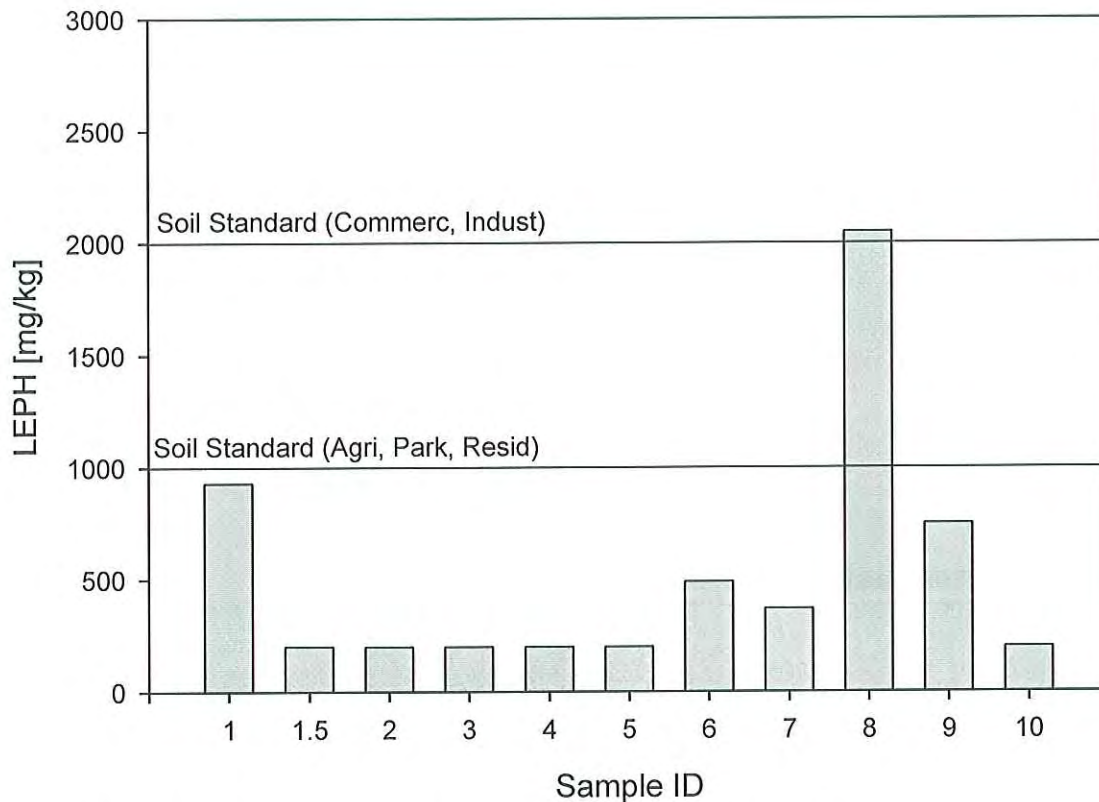


Figure 9: Concentrations of LEPH for Samples Collected within the Remediated Area.

Soil sample analyses for heavy extractable petroleum hydrocarbons (HEPH) are presented in Figure 10. All results exhibited residual concentrations that were typically below the analytical detection limit of 200 mg/kg (for Samples 1 – 10) and 100 mg/kg (for Sample 1.5). The difference in detection limits occurred due to sample submittal by Lorax (Sample 1 – 10) and YZC (Sample 1.5) to different analytical laboratories. All samples were well below the most stringent limit of 1000 mg/kg set for agricultural, park and residential soils (Figure 10). As such, HEPH concentrations do not pose an environmental risk to the spill site.

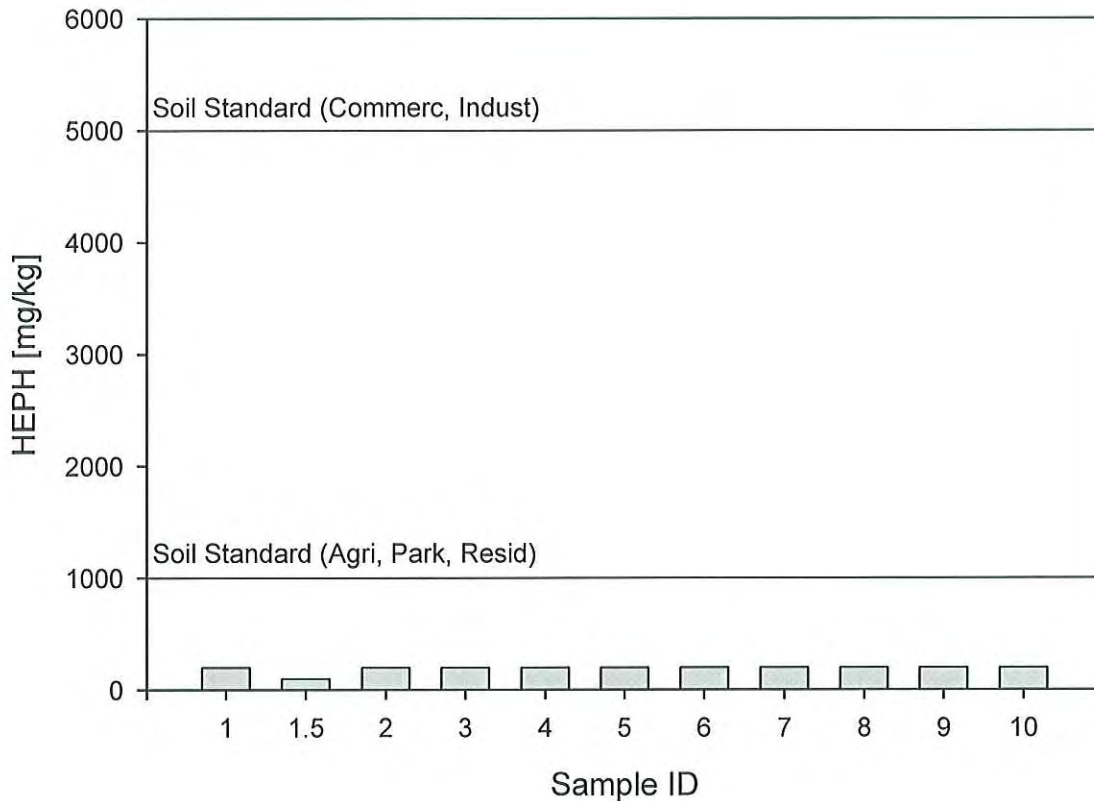


Figure 10: Concentrations of HEPH for Samples Collected within the Remediated Area.

Summary

Collectively, the soil sampling analyses and results indicate that remedial measures employed by YZC immediately following initial observations of the leaking fuel drums limited the extent of hydrocarbon contamination. Moreover, the subsequent excavation of impacted materials has resulted in the reasonable restoration of the area affected by the fuel spill.

The recommended course of action for the 2007 spill is to reclaim the site. The excavated voids should be backfilled and graded. Further, the trenches excavated around the perimeter of the fuel cache should be backfilled.

Approximately 217.5 m³ of petroleum hydrocarbon contaminated soil material has been relocated to YZC's permitted LTF facility and temporary storage area (Figure 11). Material within these facilities originated from three separate incidents. The LTF contains approximately 60 m³ of contaminated soil from the 2005 fuel spill. Material in the temporary storage area consists of excavated contaminated soil material from the 2005 spill clean-up (~ 70 m³), excavated soil from the 2006 fuel spill (~ 35 m³), and excavated soil from the spill described in this document (~ 52.5 m³). A total of approximately 157.5 m³ of contaminated soil is currently located in the temporary storage area stockpiles.

During construction of the LTF and temporary storage area, additional soil was placed on top of the liner as protection. This additional soil, when added to the volume of relocated contaminated soil, roughly doubles the total volume of material in the storage facilities. In total, the current estimate of soil in the LTF and temporary storage area is approximately 407 m³.

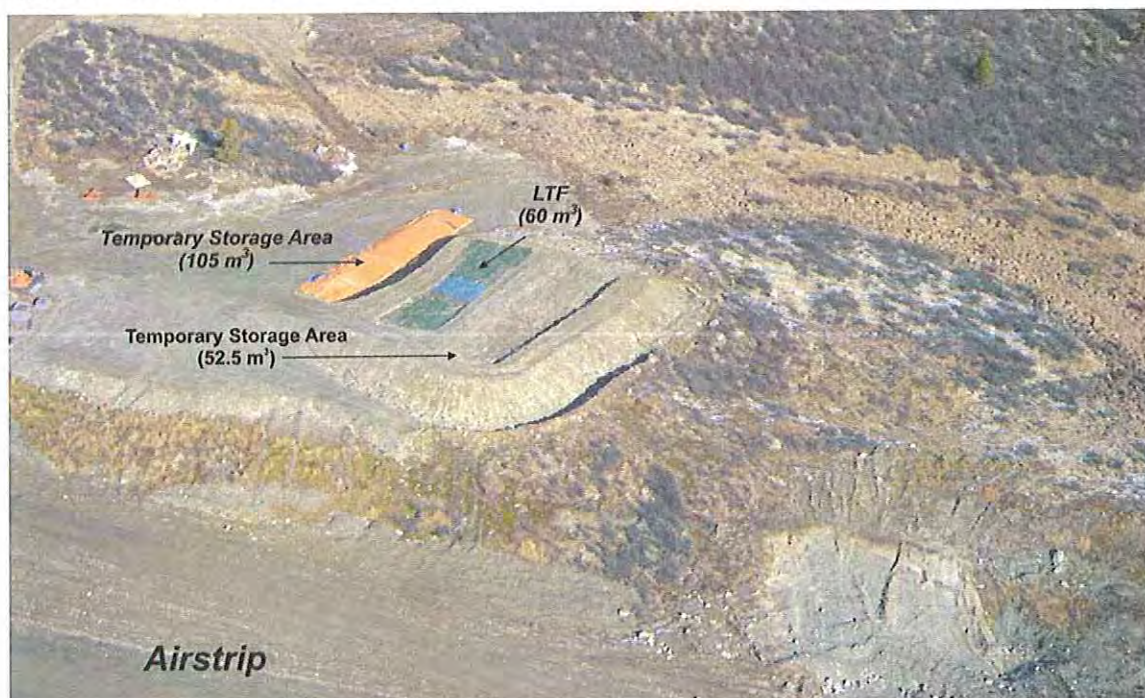


Figure 11: LTF and Temporary Storage Area, Fall 2006.


YZC has committed to relocate contaminated soil stored in the LTF and temporary storage area immediately following construction of the access road to the Robert

Campbell Highway, which is scheduled for completion in the fall 2007. The date of soil material relocation cannot be more specific at this time, owing to uncertainties in construction timelines. YZC has proposed to move the soil off the site by the end of September 2007. Further, YZC is committed to relocating all of the soil within the LTF and temporary storage area and will contract an independent consultant to assess this volume, if deemed necessary.

YZC has requested for guidance on whether submission of a permit amendment is required for the temporary storage of the contaminated soil. If required, YZC will submit an application for a soil relocation permit and/or an LTF permit amendment to the Environmental Programs Branch for approval.

Should you have any questions regarding this report, please feel free to contact me at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Justin Stockwell". The signature is fluid and cursive, with the first name "Justin" and last name "Stockwell" clearly distinguishable.

Justin Stockwell
LORAX ENVIRONMENTAL SERVICES LTD.

Cc: Pamela Ladyman, Yukon Zinc Corporation

Appendix A: Analytical Results

Your C.O.C. #: F84170

Attention: PAMELA LADYMAN

Yukon Zinc Corporation
VANCOUVER
701-475 Howe Street
Vancouver, BC
CANADA V6C 2B3

Report Date: 2007/06/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A725992

Received: 2007/06/18, 10:50

Sample Matrix: Soil
Samples Received: 2

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
BTEX/MTBE Soil LH, VH, F1 SIM/MS	2	2007/06/19	2007/06/20	BRN-SOP-0303 R11.0	Based on EPA 8260B
Moisture	2	N/A	2007/06/20	BRN SOP-00321 R3.0	Ont MOE -E 3139
PAH in Soil by GC/MS (SIM)	2	2007/06/21	2007/06/21	BRN SOP-00332 R5.0	Based on EPA 8270C
Total LMW, HMW, Total PAH Calc	2	N/A	2007/06/22		
EPH less PAH in Soil By GC/FID ☉	2	N/A	2007/06/22		
BC Hydrocarbons in Soil by GC/FID ☉	2	2007/06/19	2007/06/20	BRN SOP-00341 R5.0	BCMOE Soil Method 3
Volatile HC-BTEX	2	N/A	2007/06/21		

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

(1) SCC/CAEAL

Encryption Key

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

ELKA DADMAND,
Email: edadmand@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

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

Total cover pages: 1

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

RESULTS OF CHEMICAL ANALYSES OF SOIL

Maxxam ID		F67592	F67593		
Sampling Date		2007/06/15 11:00	2007/06/15 11:00		
COC Number		F84170	F84170		
	Units	LTF	FC SITE 1.5	RDL	QC Batch

Physical Properties					
Moisture	%	8.8	7.6	0.3	1683451

RDL = Reportable Detection Limit

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

BCCSR BTEX/VPH BY HS - SOIL (SOIL)

Maxxam ID		F67592	F67593		
Sampling Date		2007/06/15 11:00	2007/06/15 11:00		
COC Number		F84170	F84170		
	Units	LTF	FC SITE 1.5	RDL	QC Batch

Volatiles					
VPH (VH6 to 10 - BTEX)	mg/kg	25	<10	10	1682467
VH C6-C10	mg/kg	25	<10	10	1688583
Monocyclic Aromatics					
Benzene	mg/kg	<0.005	<0.005	0.005	1688583
Ethylbenzene	mg/kg	<0.01	<0.01	0.01	1688583
m & p-Xylene	mg/kg	<0.1	<0.1	0.1	1688583
o-Xylene	mg/kg	<0.1	<0.1	0.1	1688583
Styrene	mg/kg	<0.1	<0.1	0.1	1688583
Toluene	mg/kg	<0.05	<0.05	0.05	1688583
Xylenes (Total)	mg/kg	<0.1	<0.1	0.1	1688583
Volatiles					
Methyl-tert-butylether (MTBE)	mg/kg	<0.1	<0.1	0.1	1688583
Surrogate Recovery (%)					
4-BROMOFLUOROBENZENE (sur.)	%	101	101		1688583
D10-ETHYLBENZENE (sur.)	%	102	100		1688583
D4-1,2-DICHLOROETHANE (sur.)	%	95	94		1688583
D8-TOLUENE (sur.)	%	108	110		1688583
RDL = Reportable Detection Limit					

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

LEPH & HEPH FOR CSR - SOIL (SOIL)

Maxxam ID		F67592		F67593		
Sampling Date		2007/06/15 11:00		2007/06/15 11:00		
COC Number		F84170		F84170		
	Units	LTF	RDL	FC SITE 1.5	RDL	QC Batch

Polycyclic Aromatics						
Low Molecular Weight PAH's	mg/kg	<0.1	0.1	<0.01	0.01	1682464
High Molecular Weight PAH's	mg/kg	0.05	0.02	<0.02	0.02	1682464
Total PAH	mg/kg	0.1	0.1	<0.02	0.02	1682464
Naphthalene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
2-Methylnaphthalene	mg/kg	0.05	0.01	<0.01	0.01	1688993
Acenaphthylene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
Acenaphthene	mg/kg	<0.03 (1)	0.03	<0.01	0.01	1688993
Fluorene	mg/kg	<0.1 (1)	0.1	<0.01	0.01	1688993
Phenanthrene	mg/kg	<0.05 (1)	0.05	<0.01	0.01	1688993
Anthracene	mg/kg	<0.02 (1)	0.02	<0.01	0.01	1688993
Fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Pyrene	mg/kg	0.05	0.01	<0.01	0.01	1688993
Benzo(a)anthracene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Chrysene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(b&j)fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(k)fluoranthene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Benzo(a)pyrene	mg/kg	<0.01	0.01	<0.01	0.01	1688993
Indeno(1,2,3-cd)pyrene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
Dibenz(a,h)anthracene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
Benzo(g,h,i)perylene	mg/kg	<0.02	0.02	<0.02	0.02	1688993
.						
HEPH (C19-C32 less PAH)	mg/kg	<100	100	<100	100	1682465
LEPH (C10-C19 less PAH)	mg/kg	1060	100	202	100	1682465
Hydrocarbons						
EPH (C10-C19)	mg/kg	1060	100	202	100	1685295
EPH (C19-C32)	mg/kg	<100	100	<100	100	1685295
Surrogate Recovery (%)						
D10-ANTHRACENE (sur.)	%	86		85		1688993
D12-BENZO(A)PYRENE (sur.)	%	53		46		1688993
D8-ACENAPHTHYLENE (sur.)	%	81		83		1688993
TERPHENYL-D14 (sur.)	%	77		77		1688993
O-TERPHENYL (sur.)	%	104		102		1685295
RDL = Reportable Detection Limit (1) RDL raised due to sample matrix interference.						

Maxxam Job #: A725992
Report Date: 2007/06/22

Yukon Zinc Corporation
Client Project #:
Site Reference:
Sampler Initials: JS

General Comments

Results relate only to the items tested.

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report
Maxxam Job Number: VA725992

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1683451 TL4	BLANK	Moisture	2007/06/20	<0.3		%	
	RPD	Moisture	2007/06/20	9.3		%	20
1685295 IT1	MATRIX SPIKE	O-TERPHENYL (sur.)	2007/06/20		104	%	70 - 130
		EPH (C10-C19)	2007/06/20		89	%	50 - 130
		EPH (C19-C32)	2007/06/20		88	%	50 - 130
	BLANK	O-TERPHENYL (sur.)	2007/06/20		101	%	70 - 130
		EPH (C10-C19)	2007/06/20	<100		mg/kg	
		EPH (C19-C32)	2007/06/20	<100		mg/kg	
	RPD	EPH (C10-C19)	2007/06/20	NC		%	50
		EPH (C19-C32)	2007/06/20	NC		%	50
1688583 AC2	MATRIX SPIKE	Benzene	2007/06/20		108	%	60 - 140
		Ethylbenzene	2007/06/20		111	%	60 - 140
		m & p-Xylene	2007/06/20		104	%	60 - 140
		o-Xylene	2007/06/20		108	%	60 - 140
		Toluene	2007/06/20		110	%	60 - 140
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		101	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		102	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		92	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		108	%	70 - 130
	SPIKE	Benzene	2007/06/20		98	%	80 - 120
		Ethylbenzene	2007/06/20		102	%	80 - 120
		m & p-Xylene	2007/06/20		96	%	80 - 120
		o-Xylene	2007/06/20		100	%	80 - 120
		Toluene	2007/06/20		101	%	80 - 120
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		100	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		90	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		91	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		107	%	70 - 130
	BLANK	VH C6-C10	2007/06/20	<10		mg/kg	
		Benzene	2007/06/20	<0.005		mg/kg	
		Ethylbenzene	2007/06/20	<0.01		mg/kg	
		m & p-Xylene	2007/06/20	<0.1		mg/kg	
		o-Xylene	2007/06/20	<0.1		mg/kg	
		Styrene	2007/06/20	<0.1		mg/kg	
		Toluene	2007/06/20	<0.05		mg/kg	
		Xylenes (Total)	2007/06/20	<0.1		mg/kg	
		4-BROMOFLUOROBENZENE (sur.)	2007/06/20		100	%	70 - 130
		D10-ETHYLBENZENE (sur.)	2007/06/20		100	%	50 - 130
		D4-1,2-DICHLOROETHANE (sur.)	2007/06/20		91	%	70 - 130
		D8-TOLUENE (sur.)	2007/06/20		113	%	70 - 130
		Methyl-tert-butylether (MTBE)	2007/06/20	<0.1		mg/kg	
	RPD	VH C6-C10	2007/06/20	NC		%	50
		Benzene	2007/06/20	NC		%	50
		Ethylbenzene	2007/06/20	NC		%	50
		m & p-Xylene	2007/06/20	NC		%	50
		o-Xylene	2007/06/20	NC		%	50
		Styrene	2007/06/20	NC		%	50
		Toluene	2007/06/20	NC		%	50
		Xylenes (Total)	2007/06/20	NC		%	50
1688993 SY	MATRIX SPIKE	D10-ANTHRACENE (sur.)	2007/06/21		72	%	30 - 130
		D12-BENZO(A)PYRENE (sur.)	2007/06/21		78	%	30 - 130
		D8-ACENAPHTHYLENE (sur.)	2007/06/21		81	%	30 - 130
		TERPHENYL-D14 (sur.)	2007/06/21		84	%	30 - 130
		Naphthalene	2007/06/21		75	%	40 - 130
		2-Methylnaphthalene	2007/06/21		71	%	40 - 130

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: VA725992

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits	
1688993 SY	MATRIX SPIKE	Acenaphthylene	2007/06/21		71	%	40 - 130	
		Acenaphthene	2007/06/21		74	%	40 - 130	
		Fluorene	2007/06/21		72	%	40 - 130	
		Phenanthrene	2007/06/21		67	%	40 - 130	
		Anthracene	2007/06/21		74	%	40 - 130	
		Fluoranthene	2007/06/21		68	%	40 - 130	
		Pyrene	2007/06/21		74	%	40 - 130	
		Benzo(a)anthracene	2007/06/21		72	%	40 - 130	
		Chrysene	2007/06/21		76	%	40 - 130	
		Benzo(b&j)fluoranthene	2007/06/21		67	%	40 - 130	
		Benzo(k)fluoranthene	2007/06/21		70	%	40 - 130	
		Benzo(a)pyrene	2007/06/21		73	%	40 - 130	
		Indeno(1,2,3-cd)pyrene	2007/06/21		67	%	40 - 130	
		Dibenz(a,h)anthracene	2007/06/21		67	%	40 - 130	
		Benzo(g,h,i)perylene	2007/06/21		59	%	40 - 130	
		SPIKE	D10-ANTHRACENE (sur.)	2007/06/21		80	%	30 - 130
			D12-BENZO(A)PYRENE (sur.)	2007/06/21		79	%	30 - 130
	D8-ACENAPHTHYLENE (sur.)		2007/06/21		82	%	30 - 130	
	TERPHENYL-D14 (sur.)		2007/06/21		82	%	30 - 130	
	Naphthalene		2007/06/21		97	%	40 - 130	
	2-Methylnaphthalene		2007/06/21		92	%	40 - 130	
	Acenaphthylene		2007/06/21		88	%	40 - 130	
	Acenaphthene		2007/06/21		91	%	40 - 130	
	Fluorene		2007/06/21		88	%	40 - 130	
	Phenanthrene		2007/06/21		89	%	40 - 130	
	Anthracene		2007/06/21		91	%	40 - 130	
	Fluoranthene		2007/06/21		90	%	40 - 130	
	Pyrene		2007/06/21		90	%	40 - 130	
	Benzo(a)anthracene		2007/06/21		86	%	40 - 130	
	Chrysene		2007/06/21		90	%	40 - 130	
	Benzo(b&j)fluoranthene		2007/06/21		89	%	40 - 130	
	Benzo(k)fluoranthene		2007/06/21		93	%	40 - 130	
	Benzo(a)pyrene	2007/06/21		93	%	40 - 130		
	Indeno(1,2,3-cd)pyrene	2007/06/21		82	%	40 - 130		
Dibenz(a,h)anthracene	2007/06/21		84	%	40 - 130			
Benzo(g,h,i)perylene	2007/06/21		78	%	40 - 130			
BLANK	D10-ANTHRACENE (sur.)	2007/06/21			93	%	30 - 130	
	D12-BENZO(A)PYRENE (sur.)	2007/06/21			81	%	30 - 130	
	D8-ACENAPHTHYLENE (sur.)	2007/06/21			88	%	30 - 130	
	TERPHENYL-D14 (sur.)	2007/06/21			85	%	30 - 130	
	Naphthalene	2007/06/21	<0.01			mg/kg		
	2-Methylnaphthalene	2007/06/21	<0.01			mg/kg		
	Acenaphthylene	2007/06/21	<0.01			mg/kg		
	Acenaphthene	2007/06/21	<0.01			mg/kg		
	Fluorene	2007/06/21	<0.01			mg/kg		
	Phenanthrene	2007/06/21	<0.01			mg/kg		
	Anthracene	2007/06/21	<0.01			mg/kg		
	Fluoranthene	2007/06/21	<0.01			mg/kg		
	Pyrene	2007/06/21	<0.01			mg/kg		
	Benzo(a)anthracene	2007/06/21	<0.01			mg/kg		
	Chrysene	2007/06/21	<0.01			mg/kg		
	Benzo(b&j)fluoranthene	2007/06/21	<0.01			mg/kg		
	Benzo(k)fluoranthene	2007/06/21	<0.01			mg/kg		
Benzo(a)pyrene	2007/06/21	<0.01			mg/kg			
Indeno(1,2,3-cd)pyrene	2007/06/21	<0.02			mg/kg			

Yukon Zinc Corporation
Attention: PAMELA LADYMAN
Client Project #:
P.O. #:
Site Reference:

Quality Assurance Report (Continued)

Maxxam Job Number: VA725992

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1688993 SY	BLANK	Dibenz(a,h)anthracene	2007/06/21	<0.02		mg/kg	
		Benzo(g,h,i)perylene	2007/06/21	<0.02		mg/kg	
	RPD	Naphthalene	2007/06/21	NC		%	50
		2-Methylnaphthalene	2007/06/21	NC		%	50
		Acenaphthylene	2007/06/21	NC		%	50
		Acenaphthene	2007/06/21	NC		%	50
		Fluorene	2007/06/21	NC		%	50
		Phenanthrene	2007/06/21	NC		%	50
		Anthracene	2007/06/21	NC		%	50
		Fluoranthene	2007/06/21	NC		%	50
		Pyrene	2007/06/21	NC		%	50
		Benzo(a)anthracene	2007/06/21	NC		%	50
		Chrysene	2007/06/21	NC		%	50
		Benzo(b&j)fluoranthene	2007/06/21	NC		%	50
		Benzo(k)fluoranthene	2007/06/21	NC		%	50
		Benzo(a)pyrene	2007/06/21	NC		%	50
		Indeno(1,2,3-cd)pyrene	2007/06/21	NC		%	50
		Dibenz(a,h)anthracene	2007/06/21	NC		%	50
		Benzo(g,h,i)perylene	2007/06/21	NC		%	50

NC = Non-calculable
RPD = Relative Percent Difference

Burnaby: 8577 Commerce Court V5A 4N5 Telephone(604) 444-4808 Fax(604) 444-4511



Environmental Division

ANALYTICAL REPORT

YUKON ZINC CORPORATION
ATTN: PAMELA LADYMAN
701 - 475 HOWE STREET
VANCOUVER BC V6C 2B3

Reported On: 22-JUN-07 05:19 PM

Lab Work Order #: **L516181**

Date Received: **11-JUN-07**

Project P.O. #:
Job Reference:
Legal Site Desc:
CofC Numbers:

Other Information:

Comments: Please note that the extraction for BTEX/VH analysis was done on June 15th.

Timothy Guy Crowther
General Manager, Vancouver

For any questions about this report please contact your Account Manager:

Andre Langlais

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY.
ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU
REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L516181-1	L516181-2	L516181-3	L516181-4	L516181-5
		Description					
		Sampled Date	24-MAY-07	24-MAY-07	07-JUN-07	07-JUN-07	07-JUN-07
		Sampled Time					
		Client ID	1	7	1	2	3
Grouping	Analyte						
SOIL							
Physical Tests	% Moisture (%)		9.86	9.59	9.65	10.7	9.57
Non-Halogenated Volatiles	Benzene (mg/kg)						
	Ethylbenzene (mg/kg)						
	Methyl t-butyl ether (MTBE) (mg/kg)						
	Styrene (mg/kg)						
	Toluene (mg/kg)						
	meta- & para-Xylene (mg/kg)						
	ortho-Xylene (mg/kg)						
	Xylenes (mg/kg)						
	Volatile Hydrocarbons (VH6-10) (mg/kg)						
	VPH (C6-C10) (mg/kg)						
	Surrogate: 4-Bromofluorobenzene (SS) (%)						
	Surrogate: 2,4-Dichlorotoluene (SS) (%)						
	Surrogate: Fluorobenzene (SS) (%)						
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)		<0.40	<0.40	<0.040	<0.040	<0.040
	Acenaphthylene (mg/kg)		<0.50	<0.50	<0.050	<0.050	<0.050
	Anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Benz(a)anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(a)pyrene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Chrysene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	Fluorene (mg/kg)		<0.20	<0.20	<0.050	<0.050	<0.050
	Indeno(1,2,3-c,d)pyrene (mg/kg)		<0.050	<0.050	<0.050	<0.050	<0.050
	2-Methylnaphthalene (mg/kg)		<0.50	<0.50	<0.050	<0.050	<0.050
	Naphthalene (mg/kg)		<0.50	<0.50	<0.050	<0.050	<0.050
	Phenanthrene (mg/kg)		<0.090	<0.070	<0.050	<0.050	<0.050
	Pyrene (mg/kg)		0.062	0.060	<0.050	<0.050	<0.050
	Surrogate: d8-Naphthalene (SS) (%)		91	88	85	97	91
	Surrogate: d10-Acenaphthene (SS) (%)		123	113	88	97	90
	Surrogate: d10-Phenanthrene (SS) (%)		96	79	93	99	92
	Surrogate: d12-Chrysene (SS) (%)		78	77	83	87	76
Extractable Hydrocarbons	EPH10-19 (mg/kg)		2290	2510	930	<200	<200
	EPH19-32 (mg/kg)		<200	260	<200	<200	<200

ALS LABORATORY GROUP ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L516181-6	L516181-7	L516181-8	L516181-9	L516181-10
		07-JUN-07	07-JUN-07	07-JUN-07	07-JUN-07	07-JUN-07
		4	5	6	7	8
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)	8.80	8.10	10.0	8.99	9.97
Non-Halogenated Volatiles	Benzene (mg/kg)					<0.040
	Ethylbenzene (mg/kg)					<0.050
	Methyl t-butyl ether (MTBE) (mg/kg)					<0.20
	Styrene (mg/kg)					<0.050
	Toluene (mg/kg)					<0.050
	meta- & para-Xylene (mg/kg)					0.059
	ortho-Xylene (mg/kg)					0.329
	Xylenes (mg/kg)					0.39
	Volatile Hydrocarbons (VH6-10) (mg/kg)					132
	VPH (C6-C10) (mg/kg)					130
	Surrogate: 4-Bromofluorobenzene (SS) (%)					107
	Surrogate: 2,4-Dichlorotoluene (SS) (%)					124
	Surrogate: Fluorobenzene (SS) (%)					95
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.040	<0.040	<0.040	<0.040	<0.20
	Acenaphthylene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benz(a)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(a)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Chrysene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluoranthene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Fluorene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.20
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	2-Methylnaphthalene (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.814
	Naphthalene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.30
	Phenanthrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.070
	Pyrene (mg/kg)	<0.050	<0.050	<0.050	<0.050	0.081
	Surrogate: d8-Naphthalene (SS) (%)	93	87	90	90	87
	Surrogate: d10-Acenaphthene (SS) (%)	93	88	93	92	90
	Surrogate: d10-Phenanthrene (SS) (%)	92	89	93	91	89
	Surrogate: d12-Chrysene (SS) (%)	73	79	72	76	83
Extractable Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	490	370	2050
	EPH19-32 (mg/kg)	<200	<200	<200	<200	<200

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		Sample ID	L516181-11	L516181-12			
		Description					
		Sampled Date	07-JUN-07	07-JUN-07			
		Sampled Time					
		Client ID	9	10			
Grouping	Analyte						
SOIL							
Physical Tests	% Moisture (%)		11.6	10.2			
Non-Halogenated Volatiles	Benzene (mg/kg)						
	Ethylbenzene (mg/kg)						
	Methyl t-butyl ether (MTBE) (mg/kg)						
	Styrene (mg/kg)						
	Toluene (mg/kg)						
	meta- & para-Xylene (mg/kg)						
	ortho-Xylene (mg/kg)						
	Xylenes (mg/kg)						
	Volatile Hydrocarbons (VH6-10) (mg/kg)						
	VPH (C6-C10) (mg/kg)						
	Surrogate: 4-Bromofluorobenzene (SS) (%)						
	Surrogate: 2,4-Dichlorotoluene (SS) (%)						
	Surrogate: Fluorobenzene (SS) (%)						
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)		<0.20	<0.040			
	Acenaphthylene (mg/kg)		<0.050	<0.050			
	Anthracene (mg/kg)		<0.050	<0.050			
	Benz(a)anthracene (mg/kg)		<0.050	<0.050			
	Benzo(a)pyrene (mg/kg)		<0.050	<0.050			
	Benzo(b)fluoranthene (mg/kg)		<0.050	<0.050			
	Benzo(g,h,i)perylene (mg/kg)		<0.050	<0.050			
	Benzo(k)fluoranthene (mg/kg)		<0.050	<0.050			
	Chrysene (mg/kg)		<0.050	<0.050			
	Dibenz(a,h)anthracene (mg/kg)		<0.050	<0.050			
	Fluoranthene (mg/kg)		<0.050	<0.050			
	Fluorene (mg/kg)		<0.050	<0.050			
	Indeno(1,2,3-c,d)pyrene (mg/kg)		<0.050	<0.050			
	2-Methylnaphthalene (mg/kg)		0.365	<0.050			
	Naphthalene (mg/kg)		<0.20	<0.050			
	Phenanthrene (mg/kg)		<0.050	<0.050			
	Pyrene (mg/kg)		<0.050	<0.050			
	Surrogate: d8-Naphthalene (SS) (%)		92	95			
	Surrogate: d10-Acenaphthene (SS) (%)		93	96			
	Surrogate: d10-Phenanthrene (SS) (%)		95	94			
	Surrogate: d12-Chrysene (SS) (%)		84	80			
Extractable Hydrocarbons	EPH10-19 (mg/kg)		750	<200			
	EPH19-32 (mg/kg)		<200	<200			

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		Sample ID	L516181-1	L516181-2	L516181-3	L516181-4	L516181-5
		Description					
		Sampled Date	24-MAY-07	24-MAY-07	07-JUN-07	07-JUN-07	07-JUN-07
		Sampled Time					
		Client ID	1	7	1	2	3
Grouping	Analyte						
SOIL							
Extractable Hydrocarbons	LEPH (mg/kg)		2290	2510	930	<200	<200
	HEPH (mg/kg)		<200	260	<200	<200	<200

ALS LABORATORY GROUP ANALYTICAL REPORT

		Sample ID	L516181-11	L516181-12			
		Description					
		Sampled Date	07-JUN-07	07-JUN-07			
		Sampled Time					
		Client ID	9	10			
Grouping	Analyte						
SOIL							
Extractable Hydrocarbons	LEPH (mg/kg)	750	<200				
	HEPH (mg/kg)	<200	<200				

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
PH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BCMELP CSR
<p>Extractable Hydrocarbons in Sediment/Soil This analysis is carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Extractable Petroleum Hydrocarbons in Solids by GC/FID, Version 2.1 July 1999". The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene or kept in hexane/acetone and analyzed by capillary column gas chromatography with flame ionization detection (GC/FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).</p>			
EPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
<p>Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
IOISTURE-VA	Soil	% Moisture	ASTM METHOD D2794-00
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
AH-TUMB-H/A-MS-VA	Soil	PAH by Tumbler HEX/ACE with GCMS	EPA METHODS 3570 & 8270.
<p>Polycyclic Aromatic Hydrocarbons in Sediment/Soil This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation.</p>			
H-MET-DI-FID-VA	Soil	CSR VH by MeOH with DI GCFID	BCMELP CSR Analytical Method 2
<p>This analysis involves the extraction of a subsample of the sediment/soil with methanol. Aliquots of the methanol extract are then analyzed for Volatile Hydrocarbons (VH) by capillary column gas chromatography with flame-ionization detection (GC/FID). The methanol extraction and VH analysis are carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999).</p>			
VOC7-MET-DI-MS-VA	Soil	BTEX by MeOH with DI GCMS	EPA 8260b & 524.2
<p>Volatile Organic Compounds (VOC) are extracted from sediment or soil with methanol, following a procedure from the British Columbia Ministry of Water and Air Protection (BCWLAP) Analytical Method for Contaminated Sites "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1 July 1999). Aliquots of the extract are analyzed by direct injection capillary column gas chromatography with mass spectrometric detection (GC/MS), using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 8260B, published by the United States Environmental Protection Agency (EPA). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation.</p>			
PH-MET-DI-CALC-VA	Soil	CSR VH by MeOH with DI GCFID	BC MOE LABORATORY MANUAL (2005)
<p>These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Volatile Petroleum Hydrocarbons in Solids or Water" (Version 2.1, July 20, 1999). According to this method, the concentrations of specific Monocyclic Aromatic Hydrocarbons (Benzene, Toluene, Ethylbenzene, Xylenes and Styrene) are subtracted from the collective concentration of Volatile Hydrocarbons (VH) that elute between n-hexane (nC6) and n-decane (nC10). Analysis of Volatile Hydrocarbons adheres to all prescribed elements of BCMELP method "Volatile Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
XYLENES-CALC-VA	Soil	CSR VOC7 by MeOH with DI GCMS	EPA 8260B & 524.2
<p>Calculation of Total Xylenes Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.</p>			

* Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies. The last two letters of the above ALS Test Code column indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location	Laboratory Definition Code	Laboratory Location
VA	ALS LABORATORY GROUP - VANCOUVER, BC, CANADA		

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Analytical Method Reference(Based On)
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LOSSARY OF REPORT TERMS

Surrogate - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds.

Surrogate recovery - The reported surrogate recovery value provides a measure of method efficiency.

mg/kg (units) - unit of concentration based on mass, parts per million

mg/L (units) - unit of concentration based on volume, parts per million

NA - Result not available. Refer to qualifier code and definition for explanation

As received - Test results reported relate only to the samples as received by the laboratory.

Unless otherwise stated, all samples were received in acceptable condition.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.