## CREATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

PROVIDING ENVIRONMENTAL SERVICES TO THE NORTHWEST FOR OVER 15 YEARS



# CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT FOR WASHINGTON DEPARTMENT OF ECOLOGY BY ASPEN ENVIRONMENTAL, INC.

# CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT REMEDIAL ACTION REPORT

PROJECT NAME: Cameron Yakima Contaminated Soil Removal Project

**LOCATION:** Site of former Cameron Yakima, Inc. facility

1414 S. First Street, Yakima, Washington

This document is part of the official Adminsistrative Record for the Yakima Railroad Area.

Washington State
Department of Ecology

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...7 ...8 ...9 ..10 ..11

. 12

. 12

## Table Of Contents

1.0	INTRODUCTION								
	1.1 Project Scope Of Work Summary								
	1.2 Project Health & Safety Summary								
2.0	SITE PREPARATION								
3.0	GROUNDWATER SAMPLING								
5.0	ORGOTIP WILLIAM SIMIL BING								
4.0	SOIL EXCAVATION AND STOCKPILE MANAGEMENT								
	4.1 Phase 1 - Western Excavation								
	4.2 Western Excavation Additional Contamination								
	4.3 Phase 2 - Eastern Excavation								
	4.4 Eastern Excavation Additional Contamination								
	4.5 Storm Water Collection & Storage								
5.0	SHANO DITCH EXCAVATION AND REPLACEMENT								
6.0	PROJECT CONCLUSION								
Attacl	ament A - Western Excavation Soil Sampling Location Map								
	nment B - Eastern Excavation Soil Sampling Location Map								
	nment C - Verification Soil Sampling Location Map								
	nment D - Cameron Yakima Photographs								
	hment E - Preliminary Analytical Results								
	hment F - Verification Analytical Results								
	hment G - Supervisor Daily Logs								
	hment H - Technician Daily Logs								
	hment I - Project Work Plan								
	hment J - Sampling Plan								
	hment K - QA/QC Project Plan								
	hment L - Project Dust Control Plan								
	hment M - Field Health and Safety Plan								

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## CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT FINAL REMEDIAL ACTION REPORT

## 1.0 INTRODUCTION

Aspen Environmental, LLC (Aspen) was awarded a contract to excavate and dispose of contaminated soil located at the Cameron Yakima Facility (CYF) in Yakima, Washington. Aspen contracted with Creative Environmental Technologies, Inc. (CETI) to complete the project scope of work and project analytical setup, manage soil and groundwater sampling activities on site and report findings to the Department of Ecology (Ecology). The project Scope of Work was written by CETI and outlined the remedial activities that would take place along with the Health and Safety Aspects and Quality Assurance Quality Control (QA/QC) required by Ecology. The project scope of work is attached in a file title "Project Work Plan." All project work plans are attached in Adobe Acrobat 4.0 format.

This report is a review and summary of activities during the remediation project. The remediation activities were started the first of December 1999, and continued through the winter. Work was placed on hold when weather conditions became too extreme. Daily/Weekly logs were written and sent to Ecology by CETI and are attached in two files entitled "Attachment G - Supervisor Daily Logs" and "Attachment H - Technician Daily Logs." These files provide a detailed look at site excavation activities and sampling activities throughout the project. Analytical reports are also attached in two files entitled "Attachment E - Preliminary Analytical Results" and "Attachment F - Verification Analytical Results". These files contain the results of all the analysis completed during the course of the project. Each of these files are saved in Adobe Acrobat 4.0 and are book marked by the chain of custody number and sample collection location.

A detailed site map was kept during the excavation showing sample locations and depths. This map has been divided into three individual maps. They are entitled "Attachment A - Western Excavation Sample Location Map", "Attachment B - Eastern Excavation Soil Sample Location Map", and "Attachment C - Verification Soil Sample Location Map".

The project was separated into two phases - Phase 1 was the remediation and disposal of the contaminated soils on the western half of the property as outlined in the project work plan. Phase 2 was the excavation of the Shano ditch and the excavation of the eastern property as outlines in the project work plan.

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## 1.1 Project Scope Of Work Summary

Aspen Environmental, Ltd. was contracted by Ecology to remove an estimated 27,000 cubic yards of contaminated soil from the site of the former Cameron Yakima facility and remove and dispose of a 30-ton, multiple hearth kiln from the subject property based on the project scope of work.

Creative Environmental Technologies, Inc. (CETI), was hired by Aspen to provide soil and groundwater sampling, track analytical results, provide input regarding the extent of contamination, provide input on the disposal of excavated soils, monitor dust control, and implement the health and safety plan. Analytical laboratory services were provided by North Creek Analytical Labs (NCA), with a mobile onsite laboratory and at NCA's stationary laboratory located in Beaverton, Oregon.

The kiln was prepared for transport and then trucked to the Waste Management Inc., a hazardous waste landfill located in Arlington, Oregon. Contaminated soils that were designated as dangerous or hazardous waste were hauled to either the Waste Management Inc. hazardous waste landfill or the Envirosafe Services of Idaho (ESSI) landfill in Grandview, Idaho. Coarse soils (rock) that the specified cleanup standards were stockpiled offsite and used to backfill the excavation. Fine soils (excluding clean backfill) were hauled to the Regional Disposal Company (RDC) landfill located in Roosevelt, Washington.

The first task of Phase 1 was to remove the kiln from the property and the sealing of the eastern property asphalt. According to Ecology, the kiln was never used on the property. Next was the excavation of concrete, asphalt and contaminated soil from the western portion of the site (western excavation area), soil sampling to determine vertical and horizontal extent of contamination, the excavation of contaminated soils and soil sampling in the vicinity of the Shano Ditch, the replacement of the Shano Ditch and soil sampling for verification of clean soils. Phase 2 encompassed the excavation of asphalt, concrete and contaminated soil from the eastern portion of the site (eastern excavation area), soil sampling to determine vertical and horizontal extent of contamination, soil sampling for verification of clean soils and the backfilling and compaction of excavated areas of the property.

The excavated soil was screened to separate rocks greater than 2 inches in diameter, and stockpiled on a lined surface. Soil samples were obtained following the excavation of 4 to 5 feet of soil, based on a 40-by-60-foot grid pattern, to determine the extent of excavation needed and the degree of contamination of excavated fine and coarse soils. Verification sampling was completed following clean preliminary sample results to confirm that residual contaminant levels in the floor and sides of the excavation did not exceed the specified project cleanup levels.

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Once the verification sample results indicated that residual soils met the cleanup levels, the excavated areas were backfilled both with the clean coarse material that was stockpiled offsite and with imported clean fill. This area was then graded and compacted in lifts, to match the original site grade.

## 1.2 Project Health & Safety Summary

The Health and Safety Plan (HSP) was designed in substantial conformance with the guidelines outlined in the EPA Standard Operating Safety Guide and the U.S. Department of Labor OSHA Standards at CFR Part 1910 (e.g., 29 CFR 1910.120 on hazardous waste).

All employees, visitors, officials, subcontractors, and other personnel entering the work area were briefed in an onsite meeting prior to the commencement of site activities. As field conditions changed, or potential health and safety issues pertaining to site specific contaminates, hazardous work areas and emergency response procedures changed, workers were briefed in daily and weekly meetings.

Daily and weekly informal meeting and briefings were held between CETI's on site tactician and project workers. Site briefings were conducted with all personnel to review all hazards that were known or suspected to be found at the site. Site briefing topics included a review of the toxicological and physico-chemical data, required personal protective gear, use of the gear, warning signs of exposure and overexposure, evacuation routes, and other emergency procedures relevant to the days operations.

No major violations of the Health and Safety plan warranting project suspension or employee reprimand were observed or recorded. Minor violations of the health and safety plan were observed throughout the project; these were quickly rectified through additional training and safety sessions with project workers.

## 2.0 SITE PREPARATION

Before any excavation activities the kiln location on the eastern half of the property was prepared for disposal. All openings in the kiln were welded shut and the kiln was painted with a latex paint to seal the kiln surface area. Once the kiln was sealed, a crane was used to lower the kiln onto a flatbed trailer. The kiln was then encapsulated with plastic and transported to Waste Management's disposal facility in Arlington, Oregon.

Next, the eastern half of the property's asphalt areas were sealed with asphalt patch. Areas where asphalt was missing or areas that were not paved, were paved in order to

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encapsulate the entire eastern half of the property.

A decontamination station was set up in northeastern corner of the property. This area was used to decontaminate workers upon exiting the work area.

North Creek Analytical's mobile laboratory was placed along side the decontamination area. An office was set up in a building set aside for use by the contractor just outside the eastern fence line of the subject property. The property was laid out in a 40 foot by 60 foot grid pattern starting from the northwestern corner of the property. Since over-excavation onto the adjacent properties was in the scope of work, grid A1 through A9 comprised the southern end of the northern adjacent property. The excavation grids on the subject property started with grid B1 in the northwest corner of the property.

Prior to starting excavation work all monitoring wells associated with the subject property were sampled. The sampling event was completed by CETI in November 1999. A description of groundwater sampling events is addressed in section 3.0 of this report.

Preparation of the southern adjacent property was also completed. An area adjacent to the southeastern property line was cleared and leveled to allow truck access onto the subject property for removal of contaminated material for disposal. Other areas on the southern adjacent property were also used to store clean fill material that was imported to be used for backfilling the property. These storage areas for the imported material were graded and staked off.

## 3.0 GROUNDWATER SAMPLING

During the project, three groundwater sampling events were required by Ecology - one at the beginning to the project prior to excavation activities, one in the middle of the project following the excavation and backfilling of the western excavation area, and one following the completion of the excavation project and backfilling of the entire property. Sample analysis was performed by NCA in Beaverton Oregon. Sample results from each sample event were submitted to Ecology for interpretation Analytical results can be found in Attachment F - Verification Analytical Results.

The first groundwater sampling event included both onsite monitoring wells and off-site monitoring wells in November 1999. This groundwater sampling event was completed over a two day period. Each well was opened, a photoionization detector was inserted and readings collected for oxygen, carbon monoxide, and volatile organic compounds (PID). The water depth indicator was inserted in the well and depth to water measured. Water samples were collected from each well following the purging of three well volumes of water. The first round of

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groundwater sampling used disposable Teflon bailors. Samples were collected using these bailors and the water placed into appropriate sample collection jars.

The second round sampling event for the groundwater monitoring wells saw no changes from the first sampling event other than the five monitoring wells inside the work area were not sampled. During the excavation process, the on-site monitoring wells were abandoned. Rather than using disposable Teflon bailors, reusable Teflon bailors were used and decontaminated between each purge and sampling event. All purged water from each well was collected and stored in 55 gallon drums in common areas between well groups. Samples were collected using these bailors and the water placed into appropriate sample collection jars.

The third sampling event for the groundwater monitoring wells saw no changes from the second sampling event. All purged water from each well was collected and stored in 55 gallon drums in common areas between well groups. Samples were collected using reusable Teflon bailors and the water placed into appropriate sample collection jars.

## 4.0 SOIL EXCAVATION AND STOCKPILE MANAGEMENT

The contaminated soil that was excavated was moved with a front-end loader to a screening unit located on-site. This loader was equipped with a scale so that the pre-screened material weight could be tallied. The soil was placed in a hopper by the front end loader. The screening unit load area was equipped with a 12 inch grate to separate out rock greater than one foot in diameter. The remaining material was transported via conveyor and then sifted through a two inch steel screen. The screened material was transported by an addition conveyer to the screened stockpile. The course material or two inch or greater material would fall away from the screening unit and be stockpiled in a coarse material stockpile (rock stockpile).

Both the screened soil and rock were stockpiled until the stockpile reached 1,000 to 2,000 cubic yards of material. Once the stockpile limit was reached, soil samples were collected from each stockpile. The soil samples collected from the screened pile were analyzed for TCLP metals per the Department of Ecology's request in the project work plan.

Initially, ten samples were collected from the rockpile, however as additional rock stockpiles were created, Ecology determined that collecting three samples from each stockpile was adequate. These samples were analyzed for all target analytes. These included volatile organic compounds, method 8260, semi-volatile organic compounds, method 8270, RCRA 8 priority total metals method 6000/7000, and pesticides including organophosphorous, method 8081 and organochlorine method 8041. Analysis results on one of the stockpile samples indicated volatile levels above the clean-up target level for the property. These results were

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conveyed to Ecology. Rick Roader, Ecology project manager, made the decision to use the rock as fill material.

#### 4.1 Phase 1 - Western Excavation

Prior to the excavation of soil, asphalt and concrete throughout the western excavation area was removed. Most of the concrete removed had carbon adhered to its underside. It appeared that the concrete was poured directly onto the carbon. No technique was available to remove the carbon from the concrete. The asphalt and carbon-laden concrete were stockpiled separately and then disposed of at the Rabanco disposal facility.

During the excavation of the western half of the property, an onsite lab provided by North Creek Analytical Services, completed onsite analysis for target analytes tetrachloroethylene, trichloroethylene, dichloroethylene and vinyl chloride. Onsite analysis of these target analytes drove the remediation process and delineated the horizontal and vertical extent of the contamination.

Each grid was sampled for onsite analysis following the excavation of 4 to 5 foot lifts. Sample collection numbers for each grid ranged between 3 and 6. Additional sampling was necessary in grids C3, C4, C5, D3, D4, D5, E3, E4, E5 since the excavated soil showed both visual and olfactory indication of carbon and site specific contamination. Additional excavation was necessary in grids where site specific contaminates (SSC) concentrations above the cleanup level were measured through onsite analysis. Also, additional excavation was necessary in grids E4 and E5 on to the southern adjacent property. Sample results along the southern excavation limit resulted in the excavation of 10 feet into the souther adjacent property in both grids E4 and E5. Final depths ranged throughout the western property. These depths can be found in table 1.

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Table 1
Soil Excavation Depth Per Grid
Grid depth bgs (below ground surface)

See (See See See See See See See See See											
	1	, 2	3	4	5	6	7	8	9		
B.	4' bgs	5' bgs	5' bgs	8' bgs	10' bgs	8' bgs	5' bgs	5' bgs	5' bgs		
C	8' bgs	8' bgs	8' bgs	8' bgs	8'bgs	8' bgs	7' bgs	7' bgs	7' bgs		
D	5' bgs	5'bgs	8' bgs	16' bgs	16' bgs	5' bgs	5' bgs	5' bgs	5' bgs		
E	5' bgs	5' bgs	8' bgs	16' bgs	16' bgs	5' bgs	5' bgs	10' bgs	5' bgs		

During the excavation, a 36-inch diameter brick lined sump was observed in grid B5. A 6-inch pipe was observed leading from the sump area to the east towards B6 and the northern property line. Soil samples were collected from the sump excavation following the removal of the sump. Sample results showed elevated concentrations of SSC's and required additional excavation of the area. Final depth was 10 feet BGS in grid B5 east half. The pipe observed was removed and was not attached to anything.

Other buried debris such as concrete was observed throughout the western excavation area. Several areas had large concrete footings and other concrete debris. Most of the subsurface debris was located in grids D5-6', E5-6'. This area had a very large amount of concrete footings and other buried concrete material. All of the material excavated was covered with carbon.

## 4.2 Western Excavation Additional Contamination

During the excavation of grids D4 and E4 unexpected contamination was observed at 10 to 12 feet bgs, 5 to 7 feet above groundwater soil interface. This contamination was different from the contamination outlined in the Scope of Work based on field observations and analytical results. Two soil samples were collected of this material and sent to North Creek's Portland laboratory for analysis. Analysis of this material indicated that the contamination consisted of gasoline, diesel, heavier petroleum hydrocarbon analytes along with benzene, toluene, ethylbenzene, and xylene. The material was excavated, trucked and disposed of at the Rabanco facility. Along with this unexpected contamination, a vertical, 10 inch steel pipe was located just east of the new contamination area. The pipe went from 2 feet bgs to 25 feet bgs and possibly deeper. During its removal it was broken two feet below the water table. It is unknown if the pipe was associated with the additional contamination.

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#### 4.3 Phase 2 - Eastern Excavation

Following the western property backfilling, the on-site decontamination area was moved to the western end of the property. Prior to excavation of soils on the eastern half of the property one asphalt sample was pulled from each grid throughout the eastern half of the property and analyzed for SSC. Several grids had elevated levels of SSC and were disposed of with the soils and logged in the daily logs. Following the sampling, the asphalt was removed and stockpiled.

The soils directly below the asphalt appeared heavily laden with carbon throughout the eastern half of the property. Soil from 5 to 7 feet bgs was removed from the eastern half of the property encompassing grids B, C, D and E7, B, C, D, and E8, B, C, D, and E9. Carbon was observed in all of these grids with a thicker more defined layer along the eastern property boundary . This layer of carbon on the eastern boundary of the property through grids B7, B8 and parts of B9 had a depth of up to 8 feet bgs.

During the excavation of the first lift of soil, three sump systems as well as three septic systems were encountered along the northern boundary of the property in grids B6, B7, B8 and B9. Three of them along the northern boundary in grids B7, B8 and B9 were connected by a 4 to 6 inch pipe. Each system was removed on site with an excavator and samples were collected from directly below the location of the removed system. Also, during the excavation along the northern boundary of grids B6, B, a 10 to 12 inch pipe was observed directly below one of the storage/septic devices located in this grid. This pipe ran into the ground approximately 10-12 feet bgs. When investigated the pipe appeared to be full of sand and dirt at 12 feet bgs. Further excavation could not be completed due to sloping from the northern property boundary. Sampling collected from the pipe location were free of target SSC's. Following the removal of the septic drainage systems from the northern property boundary and the removal of 5 to 8 feet of soil throughout the entire eastern half of the property, preliminary and verification sampling was completed in each grid with no indication of contamination.

In grids E8 and D8, five test pits were excavated to 10 feet (bgs). Sampling was completed in these test pits at 4-6, 6-8 and 8-10 feet bgs. No indication of contamination by SSC was observed in any test pit. A metal like material was observed in grid E8 to 6 feet bgs. This material is discussed section 4.4 Eastern Excavation Additional Contamination

Confirmation samples were collected from each grid, three per grid throughout the eastern side of the property. These confirmation samples also were collected from the perimeter of the eastern side of the property along the north-end, south-end and east-end of the property in each border grid. All samples collected were free of SSC's with the exception of grid E8. Sample results from grid E8 southern boundary confirmation sample showed elevated levels of DDT in the soil. The area was excavated and re-sampled for DDT. Analytical results showed

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low levels in one of the six DDT verification samples. Ecology was notified and they authorized backfilling the area along with the rest of the eastern excavation area.

## 4.4 Eastern Excavation Additional Contamination

As with the western excavation area, following the removal of concrete and asphalt in each grid, a layer of carbon laden dirt from 6" to 5' thick was observed throughout the property . It was estimated that there was was at 200-400 yards located throughout the property. Upon completion of the excavation process over 12,000 yards of carbon-laden material had been excavated from the property and un-screened to the Rabanco disposal facility. Several initial profile samples were collected of this material and analyzed for target analytes. Concentrations did not exceeded the limits for disposal at a state licensed disposal facility.

Upon completion of excavation activities, verification samples were collected from each grid throughout the property to determine that the remaining soils were free of contamination. Two areas were observed to have elevated levels of the semi-volatile compound DDT. Grid B1 west boundary and grid E8 southern boundary. Both grids had elevated levels of DDT, however grid E8 extended onto the subject property and warranted further remediation. E8 was excavated 5 feet deep and in a 10 foot radius from the initial sample point. Samples were collected from all four side walls and from the bottom of the excavated area. All samples were free of DDT except for E8-BN-5'. This sample was collected from the bottom north end of the excavated area. Analytical results show this sample as having concentrations of DDT at 4620 ppb (ug/kg).

During the excavation of grid E7 and D7 a metal slag-like material was observed both on the surface and at approximately 6-12 inches bgs. This material was excavated and stockpiled until further analysis for TCLP metals could be completed. Analytical results for TCLP metals were below cleanup limits, however, the material still showed signs of carbon and was disposed of at the Rabanco facility.

## 4.5 Storm Water Collection & Storage

During the excavation process, storm water from rain and snow was collected on the eastern end of the property. The asphalt area on the eastern half of the property was sloped to a catch basin where water collected. This water was pumped from the catch basin and the surrounding areas into a 20,000 gallon holding tank placed on site by Aspen for the purpose of storage of potentially contaminated storm water.

Following the completion of the western half of the property, samples of the water from inside of the tank were collected and analyzed for SSC's. When analytical results showed no indication of SSC's, the water in the storage tank was used for onsite dust control. This practice

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was approved by Rick Roeder, Ecology project manager. Once the tank was emptied, it was removed from the property and a smaller 2,000 gallon tank was set up along the southwestern corner of the property for water storage in case of extreme rain events. In March during a sudden rain event, water overflowed the Shano ditch and flooded the southern adjacent property and part of the subject property. This water quickly dissipated into surface soils

## 5.0 SHANO DITCH EXCAVATION AND REPLACEMENT

Following the excavation and backfilling of the western half of the property, the Shano ditch was excavated, the existing galvanized and concrete ditch structure was removed, and the underlying soil sampled. During the excavation of the Shano ditch contamination, was observed along the northern end in grids B6 and C6, however contamination did not exceed 6 feet bgs.

During the excavation of soil and carbon material under and around the existing Shano ditch, a temporary ditch was installed 10 feet to the west. Grids B6 and C6 were excavated to depths 6 to 8 feet bgs. Grids D6 and E6 were excavated to depths between 4 and 6 feet bgs. The varying depths were due to carbon layers in the underlying soil and elevated levels of target analytes in the initial sampling of each grid.

Following the excavation of all contaminated and carbon-laden materials from the ditch line in grids B6, C6, D6 and E6 the temporary ditch was removed and a new 36" galvanized steel ditch was installed in grids B6, C6, D6 and E6.

## 6.0 PROJECT CONCLUSION

The purpose of this report was to outline significant site activities throughout the course of the excavation process. Site excavation activities and soil disposal were completed the second week of May 2000. Backfilling of the eastern half of the property and the disposal of carbon contaminated soil completed the excavation and disposal process of this job. The eastern half of the property following this excavation and clean verifications samples was backfilled and compacted to meet Ecology specifications. According to Aspen Environmental, the eastern half of the property was completed the first of June 2000, with fences being reinstalled throughout the month of June 2000 and into July 2000.

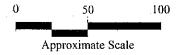
Site work that needed to be completed by Aspen on the southern adjacent property was completed at the end of June 2000. The final groundwater sampling event was completed by CETI in July 2000.

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All efforts were made to achieve the highest quality of the site sampling activities and analytical results possible for this project. Attached to this report are several files that contain both analytical results, photo documentation of site activities, initial work plans outlining site activities, trucking and disposal records, daily e-mail logs outlining site activities and site excavation maps showing soil sample locations throughout the property. Final cut elevation can be found in the soil sample identification number i.e. B2-B1-5' = B2(sample number)-B1(sample location)-6'(sample depth). All files have been saved in Adobe Acrobat 4.0 "pfd" format.

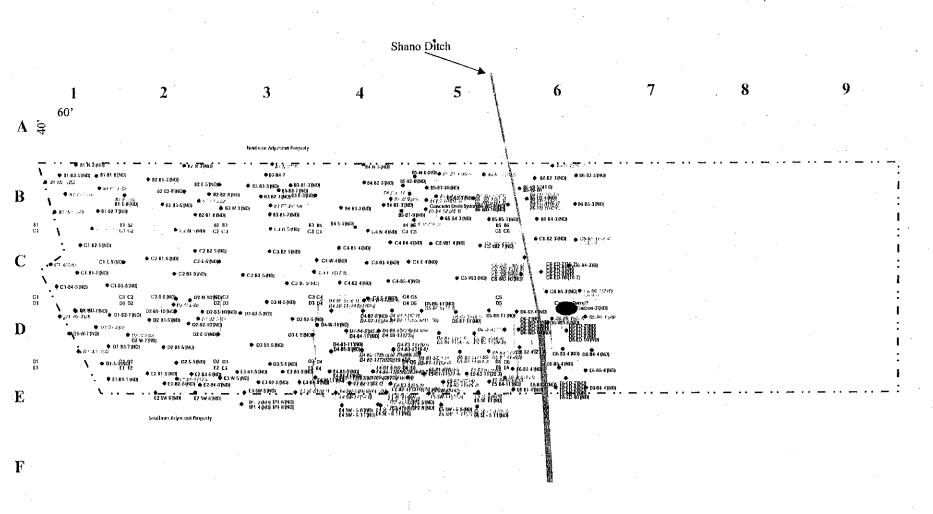
Final sample analytical results from all onsite verification sample locations show no site specific contamination present. Also, the additional contamination observed in grids E4, D4, E5, D5 impacted groundwater in those areas and warrants additional monitoring through the installation of additional groundwater monitoring wells.

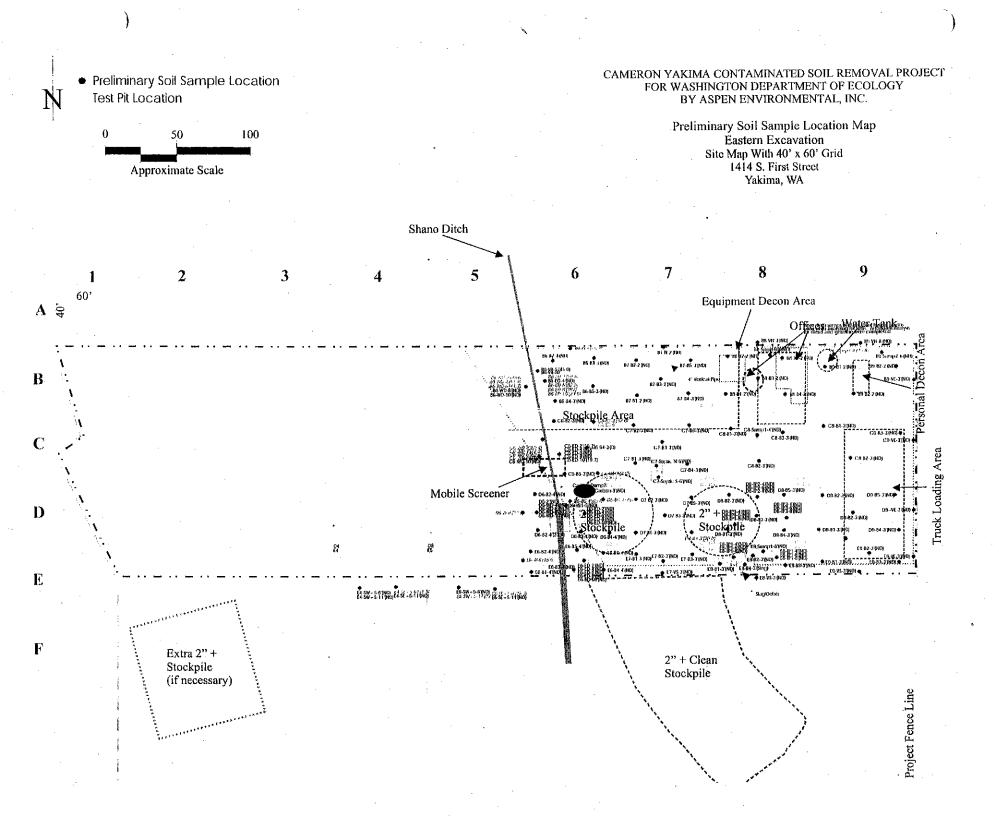
Preliminary Soil Sample Location
 Test Pit Location



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Preliminary Soil Sample Location Map Western Excavation Site Map With 40' x 60' Grid 1414 S. First Street Yakima, WA

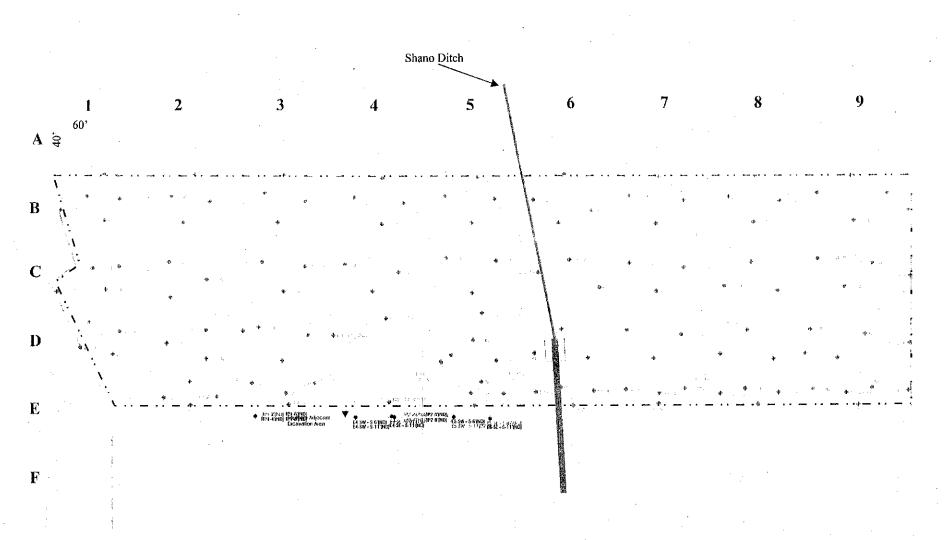




Verification Soil Sample Location
Test Pit Location

# CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT FOR WASHINGTON DEPARTMENT OF ECOLOGY BY ASPEN ENVIRONMENTAL, INC.

Verification Soil Sample Location Map Site Map With 40' x 60' Grid 1414 S. First Street Yakima, WA



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## CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT PHOTOGRAPH LOG

PROJECT NAME: Cameron Yakima Contaminated Soil Removal Project

**LOCATION:** Site of former Cameron Yakima, Inc. facility, 1414 S. First Street,

Yakima, Washington

#### Introduction

Attached in the following pages are the Aspen Environmental Supervisor Photograph Log for the Cameron Yakima Contaminated soil removal project.

## Site Photograph Log Cameron - Yakima Contaminated Soil Removal



Subject PropertyFacingWest-PriorToExcavation



SubjectPropertyFacingEast - Prior ToExcavation

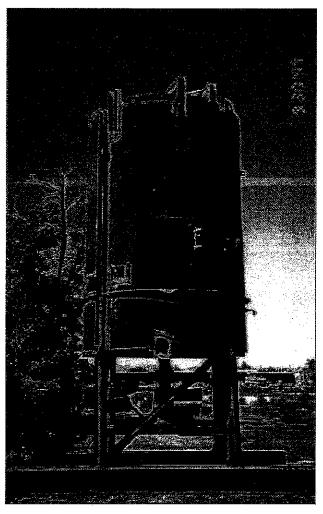


DrumsOnSitePriorToProjectStart



Subject PropertyFacingWest

Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



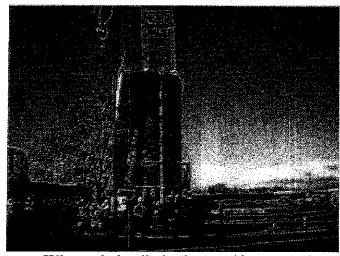
Kiln-FacingWest



Kiln-FacingEast



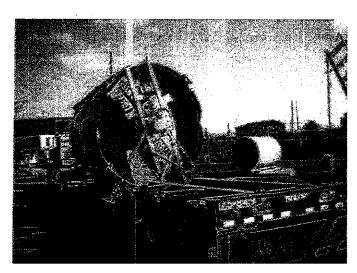
Kiln-sealed and being lowered for removal



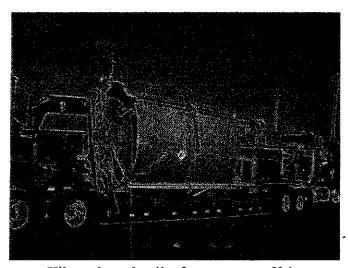
Kiln-sealedandbeingloweredforremoval



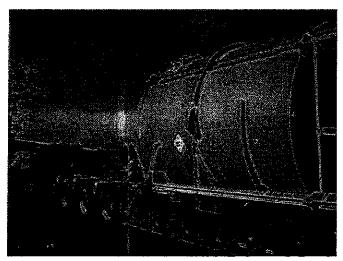
Kiln-sealedandbeingloweredforremoval



Kiln-onboardtrailerfortransportoffsite

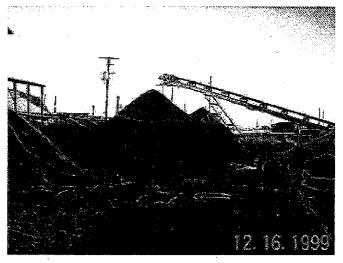


Kiln-onboardtrailerfortransportoffsite



Kiln-onboardtrailerfortransportoffsite

Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



ScreenedStockpile



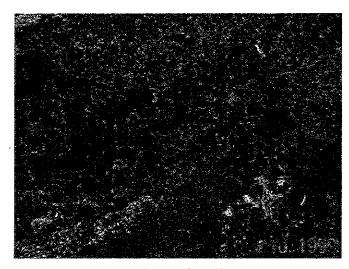
ScreenedSoil Stockpile



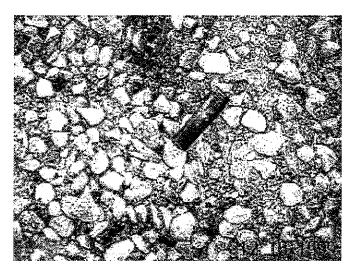
Excavation of gridC1



Excavationof gridC1



Carbon insoil



Debris

SitePhotographs Cameron-YakimaContaminatedSoil Removal CameronYakima Facility



Excavation of grids E1-3, D1-3, C1-3



Noticeable carbon below asphalt and concrete



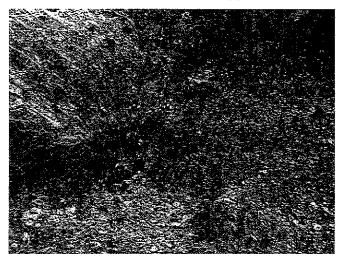
Grids E1-3, D1-3, C1-3 following removal of 3 to 5 feet of soil



Grids B1-2, C1-2 following removal of 3 to 5 feet of soil, notice carbon in upper left



Excavation depths to 6 feet bgs, notice carbon



Excavation depths to 6 feet bgs, notice carbon

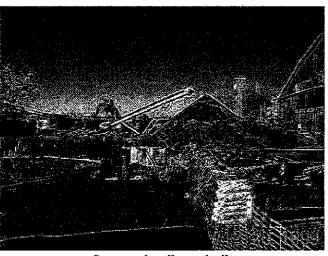
Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Decommissioning monitoring wells on property



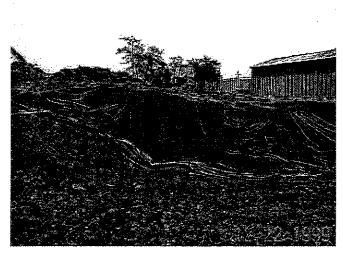
Decommissioning monitoring wells on property



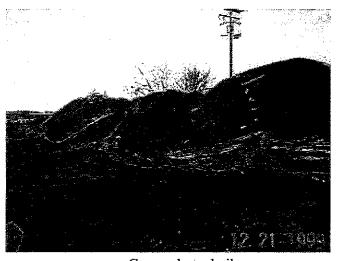
Screened soil stockpile



Water storage and decontamination area



Covered stockpile



Covered stockpile

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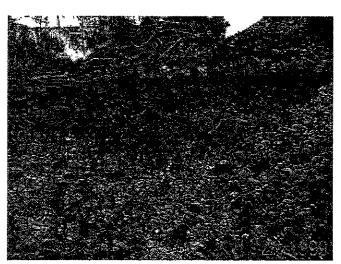
Concrete debris



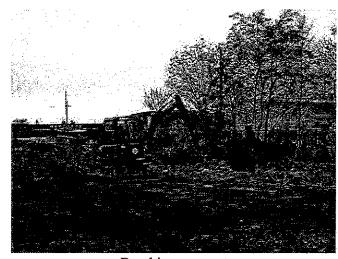
Grids B2-3, C2-3



Grid B2 excavation to 3 feet bgs



Grid B2 excavation to 3 feet bgs



Breaking concrete



Loading pre-screened soil

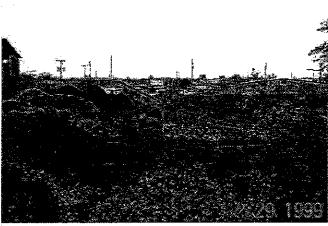
Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Western half excavated 3 to 5 feet bgs



Excavating grids B3-4, C3-4



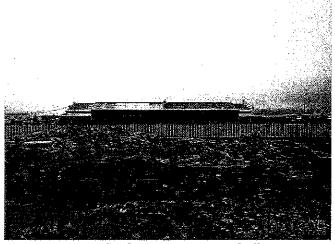
Screening unit and stockpile



Carbon laden concrete stockpile

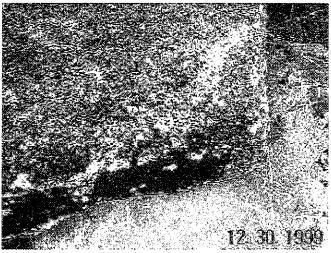


Surface concrete stockpile



Surface concrete stockpile

Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Carbon observed imbedded in concrete



Concrete broken up in grids E5, D5



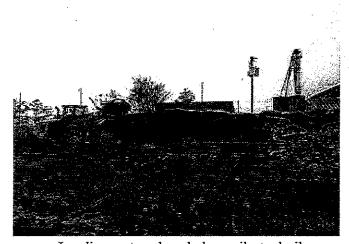
Screening unit in operation



Stockpile of concrete from grids E5, D5



Screened rockpile



Loading out carbon laden soil stockpile

Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Grids B1-5, C1-5 after concrete and asphalt was removed



Grids B1-5, C1-5 after concrete and asphalt was removed



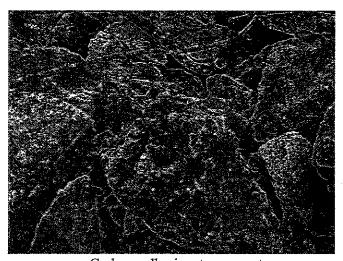
Screened rock stockpile on souther adjecent property



Screened rock and soil stockpiles

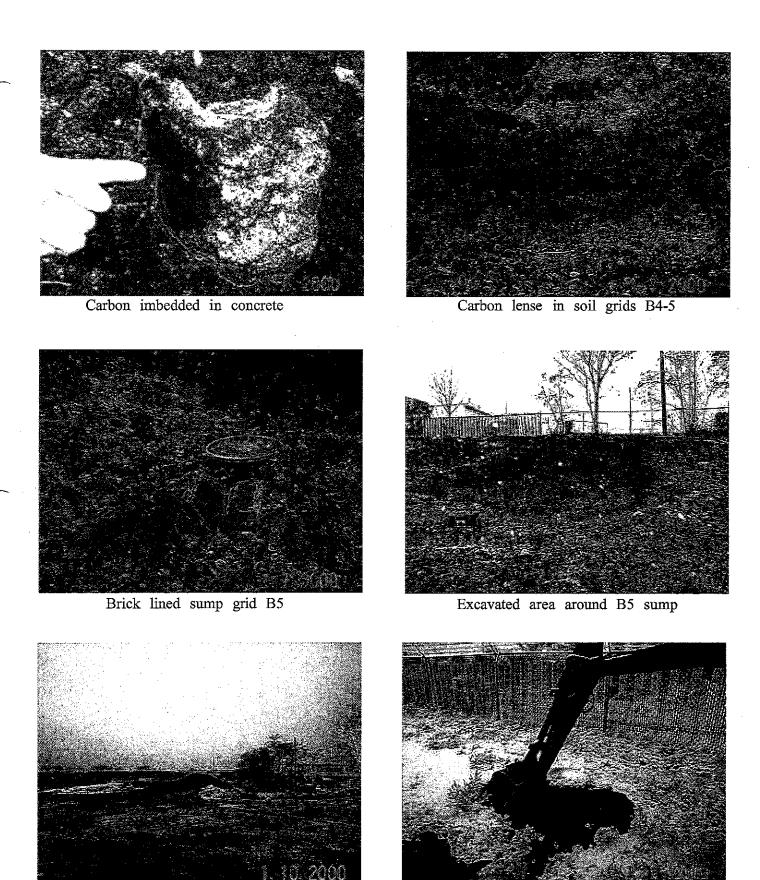


Screening unit



Carbon adhering to concrete

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Sita Photographs

Test pits grids E3-5 southern adjacent property

Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility

View of west excavation area



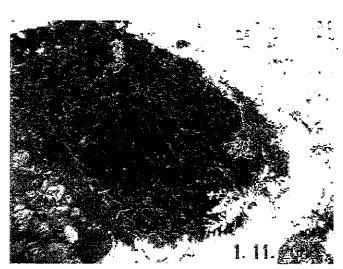
Screening unit shut down on snow day



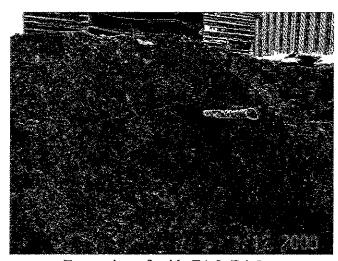
Test pits on souther adjacent property



Decon area on snow day



Test pit on southern adjacent property

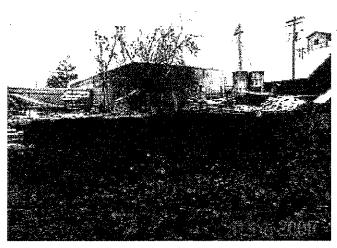


Excavation of grids E4-5, D4-5



Excavation of grids E4-5, D4-5

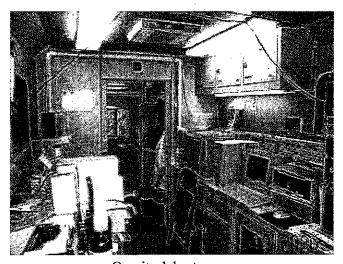
Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



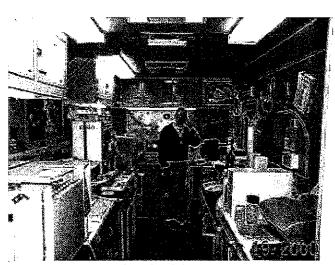
Excavation of grids B4-5



Excavation of grids E4-5, D4-5



On site labratory



On site labratory

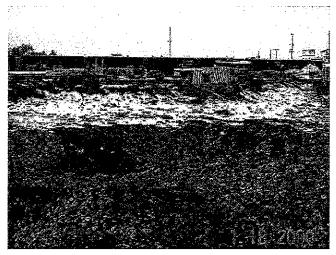


Excavation of Shano ditch

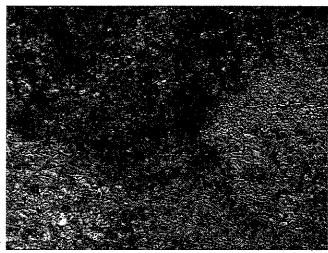


Excavation of Shano ditch

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Excavation of grids C4-5



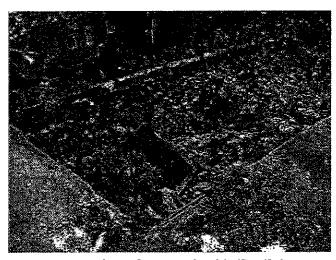
First indication of gray hydrocarbon contaminated soil



Excavation of grids E3-5, D3-5



Rock stockpile

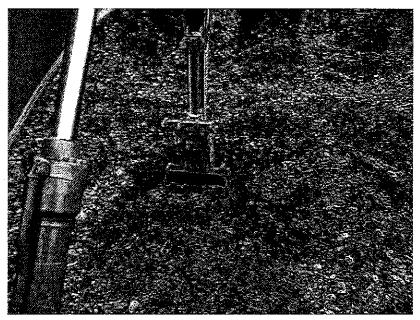


Excavation of east end grids E5, D5

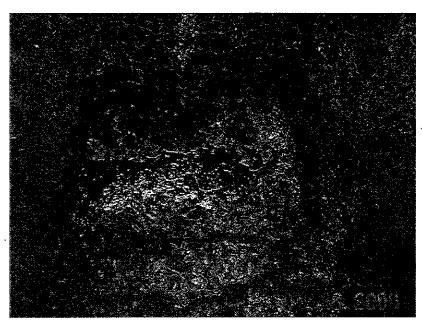


Test pit grid D4

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Test pit grid D4

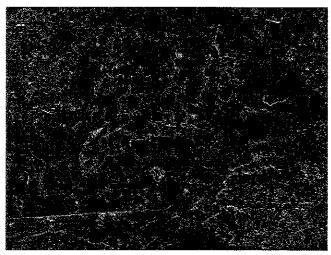


Test pit grid D4 14 16 feet bgs

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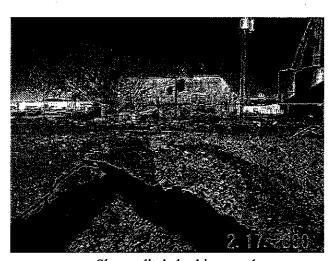
8" verticle pipe east end grid D4



Brick lined well or sump Grid B5



Excavated area grids E6-7, D6-7



Shano ditch looking north

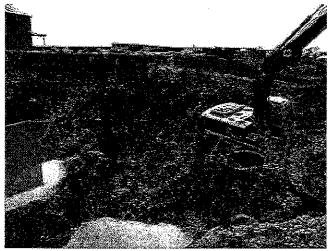


Excavation of grids E4-5, D4-5 "gray soil"



Excavation of grids E4-5, D4-5 "gray soil"

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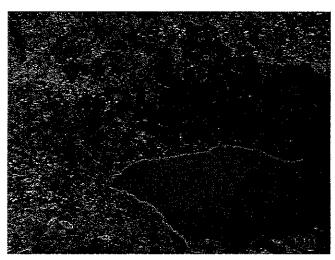
Excavation of grids E4-5, D4-5 "gray soil"



Excavation of grids E4-5, D4-5 "gray soil"



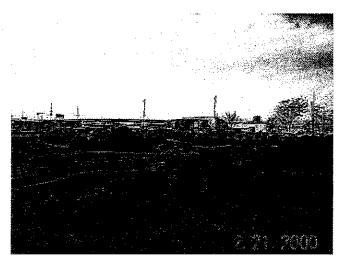
Excavation of grids E4-5, D4-5 "gray soil"



Excavation of grids E4-5, D4-5 "gray soil"



Backfilling grids B1-3, C1-3, D1-3, E1-3



Backfilling grids B1-3, C1-3, D1-3, E1-3

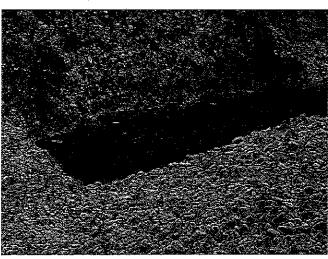
Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Loading out "gray material" to stockpile area



Loading out "gray material" to stockpile area



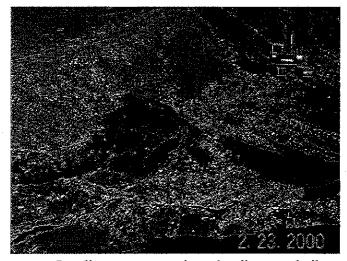
Oil residue on groundwater following excavation of "gray material"



Oil residue on groundwater following excavation of "gray material"



Loading out contaminated soil to stockpile



Loading out contaminated soil to stockpile

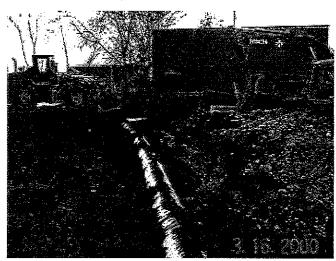
Site Photographs Cameron - Yakima Contaminated Soil Removal Cameron Yakima Facility



Oil residue on groundwaterand rocks around perimeter of "gray material" excavation area grids E4-5, D4-5 west half subject property



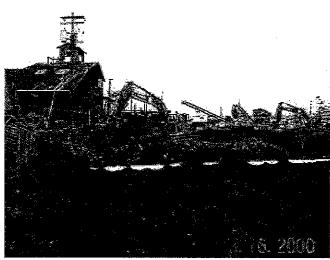
Backfilling of west half of property complete, instillation of temporary Shano ditch underway



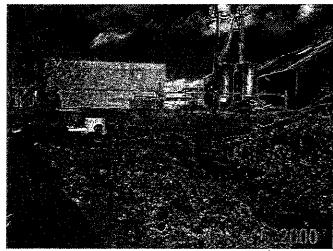
Excavation of Shano ditch underway following installation of temporary ditch



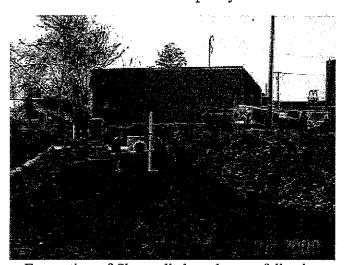
Excavation of Shano ditch underway following installation of temporary ditch



Excavation of Shano ditch underway following installation of temporary ditch



Excavation of Shano ditch underway following installation of temporary ditch



Excavation of Shano ditch underway following installation of temporary ditch

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Cameron - Yakima Contaminated Soil Removal
Cameron Yakima Facility



Installation of new Shano ditch



Removal of temporary Shano ditch



Excavation of carbon material from grids D7, C7



Excavation of grids C-7-8, D7-8

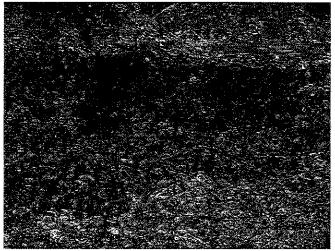


Carbon stockpile from grids C6-8, D6-8, E6-8



Carbon observed along eastern edge of grids E7, D6

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Carbon observed along norther edge of grids D-7



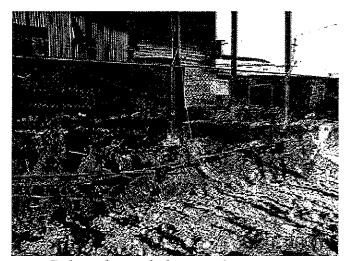
Carbon observed along northern property boundary grid B7



Concrete colloms found in grid D7-8



Concrete colloms found in grid D7-8



Carbon observed along northern property boundary grid B7

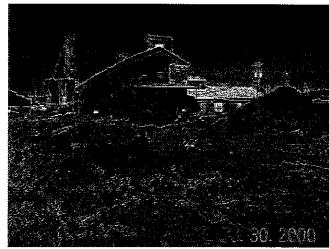


Preparation of western screening area

Site Photographs
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Cameron Yakima Facility



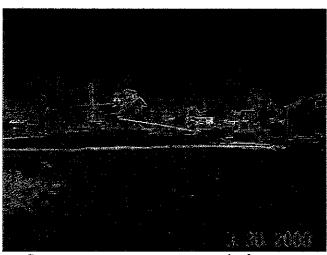
Screener area setup on west end of property



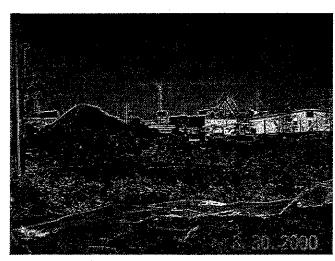
Excavation area grids B6-8, C6-8, D6-8



Screener area setup on west end of property



Screener area setup on west end of property

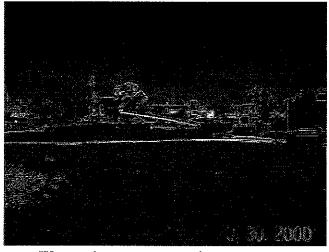


Excavation area east end of property

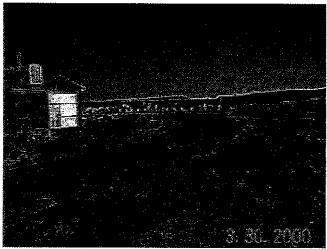


Shano ditch outfall southern adjacent property

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West end property screening area



Access road onto west end of subject property looking south onto southern adjacent property



Carbon along northern property boundary grid B-7



Carbon along northern property boundary grid B-7



Metal slag stockpile grids E8, D8



Excavation of sumps along norther property boundary

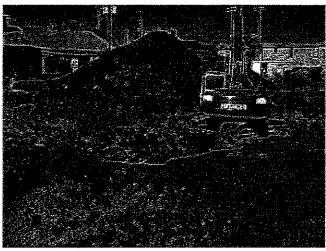
SitePhotographs Cameron-YakimaContaminatedSoil Removal CameronYakima Facility



Excavation of sumps and subsurface concrete norther property boundary grids B7-8, C7-8



Carbon along norther property boundary grids B7-8



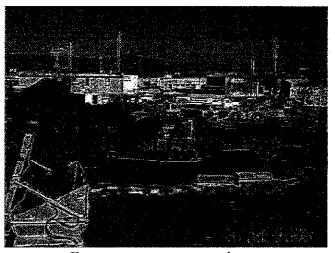
Excavation of grids D7-8, C7-8



Eastern property excavation area



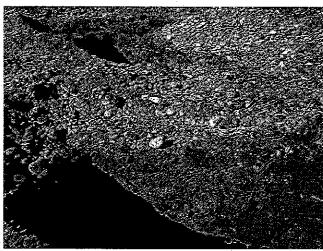
Eastern property excavation area



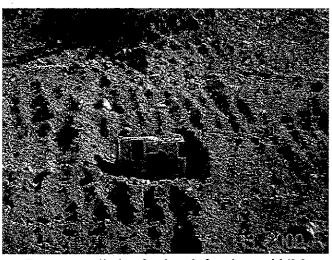
Eastern property excavation area



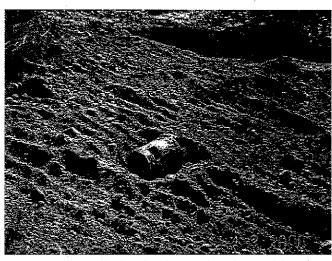
Excavatingtest pitsgridsE8,D8



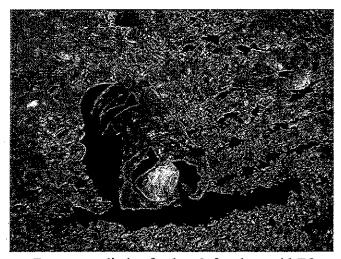
Excavating test pits grids E8, D8



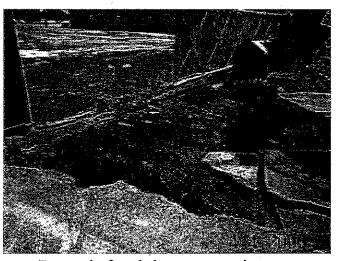
Drum or cylinder fond at 3 feet bgs grid D8



Drum or cylinder fond at 3 feet bgs grid D8

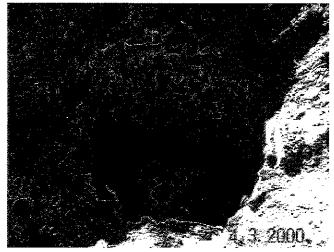


Drum or cylinder fond at 3 feet bgs grid D8



Removal of asphalt east excavation area

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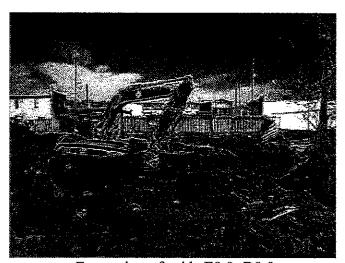
Brick lined sump grid D-8



Sump found in grid C-8



Excavation of soils and carbon grids E8-9, D8-9 5-6 feet bgs



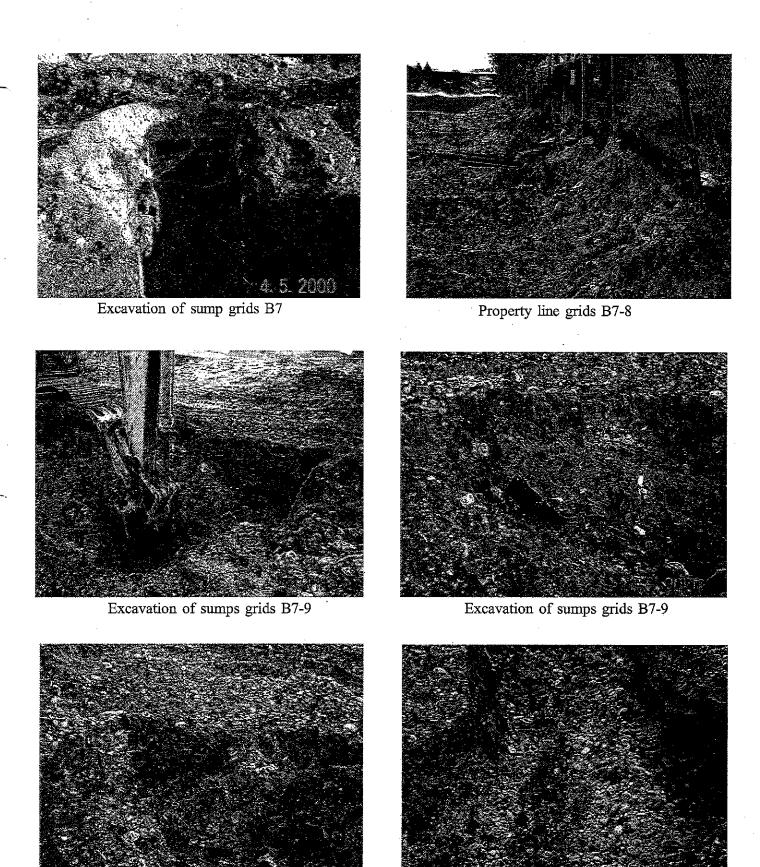
Excavation of grids E8-9, D8-9



Excavation of grids B8-9, C8-9



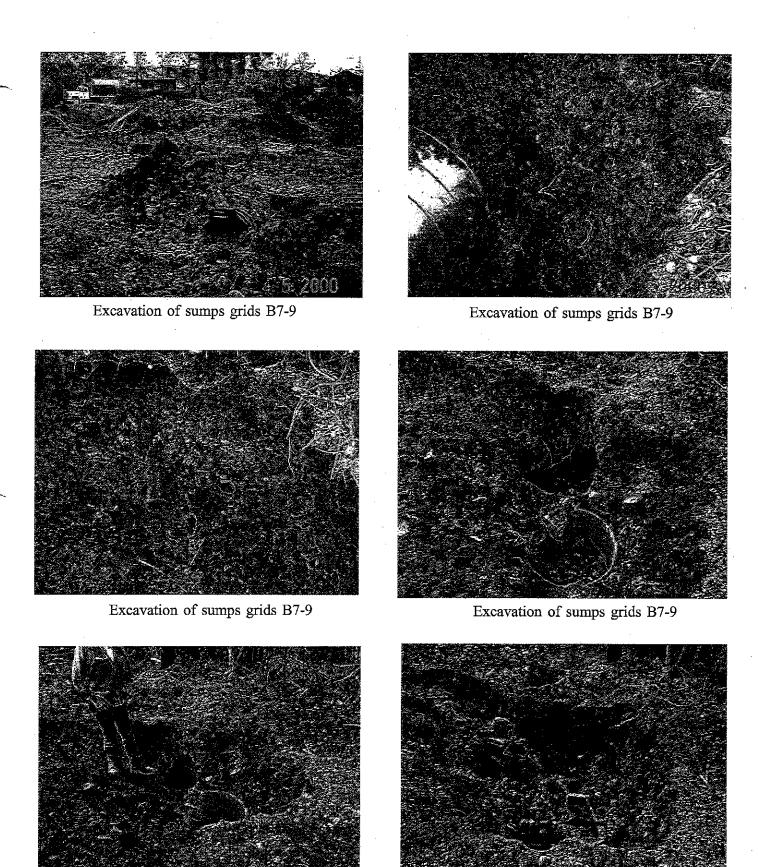
Excavation of grids B8-9, C8-9



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Excavation of sumps grids B7-9

Excavation of sumps grids B7-9



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Excavation of sumps grids B7-9

Excavation of sumps grids B7-9

#### CREATIVE ENVIRONMENTAL TECHNOLOGIES, INC.

PROVIDING ENVIRONMENTAL SERVICES TO THE NORTHWEST FOR OVER 15 YEARS



# CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT FOR WASHINGTON DEPARTMENT OF ECOLOGY BY ASPEN ENVIRONMENTAL, INC.

# CAMERON YAKIMA CONTAMINATED SOIL REMOVAL PROJECT PRELIMINARY ANALYTICAL RESULTS SOIL SAMPLING

PROJECT NAME: Cameron Yakima Contaminated Soil Removal Project

**LOCATION:** Site of former Cameron Yakima, Inc. facility, 1414 S. First Street,

Yakima, WA

Introduction

Attached in the following pages are the preliminary soil sampling analytical results for the Cameron Yakima Contaminated Soil Removal Project.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/13/99
PO Box 318	Project Number:		Received:	12/13/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/14/99 09:04

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D2-W-5"	M912002-01	Soil	12/13/99
D2-S-5'	M912002-02	Soil	12/13/99
D2-B1-5'	M912002-03	Soil	12/13/99

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/13/99
PO Box 318	Project Number:	•	Received:	12/13/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/14/99 09:04

#### Volatile Compounds per GC/ECD Headspace Screen North Creek Analytical - Mobile Lab

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
D2-W-5'			M912002	-01			Soil	•
Trichloroethene	1290004	12/13/99	12/13/99		50.0	ND	ug/kg	
Tetrachloroethene		11	**		50.0	DET	77	
Surrogate: 4-BFB	"	11	n.	75.0-125		87.7	%	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/13/99
PO Box 318	Project Number:	•	Received:	12/13/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/14/99 09:04

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
				-				
D2-S-5'			M912002	<u>-02</u>			<u>Soil</u>	
Vinyl chloride	1290005	12.13 99	12/13/99		50.0	ND	ug/kg	
cis-1,2-Dichloroethene	R	11	"		50.0	ND	n	
Trichloroethene	II.	ır	**		50.0	ND	п	
Tetrachloroethene	17	"	"		50.0	ND	п	
Surrogate: a,a,a-TFT	H	71	п .	65.0-130		92.9	% .	
D2-B1-5'			M912002	<u>-03</u>			<u>Soil</u>	
Vinyl chloride	1290005	12.13 99	12/13/99		50.0	ND	ug/kg	-
cis-1,2-Dichloroethene	***	11	n		50.0	ND	"	
Trichloroethene	Ħ	**	и.,		50.0	ND	1e	-
Tetrachloroethene	Ħ	n	n .		50.0	ND	11	
Surrogate: a,a,a-TFT	"	17	iř	65.0-130		82.0	%	-

Aspen Environmental, Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/13/99

PO Box 318

Project Number: Received: 12/13/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 12/14/99 09:04

### Volatile Compounds per GC/ECD Headspace Screen/Quality Controls North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290004	Date Prepa	red: 12/1	3/99		Extract	tion Method: He	adspace		
<u>Blank</u>	1290004-B	<u>LK1</u>							
Trichloroethene	12/13/99			ND	ug/kg	50.0			
Tetrachloroethene	1t			ND	EF.	50.0			
Surrogate: 4-BFB	ır	DET		DET	"	75.0-125	93.6		
LCS	<u>1290004-B</u>	<u>S1</u>							
Trichloroethene	12/13/99	40		42.6	ug/kg	75.0-125	107		. 1
Tetrachloroethene	11	40		40.7	ır	75.0-125	102		1
Surrogate: 4-BFB	"	DET		DET	11	75.0-125	100		
Matrix Spike	1290004-M	IS1 <u>M9</u> 1	12002-01						
Trichloroethene	12/13/99	40	0	51.3	ug/kg	75.0-125	128		2
Tetrachloroethene	π.	40	66.3	104	,"	75.0-125	94.3		
Surrogate: 4-BFB	n	DET		DÉT	"	75.0-125	79.8		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/13/99
PO Box 318	Project Number:		Received:	12/13/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/14/99 09:04

### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290005	Date Prepa	red: 12/1	<u>3/99</u>		Extrac	tion Method: El	PA 5035N	1	•
Blank	1290005-B	LK1				•.		_	
Vinyl chloride	12/13/99			ND	ug/kg	50.0			
cis-1,2-Dichloroethene	n			ND	"	50.0			
Trichloroethene	и .			ND	n	50.0			
Tetrachloroethene	n '			ND	n	50.0			
Surrogate: a,a,a-TFT	п .	100		112	"	65.0-130	112	***************************************	
	•						٠.		
LCS	1290005-B	<u>S1</u>							
Vinyl chloride	12/13/99	100		102	ug/kg	75.0-125	102		
cis-1,2-Dichloroethene	**	100		110	"	75.0-125	110		
Trichloroethene	n	100		103	71	75.0-125	103		
Tetrachloroethene	11	100		104	11	75.0-125	104		
Surrogate: a,a,a-TFT	r,	100		108	n .	65.0-130	108		
Matrix Spike	1290005-M	4S1 M91	2002-02						
Vinyl chloride	12/13/99	82.0	ND	69.9	ug/kg	75.0-125	85.2		•
cis-1,2-Dichloroethene	n	82.0	ND	75.2	0,7	75.0-125	91.7		
Trichloroethene	п	82.0	ND	78.5	II	75.0-125	95.7		•
Tetrachloroethene	II	82.0	ND .	79.9	**	75.0-125	97.4		
Surrogate: a.a.a-TFT	н	82.0		. 75.2	"	65.0-130	91.7		
Matrix Spike Dup	1290005-M	1SD1 M91	12002-02						
Vinyl chloride	12/13/99	52.1	ND	51.6	ug/kg	75.0-125	99.0	20.0	15.0
cis-1,2-Dichloroethene	. "	52.1	ND	54.8	,, ,	75.0-125	105	20.0	13.5
Trichloroethene	"	52.1	ND	50.9	п	75.0-125	97.7	20.0	2.07
Tetrachloroethene	· n	52.1	ND	52.6	ir	75.0-125	101	20.0	3.63
Surrogate: a,a,a-TFT	п	52.I		50.4	"	65.0-130	96.7		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/13/99
PO Box 318	Project Number:		Received:	12/13/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/14/99 09:04

#### **Notes and Definitions**

#	Note
1	MRL's for these analytes were lowered to generate recovery data.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Ren	noval Sampled:	12/14/99
PO Box 318	Project Number:		Received:	12/14/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/15/99 10:56

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D2-B2-5'	M912003-01	Soil	12/14/99
D2-N-5'	M912003-02	Soil	12/14/99
D2-E-5'	M912003-03	Soil	12/14/99
D3-B1-5'	M912003-04	Soil	12/14/99
D3-S-5'	M912003-05	Soil	12/14/99
O3-E-5'	M912003-06	Soil	12/14/99
D3-B2-5'	M912003-07	Soil	12/14/99

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/14/99
PO Box 318	Project Number:		Received:	12/14/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/15/99 10:56

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Repo	orting			
Analyte	Number	Prepared	Analyzed	Limits		Limit	Result	Units	Notes*
Da Ba di			34012002	01	•			G 11	
D2-B2-5'	1290007	12/14/99	M912003 12/14/99	<u>-01</u>		<b>50.0</b>	NIES	<u>Soil</u>	
Vinyl chloride	1290007	1 <i>Zi</i> 14/99	12/14/99			50.0	ND	ug/kg	
cis-1,2-Dichloroethene	e e	# .	11	N.		50.0	ND	" n .	
Trichloroethene	u u					50.0	ND		
Tetrachloroethene	"	.n	" "	65.0 130		50.0	51.1		
Surrogate: a,a,a-TFT	<i>"</i> .			65.0-130			108	%	
D2-N-5'			M912003	<u>-02</u>				Soil	
Vinyl chloride	1290007	12/14/99	12/14/99			50.0	ND	ug/kg	
cis-1.2-Dichloroethene	16	<b>"</b>	н			50.0	ND		•
Trichloroethene	. er	"	u			50.0	ND	17	
Tetrachloroethene	**	и .	11			50.0	138	<b>?</b> *	
Surrogate: a,a,a-TFT	п	. "	"	65.0-130			99.2	%	
D2-E-5'			M912003	L03				<u>Soil</u>	
Vinyl chloride	1290007	12/14/99	12/14/99	<u> </u>		50.0	ND	ug/kg	
cis-1,2-Dichloroethene	12,000.	11	1 2 1 - 1 7 7 7			50.0	ND	"	
Trichloroethene	19	п	п			50.0	ND	17	
Tetrachloroethene	п	н	11			50.0	ND	rt ·	
Surrogate: a,a,a-TFT	TP.	н	"	65.0-130		20.0	109	%	
D3-B1-5'			M912003	. 04				Ca:3	•
Vinyl chloride	1290007	12/14/99	12/14/99	<del></del>		50.0	ND	<u>Soil</u> ug/kg	
cis-1.2-Dichloroethene	12,0007	127.177.99	14/14/77 n			50.0		ug/Kg	
Trichloroethene	II.	н	11			50.0	ND	u	
Tetrachloroethene	ır	н				50.0	ND		•
Surrogate: a,a,a-TFT	n n	"	"	65.0-130		30.0	ND 110	%	
Surroguie. u,u,u=111				03.0-130			110	70	
D3-S-5'			M912003	3-0 <u>5</u>				Soil	
Vinyl chloride	1290007	12/14/99	12/14/99			50.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	**	n			50.0	ND	11	
Trichloroethene	п	п	11		•	50.0	ND	· 4	
Tetrachloroethene	. п	17	"			50.0	ND	IT	
Surrogate: a,a,a-TFT	H .	FI	If	65.0-130			64.3	%	1
D3-E-5'	•		M912003	<b>!</b> -06				<u>Soil</u>	
Vinyl chloride	1290007	12/14/99	12/14/99	, <b>, , , , ,</b>	•	50.0	ND	ug/kg	
cis-1,2-Dichloroethene	1290007	12/14/37	12/14/99	•		50.0	ND ND	ug/kg	
Trichloroethene	и	n	п			50.0		II .	
Hemoroemene				•		30.0	ND		

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/14/99
PO Box 318	Project Number:		Received:	12/14/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/15/99 10:56

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

'	Batch	Date	Date	Surrogate	Reporting	***		
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D3-E-5' (continued)			M912003	- <u>06</u>			<u>Soil</u>	
Tetrachloroethene	1290007	12/14/99	12/14/99		50.0	ND	ug/kg	
Surrogate: a,a,a-TFT	n	"	"	65.0-130		111	%	
D3-B2-5'			<u>M9</u> 12003	-07			<u>Soil</u>	
Vinyl chloride	1290007	12/14/99	12/14/99	·- <u>-</u>	50.0	ND	ug/kg	
cis-1,2-Dichloroethene	. "	IT	и .		50.0	ND	"	•
Trichloroethene	**	н .	17		50.0	ND	"	•
Tetrachloroethene	"	ft .	11		50.0	ND	"	
Surrogate: a,a,a-TFT	17	n	11	65.0-130	-	112	%	

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/14/99

PO Box 318

Project Number: Received: 12/14/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Removal Sampled: 12/14/99

Reported: 12/15/99 10:56

### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical—Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 1290007	Date Prepa	red: 12/1	4/99	Extraction Method: EPA 5035M				1		
Blank	1290007-B	LK1						_	•	
Vinyi chloride	12/14/99			ND	ug/kg	50.0				
cis-1,2-Dichloroethene	н			ND		50.0				
Trichloroethene	II			ND	ít.	50.0				
Tetrachloroethene	It			ND	n	50.0				
Surrogate: a,a,a-TFT	"	100		106	"	65.0-130	106			
1.00	1200007 D	.C1								
<u>LCS</u>	1290007-B		•	05.0		M = 0 10 =	25.0			
Vinyl chloride	12/14/99	100		97.8	ug/kg	75.0-125	97.8			
cis-1,2-Dichloroethene	,,	100		110		75.0-125	110			
Trichloroethene	'n	100		103		75.0-125				
Tetrachloroethene		100		104		75.0-125		***		~~~
Surrogate: a,a,a-TFT	11	100		103	#	65.0-130	103			
Matrix Spike	1290007-N	4S1 M91	2003-01							
Vinyl chloride	12/14/99	73.0	ND	60.4	ug/kg	75.0-125	82.7		•	
cis-1.2-Dichloroethene	n	73.0	ND	67.0	,, ,	75.0-125	91.8			
Trichloroethene	н	73.0	ND	67.7		75.0-125	92.7			
Tetrachloroethene	и,	73.0	51.1	115	#	75.0-125				
Surrogate: a,a,a-TFT	ri	73.0		47.8	n	65.0-130				
Matrix Spike Dup	1290007-N	4SD1 M91	2003-01							
Vinyl chloride	12/14/99	68.0	ND	59.2	ug/kg	75,0-125	87.1	20.0	5.18	
cis-1.2-Dichloroethene	11	68.0	ND	62.6	"	75.0-125		20.0	0.326	
Trichloroethene	п	68.0	ND	62.8	77	75.0-125		20.0	0.324	
Tetrachloroethene	u	68.0	-51.1	91.2	н	75.0-125		20.0	38.9	2
Surrogate: a,a,a-TFT	"	68.0		43.5	"	65.0-130				3

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/14/99
PO Box 318	Project Number:		Received:	12/14/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/15/99 10:56

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample. matrix.
2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte already present in the sample.
3	The surrogate recovery is outside of NCA established control limits; review of associated batch QC indicates the recovery for this surrogate spike does not represent an out-of-control condition for this batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

### Report Exceptions List (for internal use only)

·	
Analysis or Specific Metho	d <u>Lab Number</u>
VOC 8021B Screen	1290007-MSD1
VOC 8021B Screen	M912003-05
VOC 8021B Screen	M912003-05

Analyte or General M
a,a,a-TFT
Tetrachloroethene
Tetrachloroethene
a,a,a-TFT
Tetrachloroethene
a,a.a-TFT
a,a,a-TFT

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/15/99

PO Box 318

Project Number: Received: 12/15/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 12/16/99 07:59

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D2-B3-5'	M912004-01	Soil	12/15/99
D3-N-5'	M912004-02	Soil	12/15/99
D3-B3-5'	M912004-03	Soil	12/15/99

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remo	val Sampled:	12/15/99	
PO Box 318	Project Number:	•	Received:	12/15/99	
Mukilteo. Wa 98275	Project Manager:	Scott Waldal	Reported:	12/16/99 07:59	

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units .	Notes*
D2-B3-5'			M912004	-01			<u>Soil</u>	
Vinyl chloride	1290009	12/15/99	12/15/99		50.0	ND	ug/kg	
cis-1.2-Dichloroethene	н		"		50.0	ND	"	
Trichloroethene	n	u	μ		50.0	ND	11	
Tetrachloroethene	11	17	II .		50.0	ND	п	
Surrogate: a,a,a-TFT	н	п	н	65.0-130	····/··	107	%	
D3- <u>N-5'</u>			M912004	-02			<u>Soil</u>	
Vinyl chloride	1290009	12/15/99	12/15/99	•	50.0	ND	ug/kg	
cis-1,2-Dichloroethene	п	et .			50.0	ND	"	
Trichloroethene	и	n	ŧT.		50.0	ND	tt.	
Tetrachloroethene	17	"	Ħ		50.0	ND	n	
Surrogate: a,a,a-TFT	. 11	"	,"	65.0-130		97.3	%	
D3-B3-5'			M912004	-03			<u>Soil</u>	
Vinyl chloride	1290009	12/15/99	12/15/99		50.0	ΝD	ug/kg	
cis-1,2-Dichloroethene	п	11.	**		50.0	ND	,,	
Trichloroethene	ц	**	tt .		50.0	ND	n	
Tetrachloroethene	17	. н	17		50.0	ND	11	
Surrogate: a,a,a-TFT	. "	17	"	65.0-130		104	%	

Aspen Environmental, Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/15/99

PO Box 318

Project Number: Received: 12/15/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Removal Sampled: 12/15/99

Received: 12/16/99 07:59

### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mubile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	lotes*
Batch: 1290009	Date Prepa	rad: 12/1	5/00		Extrac	tion Method: El	)	Л		
Blank	1290009-B)		<u>3122</u>		<u>BAH ac</u>	don Method. Ei	A 30331	<u> </u>		
Vinyl chloride	12/15/99	<u> JIXI</u>		ND	ug/kg	50.0				
cis-1,2-Dichloroethene	12/17/7			ND	n na va	50.0				
Trichloroethene	1			ND	Iţ	50.0				
Tetrachloroethene			-	ND	. **	50.0				
Surrogate: a,a,a-TFT	п	100		112	"	65.0-130	112			
	4400000 77									
LCS	1290009-B				_					
Vinyl chloride	12/15/99	100		78.0	ug/kg	75.0-125	78.0			
cis-1,2-Dichloroethene		100		112	ır	75.0-125	112			
Trichloroethene	It	100		104	н	75.0-125				
Tetrachloroethene	ti .	100		107	"	75.0-125				
Surrogate: a,a,a-TFT		100		109	"	65.0-130	109	•		
Matrix Spike	1290009-M	IS1 M91	12004-01							
Vinyl chloride	12/15/99	87.7	ND	59.4	ug/kg	75.0-125	67.7			1
cis-1,2-Dichloroethene	ft.	87.7	ND	84.2	"	75.0-125				
Trichloroethene	It	87.7	ND	87.9	**	75.0-125				
Tetrachloroethene	, В	87.7	ND	88.8	**	75.0-125				
Surrogate: a,a,a-TFT	"	87.7		86.2	н	65.0-130	98.3			
Matrix Spike Dup	<u>1290009-N</u>									
Vinyl chloride	12/15/99	70.2	ND	56.8	ug/kg	75.0-125	80.9	20.0	17.8	
cis-1,2-Dichloroethene	"	70.2	ND	81.6	11	75.0-125	116	20.0	18.9	
Trichloroethene	**	70.2	ND	71.9	II	75.0-125	102	20.0	1.98	
Tetrachloroethene	п	70.2	ND	74.0	. 11	75.0-125	105	20.0	3.88	
Surrogate: a,a,a-TFT	n ·	70.2		76.8	п	65.0-130	109			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/15/99
PO Box 318	Project Number:		Received:	12/15/99
Mukilteo. Wa 98275	Project Manager:	Scott Waldal	Reported:	12/16/99 07:59

#### Notes and Definitions

#	Note
1	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical - Mobile Lab

Report Exceptions List

Exception
Exceeds lower control limit

Q-01 (1)

Partial report/invoice

Report calculations are based on the MRL

Report modifed

(for internal use only)

 Analysis or Specific Method
 Lab Number

 VOC 8021B Screen
 1290009-MS1

 VOC 8021B Screen
 1290009-MS1

Analyte or General Method Vinyl chloride

Vinyl chloride

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/16/99

PO Box 318

Project Number: Réceived: 12/16/99

Mukilteo. Wa 98275

Project Manager: Scott Waldal Reported: 12/17/99 09:19

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
DI-W-3'-1	M912005-01	Soil	12/16/99
D1-W-3'-2	M912005-02	Soil	12/16/99
C1-N-3'	M912005-03	Soil	12/16/99
DI-B1-3'	_ M912005-04	Soil	12/16/99
CI-B1-5'	M912005-05	Soil	12/16/99
C1-E-5'	M912005-06	Soil	12/16/99

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/16/99
PO Box 318	Project Number:		Received:	12/16/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/17/99 09:19

#### Volatile Compounds per GC/ECD Headspace Screen North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D1-W-3'-1			M912005	-01			<u>Soil</u>	
Trichloroethene	1290010	12/16 99	12/16/99	<u></u>	50.0	ND	ug/kg	
Tetrachloroethene	n	11	n		50.0	DET	"	
Surrogate: 4-BFB	и .	ir .	и	75.0-125		51.3	%	1
D1-W-3'-2	•		M912005	<u>-02</u>			<u>Soil</u>	
Trichloroethene	1290010	12/16 <del>99</del>	12/16/99		50.0	ND	ug/kg	
Tetrachloroethene	11	n	н		50.0	DET	и,	
Surrogate: 4-BFB	и	п	rr	75.0-125		112	%	
CI N AI			3.501.500.5	0.4				
<u>C1-N-3'</u>			M912005	<u>-03</u>			<u>Soil</u>	
Trichloroethene	1290010	12/16 99	12/16/99		50.0	ND	ug/kg	
Tetrachloroethene	rt '	11	***	<u>.</u>	50.0	DET	н	
Surrogate: 4-BFB	<i>"</i>	17	"	75.0-125	-	117	%	
D1-B1-3'			M912005				S . **	
= 17	1290010	12/16-99		<del>-04</del>	<b>50.0</b>	3.15	<u>Soil</u>	
Trichloroethene	1290010	12/10/99	12/16/99 -		50.0	ND	ug/kg	
Tetrachloroethene					50.0	ND		
Surrogate: 4-BFB	n	н	. #	<i>75.0-125</i>		125	%	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/16/99
PO Box 318	Project Number:	-	Received:	12/16/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/17/99 09:19

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D1-B1-3'			M912005	-04			<u>Soil</u>	
Vinyl chloride	1290011	12/16.99	12/17/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	#	11	11		15.0	ND	-55 11	
Trichloroethene	'n	ц	**		15.0	ND	n	
Tetrachloroethene	11	ч	н		15.0	80.3	ц	
Surrogate: a,a,a-TFT	и	"	" .	65.0-130		93.9	%	
		,						
C1-B1-5'	•		M912005	<u>-05</u>			<u>Soil</u>	
Vinyl chloride	1290011	12/16/99	12/17/99		15.0	ND	ug/kg	. *
cis-1,2-Dichloroethene	11	и	11		15.0	ND	H .	
Trichloroethene	п	11	n		15.0	ND	19	
Tetrachloroethene	It	11	п		15.0	ND		
Surrogate: a,a,a-TFT	"	"	n	65.0-130		114	%	
<u>C1-E-5'</u>			M912005	-06			<u>Soil</u>	÷
Vinyl chloride	1290011	12/16/99	12/17/99	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n ',	n	17	>	15.0	ND	, <i></i>	
Trichloroethene	н	II .	17		15.0	ND	, i	
Tetrachloroethene	н	. "	** •		15.0	15.4	10-	
Surrogate: .a,a,a-TFT	n	rr .	"	65.0-130		111	%	

Aspen Environmental. Ltd. Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/16/99
PO Box 318 Project Number: Received: 12/16/99
Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 12/17/99 09:19

## Volatile Compounds per GC/ECD Headspace Screen/Quality Control North Greek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290010 Blank	Date Prepar 1290010-BL		6/99		Extract	ion Method: He	adspace		
Trichloroethene	12/16/99			ND	ug/kg	50.0			
Tetrachloroethene	rt			ND		50.0			
Surrogate: 4-BFB	"	DET		DET	"	75.0-125	106		
LCS	1290010-B	<u>S1</u>							
Trichloroethene	12/16/99	40	•	38.7	ug/kg	75.0-125	97		
Tetrachloroethene	71	40		38.2	n T	75.0-125	96		•
Surrogate: 4-BFB	"	DET		DET	"	75.0-12 <b>5</b>	105		***
Matrix Spike	1290010-M	S1 <u>M91</u>	2005-04						
Trichloroethene	12/16/99 .	80	0	78.1	ug/kg	75.0-125	. 98		
Tetrachloroethene	tt.	80	44.3	129.3	"	75.0-125	106		2,3
Surrogate: 4-BFB	н	DET		DET	11	75.0-125	100		

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/16/99
PO Box 318	Project Number:		Received:	12/16/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/17/99 09:19

### VOC Screening per FPA Method 8021B/Quality Control North Creek Analytical Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290011	Date Prepa	red: 12/1:	6/00		Evtract	tion Method: El	) A 50253	Л	
Blank	1290011-B		<u>0/22</u>		EAHAC	uon Method. El	A 30331	<u>u</u>	
Vinyl chloride	12/17/99	<u> </u>		ND	ug/kg	15.0			
cis-1,2-Dichloroethene	H			ND	uging	15.0			
Trichloroethene	и -			ND	и	15.0			
Tetrachloroethene	и -			· ND	п	15.0		•	
Surrogate: a,a,a-TFT	п	100		103	11	65.0-130	103		7
1.00	1290011-B	101							
LCS	12/17/99	100		106		75.0 175	100		
Vinyi chloride cis-1.2-Dichloroethene	12/17/99	100		122	ug/kg	75.0-125 75.0-125	106		
Trichloroethene	71	100		102	*1	75.0-125 75.0-125	122 102		
Tetrachloroethene	<b>11</b> ·	100		102	11	75.0-125 75.0-125	102		
Surrogate: a,a,a-TFT	"	100		110	- ir	65.0-130	110	-	
541.0ga.c. 4,4,4 11 1	•	100				03.0 100	110		
Matrix Spike	1290011-N	<u> 1S1 M91</u>	2005-05						
Vinyl chloride	12/17/99	65.6	ND	58.0	ug/kg	75.0-125	88.4		
cis-1,2-Dichloroethene	н	65.6	ND	72.3	n	75.0-125	110		
Trichloroethene	"	65.6	ND	60.7	11	75.0-125	92.5		
Tetrachloroethene	**	65.6	ND	69.7	11	75.0-125	106		
Surrogate: a,a,a-TFT	"	65.6		69.0	н	65.0-130	105		
Matrix Spike <u>Dup</u>	1290011-N	<u>4SD1 M91</u>	2005-05	•					
Vinyi chloride	12/17/99	65.4	ND	59.6	ug/kg	75.0-125	91.1	20.0	3.01
cis-1,2-Dichloroethene	1f	65.4	ND	70.8	"	75.0-125	108	20.0	1.83
Trichloroethene	18	65.4	ND	62.7	. 11	75.0-125	95.9	20.0	3.61
Tetrachloroethene	ff .	65.4	ND	70.3	11	75.0-125	107	20.0	0.939
Surrogate: a,a,a-TFT	ir	65.4		64.1	" ;	65.0-130	98.0		

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/16/99

PO Box 318

Project Number: Received: 12/16/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 12/17/99 09:19

#### Notes and Definitions

#	Note		
1	. The surrogate recovery for this sample is outside of NCA established control limits due to suspected man	ix interference.	
2	The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the hig already present in the sample.	th concentration o	f analyte
3	MRL's for these analytes were lowered to generate recovery data.		
DET	Analyte DETECTED		
ND	Analyte NOT DETECTED at or above the reporting limit		
NR	Not Reported		
dry	Sample results reported on a dry weight basis		e.*
Recov.	Recovery		
RPD	Relative Percent Difference		

North Creek Analytical - Mobile Lab

### Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number
Q-03 (2)	VOC Headspace	1290010-MSI
Status is Analyzed	VOC Headspace	M912005-01
Exceeds lower control limit	VOC Headspace	M912005-01
A-01 (1)	VOC Headspace	M912005-01
Status is Analyzed	VOC Headspace	M912005-02
Status is Analyzed	VOC Headspace	M912005-03
Status is Analyzed	VOC Headspace	M912005-04
Status is Analyzed	VOC Headspace	M912005-05
Status is Analyzed	VOC Headspace	M912005-06
Report calculations are based on the MRL	and the second	

### Analyte or General Method Tetrachloroethene

4-BFB 4-BFB

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:		Received:	12/17/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/20/99 07:49

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C1-CONCRETE-6"	M912006-01	Soil	12/17/99
D4-E-4'	M912006-02	Soil	12/17/99
D4-E-7'	M912006-03	Soil	12/17/99
D4-B1-7'	M912006-04	Soil	12/17/99
B1-N-2'	M912006-05	Soil	12/17/99
B1-E-3'	M912006-06	Soil	12/17/99
B1-W-2'-2	M912006-07	Soil	12/17/99
B1-W-3'-1	M912006-08	Soil	12/17/99
BI-BI-3'	M912006-09	Soil	12/1 <b>7/99</b>
B1-B2-3'	M912006-10	Soil	12/17/99

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:		Received:	12/17/99
Mukilteo, Wa 98275	Project Marager:	Scott Waldal	Reported:	12/20/99 07:49

#### Volatile Compounds per GC/ECD Headspace Screen North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting		-	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
C1-CONCRETE-6"			M912006	-01			<u>Soil</u>	
Trichloroethene	1290012	12 17 99	12/17/99	<del></del>	50.0	DET	ug/kg	
Tetrachloroethene	п	л	n		50.0	DET	"	
Surrogate: 4-BFB	"	"	11	75.0-125		50.4	%	1
D4-E-4'		-	M912006	-02			<u>Soil</u>	
Trichloroethene	1290012	12:17 99	12/17/99		50.0	ND	ug/kg	
Tetrachloroethene	11	п	n		50.0	DET	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Surrogate: 4-BFB	"	"	n .	75.0-125		81.0	%	
D4-E-7'			M912006	-03			<u>Soil</u>	
Trichloroethene	1290012	12:17 99	12/17/99	<del></del>	50.0	ND	ug/kg	
Tetrachloroethene	ti.	ž†	11		50.0	DET	, "	
Surrogate: 4-BFB	"	"	· 11	75.0-125	'	30.3	%	Ī
<u>B1-B1-3'</u>			M912006	<u>-09</u>			Soil	
Trichloroethene	1290012	12/17 99	12/17/99		50.0	ND	ug/kg	
Tetrachloroethene	tt	17	17		50.0	DET	u,	
Surrogate: 4-BFB	# ·	n	"	75.0-125		77.1	%	
B1-B2-3'			M912006	<u>-10</u>			Soil	
Trichloroethene	1290012	12:17 99	12/17/99		50.0	ND	ug/kg	
Tetrachloroethene	п	п	n		50.0	DET	II	
Surrogate: 4-BFB	n	**	18	75.0-125		66.I	% .	1

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:		Received:	12/17/99
Mukilteo, Wa 98275	Project Marager:	Scott Waldal	Reported:	12/20/99 07:49

	Batch	Date	Date	Surrogate	Reporting			_
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes
D4-B1-7'			M912006	-04			<u>Soil</u>	
Vinyl chloride	1290013	12:17 99	12/17/99	<del></del>	- 15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	it .	п	н		15.0	ND	" ,	
Trichloroethene	it ,	н	u u		15.0	ND	II	
Tetrachloroethene	te .	lf .	11		15.0	ND	if.	
Surrogate: a,a,a-TFT	"	η	п	65.0-130		76.5	%	
B1-N-2'			M912006	-05	,		<u>Soil</u>	
Vinyl chloride	1290013	12/17 99	12/17/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	10	ц	ú ·		15.0	ND	н .	
Trichloroethene	TF	17	17		15.0	ND	н .	
Tetrachloroethene	ď	11	**		15.0	ND	"	
Surrogate: a,a,a-TFT	н	11	n	65.0-130		89.5	%	······································
B1-E-3 <u>'</u>			M912006	-06		•	Soil	
Vinyl chloride	1290013	12/17 99	12/17/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ч	**	·#		15.0	ND	,, ,	•
Trichloroethene	11	rı .	**		15.0	ND	<b>"</b> .	
Tetrachloroethene	**	17	n		15.0	24.7	n	
Surrogate: a,a,a-TFT	IF.	·n .	<b>3</b> 7	65.0-130		94.2	%	
B1-W-2'-2			M912006	-07	•		Soil	•
Vinyl chloride	1290013	12/17 99	12/17/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	n	7	4	15.0	ND	"	
Trichloroethene	**	IT	n		15.0	ND	ท	
Tetrachloroethene	77	et	n		15.0	18.9	n	
Surrogate: a,a,a-TFT	rr	,	п	65.0-130		92.0	%	
B1-W-3'-1	4		M912006	-08			<u>Soil</u>	
Vinyl chloride	1290013	12/17 99	12/17/99	-	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	Ħ	Ħ	п		15.0	ND	ıı D	•
Trichioroethene	11	17	n .		15.0	ND	II	
Tetrachloroethene	17	**	n e		15.0	36.3	II	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		83.3	%	

North Creek Analytical - Mobile Lab

\*Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:		Received:	12/17/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/20/99 07:49

## Volatile Compounds per GC/ECD Headspace Screen/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290012	Date Prepa	red: 12/1	7/99		Extract	tion Method: H	eadspace		
Blank	1290012-BI	<u>K1</u>	•				-		
Trichloroethene	12/17/99			ND	ug/kg	50.0			
Tetrachloroethene	н			ND	"	50.0			
Surrogate: 4-BFB	u	DET		DET	11	75.0- <i>125</i>	118		
LCS	1290012-B	<u>S1</u>							
Trichloroethene	12/17/99	40		39.9	ug/kg	75.0-125	99.8		
Tetrachloroethene	n	40	•	39.1	"	75.0-125	97.8		
Surrogate: 4-BFB	"	DET		DET	"	75.0-125	92.0		
Matrix Spike	1290012-M	IS1 M91	2006-02						
Trichloroethene	12/17/99	40	36.9	72.6	ug/kg	75.0-125	89.3		
Tetrachloroethene	II	40	55.3	70.1	"	75.0-125			2
Surrogate: 4-BFB	"	DET		DET	"	75.0-125	75.0		•

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:	•	Received:	12/17/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/20/99 07:49

## VOC Screening per EPA Method 802TB/Quality Control North Creek Analytical - Mobile Lab Date Spike Sample QC Reporting Limit Recov. RPD RPD

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 1290013	Date Prepa	red: 12/1	7/99	-	Extract	tion Method: El	PA 5035N	<b>⁄</b> 1		
Blank	1290013-B	<u>LK1</u>								
Vinyl chloride	12/17/99			ND	ug/kg	15.0				-
cis-1,2-Dichloroethene	11			ND	. #	15.0				
Trichloroethene	11			ND	*1	15.0				
Tetrachloroethene	π			ND	n	15.0				
Surrogate: a,a,a-TFT	n .	100		106	"	65.0-130	10 <b>6</b>			
LCS	<u>1290013-B</u>	<u>S1</u>								
Vinyl chloride	12/17/99	100		94.5	ug/kg	75.0-125	94.5			
cis-1.2-Dichloroethene	tt	100		89.3	"	75.0-125	89.3			
Trichloroethene		100		89.0	17	75.0-125	89.0			
Tetrachloroethene	"	100		89.8	"	75.0-125	89.8			•
Surrogate: a,a,a-TFT	,,	100		91.5		65.0-130	91.5			
Matrix Spike	1290013-M	IS1 M91	2006-05							
Vinyl chloride	12/17/99	81.6	ND	59.4	ug/kg	75.0-125	72.8			2
cis-1,2-Dichloroethene	**	81.6	ND	76.5	n Č	75.0-125	93.8			
Trichloroethene	**	81.6	ND	70.6	n	75.0-125				
Tetrachloroethene	n .	81.6	ND	75.9	н	75.0-125	93.0			
Surrogate: a,a,a-TFT	П	81.6		71.4	"	65.0-130	87.5			*****************
Matrix Spike Dup	1290013-M	ISD1 M91	2006-05							
Vinyl chloride	12/17/99	82.3	ND '	57.2	ug/kg	75.0-125	69.5	20.0	4.64	
cis-1,2-Dichloroethene	**	82.3	ND	75.9	"	75.0-125	92.2	20.0	1.72	
Trichloroethene	"	82.3	ND	63.4	71	75.0-125	77.0	20.0	11.6	
Tetrachloroethene	n	82.3	ND	69.8	11	75.0-125		20.0	9.22	
Surrogate: a,a,a-TFT	"	82.3		73.0	"	65.0-130	88.7			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/17/99
PO Box 318	Project Number:	•	Received:	12/17/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/20/99 07:49

#### Notes and Definitions

#	Note
1 .	The surrogate recovery is out of NCA control limits due to suspected matrix interference.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry.	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

<b>Exception</b>	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	1290013-MS1	Vinyl chloride
Q-01 (3)	VOC 8021B Screen	1290013-MS1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Screen	1290013-MSD1	Vinyl chloride
Status is Analyzed	VOC 8021B Screen	M912006-04	
Status is Analyzed	VOC 8021B Screen	M912006-05	
Status is Analyzed	VOC 8021B Screen	M912006-06	
Status is Analyzed	VOC 8021B Screen	M912006-07	
Status is Analyzed	VOC 8021B Screen	M912006-08	
No true value	VOC Headspace	1290012-M\$1	Tetrachloroethene
No true value	VOC Headspace	1290012-MS1	Trichloroethene
Q-01 (3)	VOC Headspace	1290012-MS1	Tetrachloroethene
Q-01 (3)	VOC Headspace	1290012-MS1	Trichloroethene
Status is Analyzed	VOC Headspace	M912006-01	
Exceeds lower control limit	VOC Headspace	M912006-01	4-BFB
A-01 (1)	VOC Headspace	M912006-01	4-BFB
Status is Analyzed	VOC Headspace	M912006-02	
Status is Analyzed	VOC Headspace	M912006-03	•
Exceeds lower control limit	VOC Headspace	M912006-03	4-BFB
A-01 (1)	VOC Headspace	M912006-03	4-BFB
Status is Analyzed	VOC Headspace	M912006-04	
Status is Analyzed	VOC Headspace	M912006-05	•
Status is Analyzed	VOC Headspace	M912006-06	
Status is Analyzed	VOC Headspace	M912006-07	
Status is Analyzed	VOC Headspace	M912006-08	
Status is Analyzed	VOC Headspace	M912006-09	
Status is Analyzed	VOC Headspace	M912006-10	•
Exceeds lower control limit	VOC Headspace	M912006-10	4-BFB
A-01 (2)	VOC Headspace	M912006-10	4-BFB
Report calculations are based on the MRL	•		

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 12/20/99

PO Box 318

Project Number: Received: 12/20/99

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 12/21/99 08:06

#### ANALYTICAL REPORT FOR SAMPLES:

	· ····································	<del></del>	• • • • • • • • • • • • • • • • • • • •
Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C1-B2-5'	M912007-01	Soil	12/20/99
C1-B3-5'	M912007-02	Soil	12/20/99
B1-BI-8'	M912007-03	Soil	12/20/99
B1-B2 <b>-7</b> '	M912007-04	Soil	12/20/99
B1-B3-5'	M912007-05	Soil	12/20/99
B2-N-3'	M912007-06	Soil	12/20/99
B2-B1-3'	M912007-07	Soil	12/20/99

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/20/99
PO Box 318	Project Number:	•	Received:	12/20/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/21/99 08:06
- <del></del>		· ·		

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
					•			
<u>C1-B2-5'</u>			M912007	<u>-01</u>			<u>Soil</u>	
Vinyl chloride	1290015	12/20/99	12/20/99		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	,	н	п		15.0	ND	Ħ	
Trichloroethene	п	μ	ut .		15.0	ND	11	
Tetrachloroethene	tt .	11	"		. 15.0	ND	PF	
Surrogate: a,a,a-TFT	,	"	"	65.0-130		102	%	
C1-B3-5'			M912007	-02			<u>Soil</u>	
Vinyl chloride	1290015	12/20/99	12/20/99	<u> </u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	" "	"	12/20/77		15.0	ND	ug/kg	
Trichloroethene	IT	**	17		15.0	ND	19	
Tetrachloroethene	**	11	•		15.0	ND ND	**	
Surrogate: a,a,a-TFT	п	,,	· ·	65.0-130	12.0	111	%	
Surrogute. a,u,u=11·1				05.0-150		111	70	
· B1-B1-8'			M912007	-03			<u>Soil</u>	
Vinyl chloride	1290015	12/20/99	12/20/99		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	n,	ır	***		15.0	ND	" OO	
Trichloroethene	It	· u	**		15.0	ND	n	
Tetrachloroethene	ui .	**	n .		15.0	ND	п	
Surrogate: a,a,a-TFT	н	"	"	65.0-130		105	%	
B1-B2-7'			M912007	. 04			<u>Soil</u>	
Vinyl chloride	1290015	12/20/99	12/20/99	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	1270015	12/20/99	12/20/77		15.0	ND ND	ug/kg	
Trichloroethene		н	u-		15.0	ND ND	19	
Tetrachloroethene	lt.	н	**		15.0	ND ND	,,	
Surrogate: a,a,a-TFT	"	"	"	65.0-130	13.0	106	%	
							70	
<u>B1-B3-5'</u>			M912007	<u>-05</u>			<u>Soil</u>	
Vinyl chloride	1290015	12/20/99	12/20/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	n	н	•	15.0	ND	"	
Trichloroethene	17	n	It		15.0	ND	(f	-
Tetrachloroethene	n	11	It		15.0	ND	47	
Surrogate: a,a,a-TFT	11	n	rr	65.0-130	THE STATE OF THE S	107	%	
B2-N-3'			M912007	<u>.</u>			Soil	
Vinyl chloride	1290015	12/20/99	12/20/99	<u>-vv</u>	15.0	NID		
	1290015	12/20/99	12/20/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11		"		15.0	ND	"	
Trichloroethene					15.0	ND		

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/20/99
PO Box 318	Project Number:		Received:	12/20/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/21/99 08:06

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B2-N-3' (continued)	_	•	M912007	06			Soil	
Tetrachloroethene	1290015	12/20/99	12/20/99	<u>-00</u>	15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	. "	"	"	65.0-130	15.0	72.0	%	
B2-B1-3'			M912007	-07			<u>Soil</u>	
Vinvl chloride	1290015	12/20/99	12/20/99		15.0	ND:	ug/kg	٠
cis-1.2-Dichloroethene	n	11	11	•	15.0	ND	"	
Trichloroethene	H	14	n		15.0	ND	n	•
Tetrachloroethene	. 11	17	п	•	15.0	ND	н	
Surrogate: a,a,a-TFT	,,,	11	11	65.0-130		88.1	%	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/20/99
PO Box 318	Project Number:		Received:	12/20/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/21/99 08:06

## VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 1290015	Date Prepa	red: 12/2	<u>0/99</u>		Extract	tion Method: EF	A 5035N	1	
Blank	1290015-BI	<u>.K1</u>					•	_	
Vinyl chloride	12/20/99			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	11			ND	4	15.0			
Trichloroethene	11			ND	п	15.0			
Tetrachloroethene	ц			ND	п	15.0			
Surrogate: a,a,a-TFT	1f	40.0		<i>45.1</i>	".	65.0-130	113		
LCS	1290015-B	<u>S1</u>							
Vinyi chloride	12/20/99	40.0		32.5	ug/kg	75.0-125	81.3		
cis-1,2-Dichloroethene	It	40.0		36.0	"	75.0-125	90.0		
Trichloroethene	ır	40.0	-	35.8	r	75.0-125	89.5		
Tetrachloroethene		40.0		36.7	n	75.0-125	91.8		
Surrogate: a,a,a-TFT	. 11	40.0		39.8	11	65.0-130	99.5		
Matrix Spike	1290015-M	IS1 <u>M9</u> 1	2007-01						-
Vinyl chloride	12/20/99	62.1	ND	41.1	ug/kg	75.0-125	66.2		
cis-1,2-Dichloroethene	II .	62.1	ND	64.0	11	75.0-125	103		
Trichloroethene	II .	62.1	ND	61.8	17	75.0-125	99,5		
Tetrachloroethene		62.1	ND	66.5	19 -	· 75.0-125	107		
Surrogate: a,a,a-TFT	"	62.1		63.4	u	65.0-130	102		
Matrix Spike Dup	1290015-M	ISD1 M91	12007-01						
Vinyl chloride	12/20/99	57.6	ND	37.2	ug/kg	75.0-125	64.6		2.45
cis-1,2-Dichloroethene	· ·	57.6	ND	56.5	"	75.0-125	98.1		4.87
Trichloroethene	11	57.6	ND	50.6	It	75.0-125	87.8	20.0	12.5
Tetrachloroethene	n n	57.6	ND	54.6	11	75.0-125	94.8	. •	12.1
Surrogate: a.a.a-TFT	"	57.6		. 55.8	"	65.0-130	96.9		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/20/99
PO Box 318	Project Number:		Received:	12/20/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/21/99 08:06

#### Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

	(for internal use only)				
Exception	Analysis or Specific Method	Lab Number			
Exceeds lower control limit	VOC 8021B Screen	1290015-MS1			
At least one missing control limit	VOC 8021B Screen	1290015-MSD1			
At least one missing control limit	VOC 8021B Screen	1290015-MSD1			
At least one missing control limit	VOC 8021B Screen	1290015-MSD1			
Exceeds lower control limit	VOC 8021B Screen	1290015-MSD1			
Status is Analyzed	VOC 8021B Screen	M912007-01			
Status is Analyzed	VOC 8021B Screen	M912007-02			
Status is Analyzed	VOC 8021B Screen	M912007-03			
Status is Analyzed	VOC 8021B Screen	M912007-04			
Status is Analyzed	VOC 8021B Screen	M912007-05			
Status is Analyzed	VOC 8021B Screen	M912007-06			
Status is Analyzed	VOC 8021B Screen	M912007-07			
Partial report/invoice					
Report calculations are based on the MRL					
Report modifed					

# Analyte or General Method Vinyl chloride cis-1.2-Dichloroethene Tetrachloroethene Vinyl chloride Vinyl chloride

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/21/99
PO Box 318	Project Number:		Received:	12/21/99
Mukilteo, Wa 98275	Ртојест Manager:	Scott Waldal	Reported:	12/22/99 04:22

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled	
32-B2-5'	M912008-01	Soil	12/21/99	
32-E-5'	M912008-02	Soil	12/21/99	
D1-S-5'	M912008-03	Soil	12/21/99	
D2-W-7'	M912008-04	Soil	12/21/99	
DI-B3-7'	M912008-05	Soil	12/21/99	
01-B1-7'	M912008-06	Soil	12/21/99	
01-B2-7'	M912008-07	Soil	12/21/99	
1-B4-5'	M912008-08	Soil	12/21/99	
1-E-8'	M912008-09	Soil	12/21/99	
'1-W-5'	M912008-10	Soil	12/21/99	
I-W-7'	M912008-11	Soil	12/21/99	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/21/99
PO Box 318	Project Number:		Received:	12/21/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/22/99 04:22

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
					<del>-</del>			
<u>B2-B2-5'</u>			M9120	<u>08-01</u>			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99		. 15.0	ND	ug/kg	
cis-1.2-Dichloroethene	ir ,	tr .	11		15.0	ND	11	
Trichloroethene	· · · ·	t <del>r</del>	n,		15.0	ND	н	
Tetrachloroethene	<b>11</b>	T#	ır		15.0	35.8		
Surrogate: a,a,a-TFT	"	"	"	65.0-130		81.5	%	
	•							
<u>B2-E-5</u>			M9120	<u>08-02</u>	-		<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99		15.0	ND	ug/kg	
cis-1.2-Dichloroethene		u	П		15.0	ND	tr.	
Trichloroethene		11	ır		15.0	ND	14	
Tetrachloroethene	ft	11	11		15.0	ND	17	<u> </u>
Surrogate: a,a,a-TFT	"	н -	. "	65.0-130	•	98.2	%	
<u>D1-S-5'</u>			M9120	<u>08-03</u>			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	п .	It		15.0	ND	If	
Trichloroethene	ft .	"	it .		15.0	ND		
Tetrachloroethene	H	ti	(*		15.0	· ND	m	· · · · · · · · · · · · · · · · · · ·
Surrogate: a.a,a-TFT	n	п	"	65.0-130		96.3	%	
D2-W-7'			M9120	00 04			C.a	
Vinvl chloride	1290017	12/21/99	12/21/99	<u>00-04</u>	15.0	NITS	<u>Soil</u>	
cis-1.2-Dichloroethene	1250017	12/21/99	12/21/99			ND	ug/kg "	
Trichloroethene	11	n	u,		15.0	ND	n	
Tetrachloroethene	. 11	11	(†		15.0	ND	11	
Surrogate: a,a,a-TFT	n .	ii -	"	65.0-130	15.0	ND 98.5	%	
Surrogate. a,a,a-1F1				03.0-130		98.3	%	
D1-B3-7'			M9120	08-05			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99	<u></u>	15.0	· ND	ug/kg	
cis-1.2-Dichloroethene	IT	11			15.0	ND	"	
Trichloroethene	**	17	н		15.0	ND	10	
Tetrachloroethene	**	**	II		15.0	ND	rt	
Surrogate: a,a,a-TFT	"	"	, <i>n</i>	65.0-130		100	%	
						- * *	- <del>-</del>	
<u>D1-B1-7'</u>			M9120	<u> 08-06</u>			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17		IT		15.0	ND	"	
Trichloroethene	η	fr	18	•	15.0	ND	79	
					10.0	. 13.0		

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/21/99
PO Box 318	Project Number:		Received:	12/21/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/22/99 04:22

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D1-B1-7' (continued)	•		<u>M9120</u>	<u>08-06</u>			<u>Soil</u>	
Tetrachloroethene	1290017	12/21/99	12/21/99		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	".	11	"	65.0-130		105	%	
D1-B2-7'			M9120	08-07			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99	00 07	15.0	ND	ug/kg	•
cis-1.2-Dichloroethene	"	11	II. DI. 75		15.0	ND	" " " " " " " " " " " " " " " " " " "	
Trichloroethene	и	71	14		15.0	. ND	11	
Tetrachloroethene	u ·	n	11		15.0	ND	и .	
Surrogate: a,a,a-TFT	. "	- "	"	65.0-130	15.0	105	%	-
C1-B4-5'			M9120	<u>08-08</u>			<u>Soil</u>	
Vinyl chloride	1290017	12/21/99	12/21/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	17	** .	•	15.0	ND	, .	
Trichloroethene	79	17	71		15.0	ND .	rf	•
Tetrachloroethene	ti .	If .	11		15.0	ND	n .	
Surrogate: a,a,a-TFT	· n	н .	п	65.0-130		101	%	
B1-E-8'			M9120	08-09			<u>Soîl</u>	
Vinyl chloride	1290017	12/21/99	12/21/99	40 05	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	11	"		15.0	ND	" ng/vg	
Trichloroethene	IT	н	H		15.0	ND	ır	
Tetrachloroethene	If	n .			15.0	ND	т .	
Surrogate: a.a,a-TFT	· "	"	"	65.0-130	1.5.0	10Ì	%	
							. •	•
C1-W-5'			M9120	08-10			Soil	
Vinyl chloride	1290017	12/21/99	12/21/99	<del></del>	15.0 ·	ND	ug/kg	· i
cis-1,2-Dichloroethene	и.	n n	Ħ		15.0	ND	1	
Trichloroethene	15	. 41	n	•	15.0	ND	17	
Tetrachloroethene	11.	n	10		15.0	58.7	17	
Surrogate: a,a,a-TFT	"	Jt.	"	65.0-130		90.8	%	
B1-W-7'	•		M9120	.00 11			ទុក្ខព	
Vinyl chloride	1290017	12/21/99	12/21/99		15.0	λIIC	<u>Soil</u>	
cis-1,2-Dichloroethene	1290017	12/21/99	12/21/99	•	15.0	ND	ug/kg "	
Trichloroethene	11	11	II.		15.0	ND	" 11	
Tetrachloroethene	11	**			15.0	ND	11	
		"	п	(5.0.120	15.0	ND ND		· · · · · · · · · · · · · · · · · · ·
Surrogate: a,a,a-TFT		••		65.0-130		106	%	_

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/21/99
PO Box 318	Project Number:	-	Received:	12/21/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/22/99 04:22

### VOG Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab.

	,									
*	Date	Spike	Sample	. QC		Reporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
D (1 1200015	D		100		₩.					
Batch: 1290017	Date Prepa		<u>799</u> . :		Extrac	tion Method: EP	<u>A 5035M</u>	<u>l</u>		
Blank	1290017-BI	LK1			_					
Vinyl chloride	12/21/99			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	lt .			ND	n	15.0				
Trichloroethene	ur			ND	IF.	15.0				
Tetrachloroethene				ND	17	15.0				
Surrogate: a,a,a-TFT	11	80.0		78.0	"	65.0-130	97.5			
LCS	1290017-BS	<u>S1</u>								
Vinyl chloride	12/21/99	80.0		72.8	u <b>g/kg</b>	75.0-125	91.0			
cis-1,2-Dichloroethene	11	80.0		70.2	"	75.0-125	87.7			
Trichloroethene	It	80.0		72.4	11	75.0-125	90.5			
Tetrachloroethene	**	80.0		73.2	11 -	75.0-125	91.5			
Surrogate: a,a,a-TFT	"	80.0		70.6	"	65.0-130	88.2			
Matrix Spike	1290017-M	S1 M	912008-02					•		
Vinyl chloride	12/21/99	90.1	ND	70.3	ug/kg	75.0-125	78.0			
cis-1.2-Dichloroethene	11	90.1	ND	63.5	"3"-5	75.0-125	70.5			
Trichloroethene	ır	90.1	ND	62.8	tr	75.0-125	69.7			1
Tetrachloroethene	lt	90.1	ND	61.0	**	75.0-125	67.7			1
Surrogate: a,a,a-TFT	. 11	90.1		66.2	. ,,	65.0-130	73.5	· <u> </u>		<del></del>
Matrix Spike Dup	1290017-M	SD1 M	912008-02		*					
Vinyl chloride	12/21/99	94.8	ND	71.8	ug/kg	75.0-125	75,7	20.0	2.99	
cis-I.2-Dichloroethene	11	94.8	ND	73.9	u gy K g	75.0-125 75.0-125	78.0	20.0	10.1	
Trichloroethene	н	94.8	. ND	67.8	п	75.0-125 75.0-125	71.5	20.0	2.55	1
Tetrachloroethene	н	94.8	ND	66.6	38	75.0-125 75.0-125				1
	<i>n</i>	94.8	ND				70.3	20.0	3.77	
Surrogate: a,a,a-TFT	•	94.0		71.8	**	65.0-130	75.7			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/21/99
PO Box 318	Project Number:	. •	Received:	12/21/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	12/22/99 04:22

#### Notes and Definitions

#	Note
i	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
đτy	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	<u>Lab Number</u>
Exceeds lower control limit	VOC 8021B Screen	1290017-MS1
Exceeds lower control limit	VOC 8021B Screen	1290017-MS1
Exceeds lower control limit	VOC 8021B Screen	1290017-MS1
Q-01 (I)	VOC 8021B Screen	1290017-MS1
Q-01 (1)	VOC 8021B Screen	1290017-MS1
Exceeds lower control limit	VOC 8021B Screen	1290017-MSDI
Exceeds lower control limit	VOC 8021B Screen	1290017-MSD1
Q-01 (1)	VOC 8021B Screen	1290017-MSD1
Q-01 (1)	VOC 8021B Screen	1290017-MSD1
Status is Analyzed	VOC 8021B Screen	M912008-01
Status is Analyzed	VOC 8021B Screen	M912008-02
Status is Analyzed	VOC 8021B Screen	M912008-03
Status is Analyzed	VOC 8021B Screen	M912008-04
Status is Analyzed	VOC 8021B Screen	M912008-05
Status is Analyzed	VOC 8021B Screen	M912008-06
Status is Analyzed	VOC 8021B Screen	M912008-07
Status is Analyzed	VOC 8021B Screen	M912008-08
Status is Analyzed	VOC 8021B Screen	M912008-09
Status is Analyzed	VOC 8021B Screen	M912008-10
Status is Analyzed	VOC 8021B Screen	M912008-11
Partial report/invoice		
Report calculations are based on the MRL	*	
Report modifed		,
•		

#### Analyte or General Method

cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Tetrachloroethene
Trichloroethene
Trichloroethene
Tetrachloroethene
Trichloroethene
Trichloroethene
Trichloroethene
Trichloroethene

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/29/99
PO Box 318	Project Number:		Received:	12/29/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:08

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B2-B3-5	M912010-01	Soil	12/29/99
C3-E-5	M912010-02	Soil	12/29/99
C3-N-5	M912010-03	Soil	12/29/99
C3-B1-5	M912010-04	Soil	12/29/99
C3-B2-5	M912010-05	Soil	12/29/99
C3-B3-5	M912010-06	Soil	12/29/99

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/29/99
PO Box 318	Project Number:	•	Received:	12/29/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:08

A 1		Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>B2-B3-5</u>			M912010	<u>-01</u>			<u>Soil</u>	
Vinyl chloride	1290018	12/29 99	12/29/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	(†	n	ц		15.0	ND	11	
Trichloroethene	. •	н	It	•	15.0	ND	"	
Tetrachloroethene	11		"1		15.0	ND	11	
Surrogate: a,a.a-TFT	H	"	и .	65.0-130	•	112	%	•
<u>C3-E-5</u>			M912010	<u>-02</u>			<u>Soil</u>	
Vinyl chloride	1290018	12/29/99	12/29/99	•	15.0	ND	`ug/kg	
cis-1,2-Dichloroethene	**	n	и .		15.0	ND	'n	
Trichloroethene	17	н	17		15.0	ND	п	
Tetrachloroethene	*1	u	it.		15.0	17.6	ır	
Surrogate: a,a,a-TFT	H	n	п	65.0-130		88.6	%	
C3-N-5			M912010	-03	•		<u>Soil</u>	
Vinyl chloride	1290018	12/29/99	12/29/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	11			15.0	ND	"	
Trichloroethene	†1	n			15.0	ND	l <del>y</del>	
Tetrachloroethene	71	П	n		15.0	ND		
Surrogate: a,a.a-TFT	"	n.	n	65.0-130	,	101	%	
<u>C3-B1-5</u>			M912010	-04			<u>Soil</u>	
Vinyl chloride	1290018	12/29/99	12/29/99	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	. 0	н	n		15.0	ND	11	
Trichloroethene		n	tr		15.0	ND	п	•
Tetrachloroethene	**	0	19		15.0	NĎ	11	
Surrogate: a,a,a-TFT	"	"	17	65.0-130		110	%	
<u>C3-B2-5</u>			M912010	) <u>-05</u>			<u>Soil</u>	
Vinyl chloride	1290018	12/29/99	12/29/99		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н .	"	17		15.0	ND	n n	
Trichloroethene	**	"	rr .		15.0	ND	12	
Tetrachloroethene	***	п	n		15.0	ND	It	
Surrogate: a,a,a-TFT	"	11	н	65.0-130		111	%	
C3 <u>-B3-5</u>			<u>M9</u> 12010	L06	•		Soil	
<u>C5-B5-5</u> Vinyl chloride	1290018	12/29/99	12/29/99	7-00	15.0	ND		
cis-1,2-Dichloroethene	1270010	1 <i>2129199</i> 11	1 <i>2/29/99</i> n				ug/kg	
Trichloroethene	11	II.	н		15.0	, ND	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
THEMOTOETHERE					15.0	ND	**	

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal S	Sampled:	12/29/99
PO Box 318	Project Number:	. R	Received:	12/29/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal R	eported:	1/26/00 09:08

Analyte	 Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
C3-B3-5 (continued)			M912010	<u>-06</u>			<u>Soil</u>	
Tetrachloroethene	1290018	12/29/99	12/29/99		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	"	"	"	65.0-130	·	109	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	12/29/99
PO Box 318	Project Number:	•	Received:	12/29/99
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:08

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC .	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes
Batch: 1290018	Date Prepared: 12/29/99				Extract	tion Method: El	A 5035N	1	
Blank	1290018-B	LK1						_	
Vinvl chloride	12/29/99			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	"			ND	,, ,	15.0			
Trichloroethene	II .			. ND	71	15.0			
Tetrachloroethene	II .			ND	Д	15.0			
Surrogate: a,a,a-TFT		40.0		36.0	."	65.0-130	90.0		
LCS	1290018-E	BS1							
Vinyl chloride	12/29/99	40.0		34.0	ug/kg	75.0-125	85.0		
cis-1.2-Dichloroethene	41	40.0		37.6	"	75.0-125	94.0		
Trichloroethene	Iŧ	40.0		34.7	п	75.0-125	86.8		
Tetrachloroethene	n	40.0		35.4	ır	75.0-125	88.5		
Surrogate: a,a,a-TFT	и	40.0	TURNIUM PROPERTY	33.9	ŗ/	65.0-130	84.8		
Matrix Spike	1290018-N	/IS1 M91	12009-02					•	
Vinyl chloride	12/29/99	70.9	ND	61.7	ug/kg	75.0-125	87.0		
cis-1,2-Dichloroethene	n '	70.9	ND	74.6	"	75.0-125	105		
Trichloroethene	н	70.9	ND	64.0	H	75.0-125	90.3		
Tetrachloroethene	Ħ	70.9	ND	68.1	н	75.0-125			
Surrogate: a,a,a-TFT	n ·	70.9		64.7	"	65:0-130	91.3		
Matrix Spike Dup	1290018-N	<u> </u>	12009-02						
Vinyl chloride	12/29/99	85.1	ND	70.9	ug/kg	75.0-125	83.3	20.0	4.35
cis-1,2-Dichloroethene	It	85.1	ND	85.3	11	75.0-125	100	20.0	4.88
Trichloroethene	It.	85.1	ND	72.3	17	75.0-125	85.0	20.0	6.05
Tetrachloroethene	11	85.1	ND	73.2	11	75.0-125	86.0	20.0	11.1
Surrogate: a,a,a-TFT	"	85.I		73.2	"	65.0-130	86.0		

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakıma Contan	ninated Soil Removal Sampled:	12/29/99	ļ
PO Box 318	Project Number:		Received:	12/29/99	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:08	

#### Notes and Definitions

#	Note	•
DET	Analyte DETECTED	
ND	Analyte NOT DETECTED at or above the reporting limit	
NR	Not Reported	
dry	Sample results reported on a dry weight basis	
Recov.	Recovery	
RPD	Relative Percent Difference	

North Creek Analytical, Inc.

## Report Exceptions List (for internal use only)

	(101 1111111111111111111111111111111111		
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Status is Analyzed	VOC 8021B Screen	M912010-01	
Status is Analyzed	VOC 8021B Screen	M912010-02	
Status is Analyzed	VOC 8021B Screen	M912010-03	
Status is Analyzed	VOC 8021B Screen	M912010-04	
Status is Analyzed	VOC 8021B Screen	M912010-05	
Status is Analyzed	VOC 8021B Screen	M912010-06	
Report calculations are based on the MRL			

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/7/00

PO Box 318

Project Number: Received: 1/10/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/11/01 08:56

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B3-W-3'	M001001-01	Soil	1/7/00
B3-B1-3'	M001001-02	Soil	1/7/00
B3-B2-3'	M001001-03	Soil	1/7/00
B3-B3-3'	M001001-04	Soil	1/7/00
B3-E-3'	M001001-05	Soil	1/7/00
B3-N-3'	M001001-06	Soil	1/7/00
B4-N-3'	M001001-07	Soil	1/7/00
B4-B1-3'	M001001-08	Soil	1/7/00
B4-B2-3'	M001001-09	Soil	1/7/00
B4-B3-3'	M001001-10	Soil	1/7/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/7/00	
PO Box 318	Project Number:	•	Received:	1/10/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/11/01 08:56	

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
							•	•
<u>B3-W-3'</u>	2422224		M00100	<u>1-01</u>			<u>Soil</u>	
Vinyl chloride	01,00001	1/10/00	1/10/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene					15.0	ND	н	
Trichloroethene		11	п.		15.0	ND	. 17	
Tetrachloroethene			**		15.0	ND	ri .	
Surrogate: a,a,a-TFT	"	п	и	65.0-130		68.3	%	
B3-B1-3'			M00100	1-02			Soil	
Vinyl chloride	0100001	1/10/00	1/10/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11		"		15.0	ND	,,	
Trichloroethene	II	16	17		15.0	ND		
Tetrachloroethene	It	31	11		15.0	ND	11	
Surrogate: a,a,a-TFT	tt	11	11	65.0-130		85.8	%	
B3-B2-3'			M00100	11-03			<u>Soil</u>	
Vinyl chloride	0100001	1/10/00	1/10/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	н	"		15.0	ND	ug/Ag	
Trichloroethene	11	н	II .		15.0	ND	nt .	
Tetrachloroethene	11	ц	Iţ		15.0	119	11	
Surrogate: a,a,a-TFT	и	"	"	65.0-130	13.0	74.0	%	
na na ai			B#00104					
<u>B3-B3-3'</u>	212221	1/10/00	M00100	<u> 11-U4</u>			<u>Soil</u>	
Vinyl chloride	0100001	1/10/00	1/10/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	,,	n			15.0	ND	н	
Trichloroethene	 H	"			15.0	ND	17	
Tetrachloroethene	n	." 			-15.0	19.1		
Surrogate: a,a,a-TFT	,,	и	"	65.0-130	-	90.0	%	
<u>B3-E-3'</u>			M00100	<u>)1-05</u>			<u>Soil</u>	
Vinyl chloride	0100001	1/10/00	1/10/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	**	*1		15.0	ND	"	•
Trichloroethene	и.	TI .	и		15.0	ND	II	
Tetrachloroethene		n	п		15.0	ND	u	
Surrogate: a.a,a-TFT	"	n	"	65.0-130		105	%	
B3-N-3'			M00100	01-06			Soil	
Vinyl chloride	0100001	1/10/00	1/10/00	<u> </u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	0100001	17 10/00	17 10/00	•	15.0	ND	" us/vs	•
Trichloroethene	18	n	**		15.0	ND ND	11	*
Hilliotochiche			•		19.0	ND		

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/7/00
PO Box 318	Project Number:	•	Received:	1/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/11/01 08:56

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D2 N 21 (			3.4004.00	1.04			o	
B3-N-3' (continued) Tetrachloroethene	0100001	1/10/00	M00100	<u>1-00</u>	. 150	26.5	<u>Soil</u>	÷
<u> </u>	0100001	1/10/00	1/10/00	65.0.130	15.0	26.5	ug/kg	
Surrogate: a,a,a-TFT	7.			65.0-130		62.1	%	I
B4-N-3'	•		M00100	<u>1-07</u>	-		Soil	
Vînyl chloride	0100001	1/10/00	1/10/00		15.0	ND	ug/kg	*
cis-1,2-Dichloroethene	It	17	17		15.0	ND	"	
Trichloroethene	**		**		15.0	ND	II	
Tetrachloroethene	Ħ	и	н		15.0	ND	19	
Surrogate: a,a,a-TFT	Ħ	Я	n ·	65.0-130		21.5	%	1
B4-B1-3'			M00100	11_02			Soil·	
Vinyl chloride	0100001	1/10/00	1/10/00	71-00	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	11 10 00	7		15.0	ND ND	ug/kg	
Trichloroethene	It	19	•		15.0	ND	n .	
Tetrachloroethene	It		**		15.0	ND	n.	
Surrogate: a,a,a-TFT	"	"	"	65.0-130	13.0	109	%	
B4-B2-3'			M00100	11_00			<u>Soil</u>	
Vinyl chloride	0100001	1/10/00	1/10/00	<u> </u>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	17 T O: 00	1710/00		15.0	ND	ug/kg	
Trichloroethene	*1	yr.	11		15.0	ND	,,	
Tetrachloroethene	n	te.	**		15.0	ND ND	н	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		113	%	
B4-B3-3'			M00100	11_10			es:	
Vinyl chloride	0100001	1/10/00	1/10/00	<u>11-10</u>	15.0	ND	Soil	
cis-1.2-Dichloroethene	0100001	1/10/00	1/10/00			ND ND	ug/kg	
Trichloroethene		,,	н .		15.0 15.0		17	
Tetrachloroethene	***	ш	n ·			ND	**	
Surrogate: a,a,a-TFT	п			65.0-130	15.0	ND 94.5	%	

North Creek Analytical, Inc.

\*Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/7/00

PO Box 318

Project Number: Received: 1/10/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/11/01 08:56

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% No	otes*
Batch: 0100001	Date Prepa	Date Prepared: 1/10/00 Extraction Method: EPA 5035M			1					
Blank	0100001-B							_		
Vinyl chloride	1/10/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	at			ND	**	15.0				
Trichloroethene	IT.			ND	11	15.0				
Tetrachloroethene	19			ND	Ħ .	15.0				
Surrogate: a,a,a-TFT	н	40.0		40.5	η	65.0-130	101			
LCS	0100001-B	<u>S1</u>								
Vinyl chloride	1/10/00	40.0		36.6	ug/kg	75.0-125	91.5			
cis-1.2-Dichloroethene	н	40.0		39.2	, ,	75.0-125	98.0			
Trichloroethene		40.0		36.6	h .	75.0-125	91.5			
Tetrachloroethene	n .	40.0		38.3		75.0-125	95.7			
Surrogate: a,a,a-TFT	"	40.0		<i>37.8</i>	п	65.0-130	94.5			
Matrix Spike	0100001-M	<u>IS1 M</u>	001001-01							
Vinyl chloride	1/10/00	64.3	ND	26.8	ug/kg	75.0-125	41.7			2
cis-1,2-Dichloroethene	п	64.3	ND	62.2	н .	75.0-125	96.7			
Trichloroethene	II	64.3	ND	56.3	**	75.0-125	87.6	*		
Tetrachloroethene	, if	64.3	ND	63.8	**	75.0-125	99.2			
Surrogate: a,a,a-TFT	"	64.3		54.2	" .	65.0-130	84.3			
Matrix Spike Dup	0100001-M	ISD1 M	001001-01	•						
Vinyl chloride	1/10/00	76.9	ND	31.0	ug/kg	75.0-125	40.3	20.0	3.41	2
cis-1,2-Dichloroethene	11	76.9	ND	73.5	11	75.0-125	95.6	20.0	1.14	_
Trichloroethene	• И	76.9	ND	68.1	**	75.0-125	88.6	20.0	1.14	
Tetrachloroethene	ıt	76.9	ND	78.3	11	75.0-125	102	20.0	2.78	
Surrogate: a,a,a-TFT	FF	76.9		67.7	If	65.0-130	88.0			

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/7/00
PO Box 318	Project Number:		Received:	1/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/11/01 08:56

#### Notes and Definitions

#	Note	
1	The surogate recovery for this sample is out of NCA established control limits, which may be due to carbon pasample matrix.	articles in the
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC recovery for this analyte does not represent an out-of-control condition for the batch.	indicates the
DET	Analyte DETECTED	
ND	Analyte NOT DETECTED at or above the reporting limit	
NR	Not Reported	
dry	Sample results reported on a dry weight basis	
Recov.	Recovery	
RPD	Relative Percent Difference	

North Creek Analytical, Inc.

## Report Exceptions List (for internal use only)

	(101 Internat u	sc omy)	
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0100001-MS1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0100001-MS1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Screen	0100001-MSD1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0100001-MSD1	Vinyl chloride
Status is Analyzed	VOC 8021B Screen	M001001-01	
Status is Analyzed	VOC 8021B Screen	M001001-02	
Status is Analyzed	VOC 8021B Screen	M001001-03	
Status is Analyzed	VOC 8021B Screen	M001001-04	
Status is Analyzed	VOC 8021B Screen	M001001-05	
Status is Analyzed	VOC 8021B Screen	M001001-06	
Exceeds lower control limit	VOC 8021B Screen	M001001-06	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001001-06	a,a,a-TFT
Status is Analyzed	VOC 8021B Screen	M001001-07	
Exceeds lower control limit	VOC 8021B Screen	M001001-07	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001001-07	a,a,a-TFT
Status is Analyzed	VOC 8021B Screen	M001001-08	
Status is Analyzed	VOC 8021B Screen	M001001-09	
Status is Analyzed	VOC 8021B Screen	M001001-10	
Report calculations are based on the MRL			

Aspen Environmental. Ltd. PO Box 318

Project: Project Number:

Cameron-Yakima Contaminated Soil Removal Sampled: 1/10/00

Received: 1/10/00 Reported: 1/12/00 08:48

Mukilteo, Wa 98275

Project Manager: Scott Waldal

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B4-E-3'	M001002-01	Soil	1/10/00
B4-S-3'	M001002-02	Soil	1/7/00
BLK-01-011000	M001002-03	Soil	1/10/00
BS-FD-10'	M001002-04	Soil	1/10/00
BS-B1-8'	M001002-05	Soil	1/1 <b>0/00</b>
BS-B2-8'	M001002-06	Soil	1/10/00
BS-B3-8'	M001002-07	Soil	1/10/00

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/10/00

PO Box 318

Project Number: Received: 1/10/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/12/00 08:48

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
B4-E-3'			3/001002	. 01			0.41	
Vinyl chloride	0100002	1/11/00	M001002 1/12/00	<u>-U1</u>	15.0	ND	<u>Soil</u>	-
cis-1.2-Dichloroethene	0100002	17 1 17 O O	1/12/00		15.0	ND	ug/kg "	
Trichloroethene	н	п	It	•	15.0	ND ND	17	
Tetrachloroethene	If	IF	ır		15.0	· ·	17	-
Surrogate: a,a,a-TFT	. "		"	65.0-130	13.0	37.7 88.8	%	
<b>DM</b> , 08-00, 0,0,0 == 2				02.0 120		00.0	. '	
B4-S-3'			M001002	-02			<u>Soil</u>	•
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	, ND	ug/kg	
cis-1.2-Dichloroethene	11	n S	н		15.0	ND	t+	
Trichloroethene	II	н			15.0	ND	n	
Tetrachloroethene			ft '		15.0	ND	11	
Surrogate: a,a,a-TFT	rr	77	n	65.0-130		105	%	
BLK-01-011000			M001002	-03			<u>Soil</u>	· <u>1</u>
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	ND	ug/kg	*
cis-1,2-Dichloroethene	11	n	"		15.0	ND	" " " E	
Trichloroethene	jt .	н	ır		15.0	. ND	**	
Tetrachloroethene	п	н ,	rr		15.0	328	**	
Surrogate: a,a,a-TFT	п	TI.	#	65.0-130	13.0	62.5	%	
DC ED 101			N #001 003	. ^4			a	
BS-FD-10'	0100002	1/11/00	M001002	<u>-04</u>	1.50	3.175	<u>Soil</u>	
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	, ND	ug/kg "	•
cis-1.2-Dichloroethene		*1			15.0	ND	eT =T	
Trichloroethene	"	"	e e		15.0	ND	"	
Tetrachloroethene	. "	"	"	(-0.120	15.0	93.4		
Surrogate: a,a,a-TFT				65.0-130		96.1	%	
BS-B1-8'			M001002	<u>-05</u>			<u>Soil</u>	
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	n .	***	n		15.0	ND	"	
Trichloroethene	tt.	**	11		15.0	ND	п	
Tetrachloroethene	ıt	17	. 11	-	15.0	ND	u u	
Surrogate: a,a,a-TFT	rt	FF	<i>51</i>	65.0-130		106	%	
BS- <u>B2-8'</u>			M001002	·-06		٠	<u>Soil</u>	
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	ND		
cis-1,2-Dichloroethene	0100002	17 1 1700	1/12/00	é	15.0	ND ND	ug/kg	
Trichloroethene		**	11		15.0	ND		
Memorochiene					13.0	עמ		-

North Creek Analytical - Mobile Lab

\*Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/10/00
PO Box 318	Project Number:		Received:	1/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/12/00 08:48

	Batch	Date	Date	Surrogate	Reporting		•	
Analyte	Number	Prepared	repared Analyzed Li	Limits	Limit	Result	Units	Notes*
DC D2 91 (continued)			M001002	06	·		So:1	
BS-B2-8' (continued)	0100003	1/11:00		<u>-00</u>	15.0		Soil 7	
Tetrachloroethene	0100002	1/11/00	1/12/00		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	"	11	n	65.0-130		. 110	%	
BS-B3-8'			M001002	<u>-07</u>			<u>Soil</u>	
Vinyl chloride	0100002	1/11/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	"	н		15.0	ND	,,	
Trichloroethene	n .	17	n		15.0	ND	н	
Tetrachloroethene	н	**	п		15.0	ND	17	
Surrogate: a,a,a-TFT	n	71	rr .	65.0-130		110	%	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/10/00
PO Box 318	Project Number:		Received:	1/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/12/00 08:48

## VOC Screening per EPA Method 8621B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	···································
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit		Votes*
Batch: 0100002	Date Prepa	red: 1/11	<u>/00</u>		Extract	ion Method: EF	A 5035N	1		
Blank	0100002-B	LK1						_	•	
Vinyl chloride	1/12/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	**			ND	н	15.0				
Trichloroethene	"			ND -	If	15.0				
Tetrachloroethene	77		•	ND	19	15.0				
Surrogate: a,a,a-TFT	п	40.0		44.2	"	65.0-130	III	***************************************		
LCS	0100002-E	S1		•						
Vinyi chloride	1/12/00	<del></del>		39.7	ug/kg	75.0-125	99.3			
cis-1,2-Dichloroethene	"	40.0		39.5	и	75.0-125	98.8			
Trichloroethene	n .	40.0		37.0	11	75.0-125	92.5			
Tetrachloroethene	n	40.0		39.0	,	75.0-125	97.5			
Surrogate: a,a,a-TFT	"	40.0		37.6	"	65.0-130	94.0			
Matrix Spike	0100002-N	4S1 M00	01002-03	•						1.2
Vinyl chloride	1/12/00	61.0	ND	32.9	ug/kg	75.0-125	53.9			
cis-1,2-Dichloroethene	n	61.0	ND	35.2	"	75.0-125	57.7			
Trichloroethene	"	61.0	ND	32.0	*	75.0-125	<b>52.5</b>			
Tetrachloroethene	#1	61.0	328	101	11	75.0-125	NR			
Surrogate: a,a,a-TFT	n .	61.0		25.9	μ	65.0-130	42.5			
Matrix Spike Dup	<u>0100002-N</u>	<u> ISD1 M</u> 00	01002-03							<u>1,2</u>
Vinyl chloride	1/12/00	67.6	ND	39.7	ug/kg	75.0-125	58.7	20.0	8.53	
cis-1,2-Dichloroethene	Ħ	67.6	ND	42.9	4	75.0-125	63.5	20.0	9.57	
Trichloroethene	n	67.6	ND	37.5	π.	75.0-125		20.0	5.56	
Tetrachloroethene	: н	67.6	328	149	п	75.0-125		20.0		
Surrogate: a,a,a-TFT	11	67.6		30.2	n	65.0-130	44.7			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/10/00
PO Box 318	Project Number:		Received:	1/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/12/00 08:48

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0100002-MS1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0100002-MS1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MS1	Tetrachioroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MS1	Vinyl chloride
Q-18 (1)	VOC 8021B Screen	0100002-MS1	
Q-01 (2)	VOC 8021B Screen	0100002-MS1	
Exceeds lower control limit	VOC 8021B Screen	0100002-MSD1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0100002-MSD1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MSD1	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MSD1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0100002-MSD1	Vinyl chloride
Q-18 (1)	VOC 8021B Screen	0100002-MSD1	
Q-01 (2)	VOC 8021B Screen	0100002-MSD1	
Exceeds lower control limit	VOC 8021B Screen	M001002-03	a,a,a-TFT
Q-18 (1)	VOC 8021B Screen	M001002-03	
Status is Received	VOC Headspace	M001002-01	
Status is Received	VOC Headspace	M001002-02	
Status is Received	VOC Headspace	M001002-03	
Status is Received	VOC Headspace	M001002-04	
Status is Received	VOC Headspace	M001002-05	
Status is Received	VOC Headspace	M001002-06	
Status is Received	VOC Headspace	M001002-07	
Report calculations are based on the MRL			

January 13, 2000

Scott Waldal Aspen Environmental. Ltd. PO Box 318 Mukilteo, Wa 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on January 11, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kody Phillis Mobile Lab Chemist Aspen Environmental. Ltd.

Project:

Cameron-Yakima Contaminated Soil Removal Sampled:

1/11/00

PO Box 318

Mukilteo, Wa 98275

Project Number: Project Manager: Scott Waldal Received: 1/11/00

Reported: 1/13/00 08:25

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
TP1-2'	M001003-01	Soil	1/11/00
TPI-4'	M001003-02	Soil	1/11/00
TP1-6'	M001003-03	Soil	I/11/00
TP1-8'	M001003-04	Soil	1/11/00
TP2-2'	M001003-05	Soil	1/11/00
TP2-4'	M001003-06	Soil	1/11/00
TP2-6'	M001003-07	Soil	1/11/00
TP2-8'	M001003-08	Soil	1/11/00
B3-B1-7'	M001003-09	Soil	1/11/00
B3-B2-7'	M001003-10	Soil	1/11/00
B3-B3-7'	M001003-11	Soil	1/11/00
B3-B4-7'	M001003-12	Soil	1/11/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/11/00
PO Box 318	Project Number:	• •	Received:	1/11/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/13/00 08:25

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
TP1-2'			M001003	-01			Soil	
Vinyl chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	11	п		15.0	ND	" <del>"</del>	
Trichloroethene	n	11	n		15.0	ND	18	
Tetrachloroethene	н	н	u		15.0	ND	17	
Surrogate: a,a,a-TFT	n'	ff	<i>"</i>	65.0-130		90.8	%	
<u>TP1-4'</u>			M001003	-02	· ·		<u>Soil</u>	
Vinyl chloride	0100003	1/12/00	1/12/00	_ <del>-</del> _	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	и .		**		15.0	ND	,	
Trichloroethene	It	15	n		15.0	ND	71	
Tetrachloroethene	r ·	**	n		15.0	ND	п	
Surrogate: a,a,a-TFT	,,	"	и .	65.0-130		87.6	%	
<u>TP1-6'</u>			M001003	<u>-03</u>		•	Soil	
Vinyl chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	It .	17	71		15.0	ND	11	
Trichloroethene	î <b>tt</b>	**	п		15.0	ND	Ħ	
Tetrachloroethene	117	11	н.		15.0	ND ·	tt	
Surrogate: u,a,a-TFT	# .	21	11	65.0-130		98.4	%	
TP1-8'			M001003	L-NA			Soil	
Vinyl chloride	0100003	1/12/00	1/12/00	<u> </u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	П	11			15.0	ND	" " " " " " " " " " " " " " " " " " "	
Trichloroethene	н	11	n		15.0	ND	11	
Tetrachloroethene	m ·	п			15.0	ND	ц	
Surrogate: a,a,a-TFT	n	"	n '	65.0-130		106	%	
TP2-2'			M001003	3-05			Soil	
Vinyi chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	17	"		15.0	ND	"	
Trichloroethene	п	rt	**		15.0	ND	"	
Tetrachloroethene	ч	n	19		15.0	25.0	н	
Surrogate: a,a,a-TFT	и	n	n	65.0-130		79.3	%	
TP <u>2-4'</u>			M001003	3-06	•		<u>Soil</u>	
Vinyl chloride	0100003	1/12/00	1/12/00	- <del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II.	u .	11		15.0	ND	" " " " "	
Trichloroethene	II.	· 10	η		15.0	ND	it .	
					15.0	112		

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/11/00
PO Box 318
Project Number: Received: 1/11/00
Mukilteo. Wa 98275
Project Manager: Scott Waldal Reported: 1/13/00 08:25

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Апаlyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
TP2-4' (continued)			M001003	<b>-</b> 06			<u>Soil</u>	
Tetrachloroethene	0100003	1/12/00	1/12/00		15.0	16_3	ug/kg	-
Surrogate: a,a,a-TFT	н	н	n n	65.0-130	13.0	89.1	%	
TP2-6'			M001003	-07		•	Soil	
Vinyl chloride	0100003	1/12/00	1/12/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н .	If	11		15.0	ND	# -5 -5	
Trichloroethene	11	н .	и		15.0	ND	17	
Tetrachloroethene	. 11	37	н		15.0	ND	w	
Surrogate: a,a,a-TFT	II .	n ·	ii .	65.0-130		110	%	
TP2-8'	•		M001003	-08			<u>Soil</u>	
Vinyl chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	It	р.	n		15.0	ND	n	
Trichloroethene	17	n	**		15.0	ND	**	
Tetrachloroethene	**	н	"		15.0	ND	11	
Surrogate: a,a,a-TFT		n	,,	65.0-130		104	%	•. ,
<u>B3-B1-7'</u>			M001003	-09			<u>Soil</u>	•
Vinyl chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	D.	11		15.0	ND	"	
Trichloroethene	"	ц	11		15.0	ND	16	
Tetrachloroethene	**	R	н		15.0	ND	11	
Surrogate: a,a,a-TFT	u	· rr	rr .	65.0-130		111	%	
B3-B2-7'			M001003	-10			Soil	
Vinyl chloride	0100003	1/12/00	1/12/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	'n	tt.	ц	•	15.0	ND	"5"-5	
Trichloroethene	ts .	IF	и		15.0	ND	17	
Tetrachloroethene	**	n	п		15.0	ND	t <del>T</del>	
Surrogate: a,a,a-TFT	н	Tr .	Ħ	65.0-130		106	%	
B3-B3-7'		٠	M001003	-11			<u>Soil</u>	
Vinyl chloride	0100003	1/12/00	1/13/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	11	11 15 7 0 0		15.0	ND	II.	
Trichloroethene	II .	n	n		15.0	ND	11 ·	
Tetrachloroethene	ц	n	er		15.0	ND		
Surrogate: a,a,a-TFT	п	"	"	65.0-130	10.0	87.0	%	

North Creek Analytical - Mobile Lab

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/11/00
PO Box 318	Project Number:	•	Received:	1/11/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/13/00 08:25

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
B3-B4-7'			M001003	-12			Soil	•
Vinyl chloride	0100003	1/12/00	1/13/00	<del>-2</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	IP	†*	17		15.0	ND	"	
Trichloroethene	. п	11	n .		15.0	ND	n .	
Tetrachloroethene	**	n	n	•	15.0	ND	H .	
Surrogate: a,a,a-TFT	17	п	" .	65.0-130		98.5	. %	

Aspen Environmental. Ltd. PO Box 318

Project: Cameron-Yakima Contaminated Soil Removal Sampled:

Mukilteo, Wa 98275

Project Number:

Project Manager: Scott Waldal

Received: 1/11/00 Reported: 1/13/00 08:25

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lah

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Resuit	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0100003	Data Prono	made 1/13	/00		Eust.			-	
Blank	<u>Date Prepa</u> 0100003-Bl		<u>/UU</u>	•	EXTRACT	tion Method: El	ra 5035 <u>0</u>	<u> </u>	
<del></del>	<u>0100003-Б</u> 1/12/00	LIXI		D.T.D.			•		
Vinyl chloride	1/12/00			ND	ug/kg "	15.0			
cis-1,2-Dichloroethene Trichloroethene	"			ND	**	15.0			
	,,			ND		15.0			
Tetrachloroethene	"	(0.0	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	ND	. M	15.0			
Surrogate: a,a,a-TFT	,	40.0		45.6	"	65.0-130	114		
LCS	<u>0100003-B</u>	<u>\$1</u>							
Vinyl chloride	1/12/00	40.0		35.3	ug/kg	75.0-125	88.2		
cis-1,2-Dichloroethene	п	40.0		43.0		75.0-125			
Trichloroethene	tt .	40.0		40.7	r9	75.0-125			
Tetrachloroethene	ır .	40.0		42.8	**	75.0-125			
Surrogate: a,a,a-TFT	"	40.0		41.6	"	65.0-130	104		
Matrix Spike	0100003-M	fS1 Viod	1003-03						
Vinyl chloride	1/12/00	79.4	ND	61.1	ug/kg	75.0-125	77.0		
cis-1,2-Dichloroethene	"	79.4	ND	73.0	n n	75.0-125			
Trichloroethene	n	79.4	ND	66.3	11	75.0-125			
Tetrachloroethene	н	79.4	ND	73.6	11	75.0-125			
Surrogate: a,a,a-TFT	ff	79.4		66.3	n	65.0-130	83.5	· · · · · · · · · · · · · · · · · · ·	
Matrix Spike Dup	0100003-M	ISDI MOO	11003_03						
Vinyl chloride	1/12/00	79.7	ND	65.7	ug/kg	75.0-125	82,4	20.0	6.78
cis-1,2-Dichloroethene	*	79.7	ND	80.7	ıı ⊓≅\v\$	75.0-125 75.0-125		20.0	9.43
Trichloroethene		79.7	ND	73.I	• п	75.0-125 75.0-125			
Tetrachloroethene	**	79.7	ND	80.5	11			20.0	9.36
Surrogate: a,a,a-TFT	"	79.7	ND	74.3	"	75.0-125		20.0	8.57
surroguie. u,u,u=11-1		/9./	•	14.3 .		65.0-130	93.2		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/11/00
PO Box 318	Project Number:	•	Received:	1/11/00
Mukilteo. Wa 98275	Project Manager:	Scott Waldal	Reported:	1/13/00 08:25

#### Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical - Mobile Lab

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number
Status is Received	VOC Headspace	M001003-01
Status is Received	VOC Headspace	M001003-02
Status is Received	VOC Headspace	M001003-03
Status is Received	VOC Headspace	M001003-04
Status is Received	VOC Headspace	M001003-05
Status is Received	VOC Headspace	M001003-06
Status is Received	VOC Headspace	M001003-07
Status is Received	VOC Headspace	M001003-08
Status is Received	VOC Headspace	M001003-09
Status is Received	VOC Headspace	M001003-10
Status is Received	VOC Headspace	M001003-11
Status is Received	VOC Headspace	M001003-12
Report calculations are based on the MRL		

Analyte or General Method

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/12/00

PO Box 318

Project Number: Received: 1/12/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal

Reported: 1/14/00 08:29

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number		Sample Matrix	Date Sampled
E3-B1-5'	M001004-01		Soil	1/12/00
E3-B2-5'	M001004-02		Soil	1/12/00
E3-B3-5'	M001004-03		Soil	1/12/00
E3-B4-5'	M001004-04		Soil	1/12/00
E3-SW-5'	M001004-05		Soil	1/12/00
E3-SE-5'	M001004-06	•.	Soil	1/12/00
E3-W-5'	M001004-07		Soil	1/12/00

Aspen Environmental, Ltd. Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/12/00
PO Box 318 Project Number: Received: 1/12/00
Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 1/14/00 08:29

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>E3-B1-5'</u>			M001004	<u>-01</u>			Soil	
Vinyl chloride	0100004	1/13/00	1/13/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	t1	Ħ	Ħ		15.0	ND		
Trichloroethene	η	п .	и		15.0	ND	и	
Tetrachloroethene	se.	17	II.		15.0	ND	п	
Surrogate: a,a,a-TFT		,,	"	65.0-130		99.9	%	
<u>E3-B2-5'</u>			M001004	-02			<u>Soil</u>	
Vinyl chloride	0100004	1/13/00	1/13/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	п	"	17		15.0	ND		
Trichloroethene	IT	17	11		15.0	ND	rt .	
Tetrachloroethene	17	19	ð		15.0	NĐ	17	
Surrogate: a,a,a-TFT	и	11	п	65.0-130		39.1	%	I
E3-B3-5'			M001004	<u>-03</u>			<u>Soil</u>	
Vinyl chloride	0100004	1/13/00	1/13/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	If	er .	f7 .		15.0	ND		
Trichloroethene	11	17	*1	•	15.0	ND	**	
Tetrachloroethene	11	77	н		15.0	ND	**	
Surrogate: a,a,a-TFT	n	- n	и	65.0-130		91.6	%	
<u>E3-B4-5'</u>			M001004	-04			<u>Soil</u>	
Vinyl chloride	0100004	1/13/00	1/13/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ıi	17	TT.		15.0	ND	11	
Trichloroethene	r <del>y</del>	**	n .		15.0	ND	.,	
Tetrachloroethene	***	"	n.		15.0	ND	"	
Surrogate: a,a,a-TFT	n <sub>.</sub>	"	"	65.0-130		77.8	%	
<u>E3-SW-5'</u>			M001004	<u>I-05</u>			<u>Soil</u>	
Vinyl chloride	0100004	1/13/00	1/13/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	<b>It</b> .	**	*		15.0	ND	*	
Trichloroethene	14	17	**		15.0	ND	п	
Terrachloroethene		**	1)		15.0	ND	n	
Surrogate: a,a,a-TFT	· u	n .	js	65.0-130	,	57.6	%	2
E3-SE-5'			M001004	<u>l-06</u>		٠	Soil	
Vinyl chloride	0100004	1/13/00	1/13/00	ů.	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	TS	"	Ir		15.0	ND	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,
Trichloroethene	11	н	п		15.0	ND	n	
	•							

North Creek Analytical - Mobile Lab

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/12/00
PO Box 318	Project Number:	•	Received:	1/12/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/14/00 08:29

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

Aπalyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
E3-SE-5' (continued)			M001004	06			Call	ė.
Tetrachloroethene	0100004	1/13 00	1/13/00	<u>-vu</u>	15.0	19.1	Soil	
	77	1/13/90	1/13/00		13.0		ug/kg	
Surrogate: a,a,a-TFT	"		"	65.0-130		97.4	%	
E3-W-5'			M001004	-07			Soil	
Vinyl chloride	0100004	1/13/00	1/13/00		15.0	. ND	ug/kg	
cis-1,2-Dichloroethene	**	н	**		15.0	ND	"	
Trichloroethene	· n	:I	**		15.0	ND	41 -	
Tetrachloroethene	n .	q	n		15.0	ND	. 11	
Surrogate: a,a,a-TFT	"		n	65.0-130		86.7	%	

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/12/00

PO Box 318

Project Number: Received: 1/12/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/14/00 08:29

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical—Mobile Lab

<u> </u>	D.4.									
l	Date	Spike	Sample	QC		eporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 0100004	Date Prepa	red: 1/13	<u>/00</u>		Extract	tion Method: EP	A 5035N	<u>/I</u>		
<u>Blank</u>	0100004-B	LK1								
Vinyl chloride	1/13/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	n			ND	n	15.0				
Trichloroethene	n			ND	It	15.0				
Tetrachloroethene	."			ND	19	15.0				
Surrogate: a,a,a-TFT	n	40.0		42.2	"	65.0-130	106	· · · · · · · · · · · · · · · · · · ·		
LCS	0100004-B	SI								
Vinvl chloride	1/13/00	40.0		38.3	ug/kg	75.0-125	95.7			
cis-1,2-Dichloroethene	<b>"</b>	40.0		40.9	"	75.0-125	102			
Trichloroethene	11	40.0		37.2	11	75.0-125	93.0			
Tetrachloroethene	и .	40.0		39.5	. "	75.0-125	98.8			
Surrogate: a,a,a-TFT	п	40.0		39.5	11	65.0-130	98.8			
Matrix Spike	9100004-N	4S1 M00	1004-02							
Vinyl chloride	1/13/00	53.I	ND	ND	ug/kg	75.0-125	NR			3,4
cis-1,2-Dichloroethene	n	53.1	ND	ND	"	75.0-125	NR			3,4
Trichloroethene	, i = m	53.1	ND	50.3	11	75.0-125	94.7			3
Tetrachloroethene	11	53.1	ND	56.1	17	75.0-125	106			3
Surrogate: a,a,a-TFT	н	53.1		52.0	11	65.0-130	97.9			3
Matrix Spike Dup	<u>0100004-N</u>	ISD1 M00	1004-02							
Vinyl chloride	1/13/00	53.9	ND	41.4	ug/kg	75.0-125	76.8	20.0	200	3
cis-1,2-Dichloroethene	et .	53.9	ND	44.7	, TO 110	75.0-125	82.9	20.0	200	3
Trichloroethene	п	53.9	ND	41.2	11	75.0-125	76.4	20.0	21.4	3
Tetrachloroethene	11	53.9	ND	46.1	11	75.0-125	85.5	20.0	21.4	
Surrogate: a,a,a-TFT	. "	53.9		39.9	"	65.0-130	74.0			3 3

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal Sample	i: 1/12/00
PO Box 318	Project Number:	. Receive	i: 1/12/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal Reporte	t: 1/14/00 08:29

# Notes and Definitions

#	Note
1	The surrogate recovery for this sample is outside of NCA established control limits.
2	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
3	The RPD is above the control limit due to a non-homogeneous sample matrix.
4	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
٧R	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical - Mobile Lab

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	• •	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0100004-MS1	cis-1.2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0100004-MS1	Vinyl chloride
Q-14 (3)	VOC 8021B Screen	0100004-MS1	a,a,a-TFT
Q-14 (3)	VOC 8021B Screen	0100004-MSI	cis-1.2-Dichloroethene
Q-01 (4)	VOC 8021B Screen	0100004-MS1	cis-1.2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Tetrachloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Trichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Vinyl chloride
Q-01 (4)	VOC 8021B Screen	0100004-MS1	Vinyl chloride
Exceeds RPD limit	VOC 8021B Screen	0100004-MSD1	cis-1.2-Dichloroethene
Exceeds RPD limit	VOC 8021B Screen	0100004-MSD1	Tetrachloroethene
Exceeds RPD limit	VOC 8021B Screen	0100004-MSD1	Trichloroethene
Exceeds RPD limit	VOC 8021B Screen	0100004-MSD1	Vinyl chloride
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	a,a,a-TFT
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	cis-1.2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	Tetrachloroethene
Q-14(3)	VOC 8021B Screen	0100004-MSD1	Trichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Screen	M001004-02	a.a.a-TFT
S-03 (1)	VOC 8021B Screen	M001004-02	a.a.a-TFT
Exceeds lower control limit	VOC 8021B Screen	M001004-05	a.a.a-TFT
Q-18 (2)	VOC 8021B Screen	M001004-05	a.a.a-TFT
Partial report/invoice			
Report calculations are based on the MRL			
Report modifed			

PO Box 318 Pro	oject Number:	•	Received:	1/13/00	
Mukilteo, Wa 98275 Pro	ject Manager:	Scott Waldal	Reported:	1/19/00 15:31	

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E4-B1-5'	M001005-01	Soil	1/13/00
E4-B2-5'	M001005-02	Soil	1/13/00
E4-B3-5'	M001005-03	Soil	1/13/00
∃4-B4-5'	M001005-04	Soil	1/13/00
E4-SW-5'	M001005-05	Soil	1/13/00
E4-SE-5'	M001005-06	Soil	1/13/00
04-B1-5'	M001005-07	Soil	1/13/00
04-B2-5'	M001005-08	Soil	1/13/00
D4-B3-5'	M001005-09	Soil	1/13/00
D4-B4-5'	M001005-10	Soil	1/13/00
D4-B5-5'	M001005-11	Soil	1/13/00
D4-B6-5'	M001005-12	Soil	1/13/00
04-B7-5'	M001005-13	Soil	1/13/00
D4-B8-5'	M001005-14	Soil	1/13/00

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remova	Sampled:	1/13/00
PO Box 318	Project Number:		Received:	1/13/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:31

### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E4-B1-5'			M00100	5-01			Soil	
Vinyl chloride	0100005	1/14/00	1/15/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	17	11		15.0	ND	",	
Trichloroethene	11	71	77		15.0	ND	er.	
Tetrachloroethene	н .	н	"		15.0	ND	**	
Surrogate: a,a,a-TFT	n .	"	и	65.0-130		75.6	%	
E4-B2-5'			M00100	<u>15-02</u>			<u>Soil</u>	
Vinyl chloride	0100005	1/14.00	1/15/00		15.0	ND	u <b>g/kg</b>	
cis-1,2-Dichloroethene	**	17 .	**	•	15.0	ND	"	
Trichloroethene	n	# .	**		15.0	ND	19	
Tetrachloroethene	, "	н	n .		15.0	63.4	11	
Surrogate: a,a,a-TFT	If ·	11	"	65.0-130		80.5	%	
E4-B3-5'			M00100	<u>)5-03</u>			<u>Soil</u>	
Vinyl chloride	0100005	1/14-00	1/15/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	H .	11	u .		15.0	ND	n	
Trichloroethene	Ħ	n	II.		15.0	ND	It	
Tetrachloroethene	19	17	u		15.0	15.1	ir .	
Surrogate: a,a,a-TFT	11	"	. "	65.0-130		81.7	%	
E4-B4-5'			M00100	<u>)5-04</u>			<u>Soil</u>	
Vinyl chloride	0100005	1/14:00	1/15/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	п	#1	n		15.0	ND	"	
Trichloroethene	П	11	п		15.0	ND	11	
Tetrachloroethene	11	It	If		15.0	50.1	11	
Surrogate: a,a,a-TFT	77	"	rr	65.0-130		83.7	%	
<u>E4-SW-5'</u>			M00100	<u>05-05</u>			<u>Soil</u>	
Vinyl chloride	0100004	1/13/00	1/14/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	n	17	•	15.0	44.5	n	
Trichloroethene	11	"	н		15.0	ND	n	
Tetrachloroethene -	l1	*1	11		15.0	66.8	†1	
Surrogate: u,a,a-TFT	11	n .	ıt	65.0-130		79.4	%	
<u>E4-SE-5'</u>			M00100	<u>05-06</u>			<u>Soil</u>	
Vinyl chloride	0100004	1/13.00	1/14/00	_	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	h	Ħ		15.0	ND	11	
Trichloroethene	**	n	п		15.0	ND	11	
			-					

North Creek Analytical, Inc.

Aspen Environmental, Ltd.	Ртојест:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00
PO Box 318	Project Number:	•	Received:	1/13/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:31

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E4-SE-5' (continued)			M00100	5-06			<u>Soil</u>	
Tetrachloroethene	0100004	1/13/00	1/14/00	<u></u>	15.0	363	ug/kg	
Surrogate: a,a,a-TFT	"	"	н	65.0-130		52.7	%	
D4-B1-5'			M00100	15-07			<u>Soil</u>	
Vinyl chloride	0100005	1/14/00	1/15/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	**	71		15.0	ND	11	
Trichloroethene	71	n	н .		15.0	ND	11	
Tetrachloroethene	π	il .	u ·		15.0	ND	II .	
Surrogate: a,a,a-TFT	· · · · · · · · · · · · · · · · · · ·	,	n.	65.0-130		88.7	%	
n ( ma si		•	3.600.00	7.00		•		
<u>D4-B2-5'</u>	0100005	1/14/00	M00100	<u>15-08</u>	15.0	NID	<u>Soil</u>	
Vinyl chloride	0100002	1/14/00	1/15/00		15.0	ND	ug/kg "	
cis-1,2-Dichloroethene	η.	**	77	•	15.0	88.7	 FT	
Trichloroethene	"	17	**		15.0	. 16.7	11	,
Tetrachloroethene	. "	"		(5 A 13A	15.0	397		<u> </u>
Surrogate: a,a,a-TFT	. "			65. <b>0-130</b>		70.7	%	
D4-B3-5'			M00100	<u>)5-09</u>			<u>Soil</u>	
Vinyl chloride	0100005	1/14/00	1/15/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	19	11	н	•	15.0	ND	11	
Trichloroethene	73	n	,,		15.0	ND	11	
Tetrachloroethene	*1		II .		15.0	19.6	I†	
Surrogate: a,a,a-TFT	. "	ır	11	65.0-130		104	%	
D4-B4-5'			M0010	05-10	•		Soil	
Vinyl chloride	0100005	1/14/00	1/15/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	11	.0		15.0	ND	"	
Trichloroethene	"	H	н		15.0	ND	п	
Tetrachloroethene	Ħ	n .	**		15.0	85.3	it.	
Surrogate: a.a.a-TFT	Ħ	TF	ř.	65.0-130		85.7	%	
D4-B5-5'			M0010	05.11			Soil	
Vinyl chloride	0100005	1/14/00	1/15/00	<del>55-11</del>	15.0	ND	<u>3011</u> ug/kg	
cis-1.2-Dichloroethene	0100003	1/14/00	1/15/00		15.0	29.6	ug/kg	
Trichloroethene	11	n	п		15.0 15.0	29. <b>0</b> ND	н	
Tetrachioroethene	**	**	h			ND 434	п	1
Surrogate: a,a,a-TFT	"		. н	65.0-130	15.0	77.7	%	1

North Creek Analytical, Inc.

Kody Phillis, Mobile Lab Chemist

Page 3 of 7

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	 Number	Prepared	Analyzed	Limits	· Limit	Result	Units	Notes*

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.		Project:	Cameron-	Yakima Contamina	ated Soil Remova	i Sampled:	1/13/00
PO Box 318	Proje	ect Number: .		+		Received:	1/13/00
Mukilteo. Wa 98275	Proje	ct Manager:	Scott Wale	dal		Reported:	1/19/00 15:31
D4-B6-5'			M0010	<u>05-12</u>	•	•	Soil
Vinyl chloride	0100004	1/13/00	1/14/00		15.0	ND	ug/kg
cis-1.2-Dichloroethene	**	n .	п		15.0	ND	"
Trichloroethene	19	п	н	,	15.0	ND	O
Tetrachioroethene	**	n	**		15.0	26.1	**
Surrogate: a,a,a-TFT	II.	n	"	65.0-130	·	91.9	%
D4-B7-5'			M0010	05-13			<u>Soil</u>
Vinyl chloride	0100005	1/14/00	1/15/00	•	15.0	ND	ug/kg
cis-1,2-Dichloroethene	<b>11</b> .	n	В		15.0	ND	"
Trichloroethene	11	п	**		15.0	ND	e
Tetrachloroethene	п	н	"		15.0	ND	11
Surrogate: a,a,a-TFT	и	<i>n</i>	n	65.0-130		81.5	%
D4-B8-5'			M0010	<u>05-14</u>			Soil
Vinyl chloride	0100005	1/14/00	1/15/00		15.0	ND	ug/kg
cis-1,2-Dichloroethene	11	₹ <b>7</b>	п		15.0	ND	,
Trichloroethene	77	11 .	п		15.0	ND	11
Tetrachloroethene	11	H	*	•	15.0	32.0	н
Surrogate: a,a,a-TFT	"	"	"	65.0-130		101	%

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Ртојест:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00
PO Box 318	Project Number:		Received:	1/13/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:31

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0100004	<u>Date Prepa</u>	red: 1/13	/00		Evtrast	ion Method: EP.	A ENGEN	л.	•
Blank	0100004-B		700		EXITACI	ion Method: Er	A 3033N	4	•
Vinyl chloride	1/14/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	171-700			ND	nā vā	15.0			
Trichloroethene	**			ND	71	15.0			
Tetrachloroethene	,	•		ND	h	15.0			
Surrogate: a,a,a-TFT	п	40.0	······································	42.2	n	65.0-130	106		
Surrogate. u,u,u-11 1		49.U		42.2		03.0-130	100		
LCS	0100004-B	<u>\$1</u>							
Vinyl chloride	1/14/00	<del>4</del> 0.0		38.3	ug/kg	75.0-125	95.7		
cis-1,2-Dichloroethene	п	40.0		40.9	"	75.0-125	102		
Trichloroethene	, u	40.0		37.2	н	75.0-125	93.0		
Tetrachloroethene	И	40.0		39.5	tf	75.0-125	98.8		
Surrogate: a,a,a-TFT	"	40.0	* * * * * * * * * * * * * * * * * * * *	39.5	"	65.0-130	98.8		
Matrix Spike	0100004-N	TC1							
Vinyl chloride	1/14/00	53.1		ND	ug/kg	75.0-125			2.2
cis-1,2-Dichloroethene	1/1-7/00	53.1		ND	ng/kg	75.0-125			2,3
Trichloroethene	Ħ	53.1		50.3	It	75.0-125			2,3
Tetrachloroethene	11	53.1		56.1	10	75.0-125			3
Surrogate: a,a,a-TFT	и	53.1		52.0	rr .	65.0-130	97.9	<del></del>	<u>3</u>
									•
Matrix Spike Dup	<u>0100004-M</u>	ISD1							
Vinyl chloride	1/14/00	53.9		41.4	ug/kg	75.0-125			3
cis-1,2-Dichloroethene	II.	53.9		44.7	"	75.0-125			3
Trichloroethene	и	53.9		41.2	77	75.0-125		20.0	. 3
Tetrachloroethene	It .	53.9		46.1	n	75.0-125			3
Surrogate: a,a,a-TFT	11	53.9		39.6	n	65.0-130	73.5		3
Batch: 0100005	Date Prepa	ered: 1/14	I/AO		Extract	ion Method: EP	A 5035N	Λī	
Blank	0100005-B				<u> </u>	don picchou. El	ri Dubbi	<u>.</u>	
Vinyl chloride	1/15/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	II			ND	n and the	15.0			
Trichloroethene	n n			ND	11	15.0			
Tetrachloroethene	11			ND	**	15.0			
Surrogate: a,a,a-TFT	n	<i>40.0</i>		45.4	"	65.0-130	114		
LCS	0100005-B	S1							
Vinyl chloride	1/15/00	40.0		33.6	ua/lea	75.0 125	940		
v myt cinoride	1/13/00	₩.0		33.0	ug/kg	75.0-125	84.0		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00
PO Box 318	Project Number:		Received:	1/13/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:31

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
7.00 ( D	0100005 D	61				•			
LCS (continued)	<u>0100005-B</u>	_							
cis-1,2-Dichloroethene	1/15/00	40.0		32.9	ug/kg	75.0-125	82.3		
Trichloroethene	н	40.0		33.6	11	75.0-125	84.0		
Tetrachloroethene	II.	40.0		35.1	. "	75.0-125	87.7		
Surrogate: a,a,a-TFT	#	40.0		31.4	" .	65.0-130	78.5		
·									
Matrix Spike	<u>0100005-M</u>	<u> (S1</u>							
Vinyl chloride	1/15/00	64.3		47.4	ug/kg	75.0-125			
cis-1,2-Dichloroethene	It	64.3		67.0	"	75.0-125			
Trichloroethene	R	64.3		60.8	ч	75.0-125			
Tetrachloroethene	r <del>t</del>	64.3	*	69.9	+1	75.0-125			
Surrogate: a,a,a-TFT	" .	64.3		66.9	n .	65.0-130	104		
Matrix Spike <u>Dup</u>	0100005-M	ISD1				٠			
Vinyl chloride	1/15/00	57.1		43.3	ug/kg	75.0-125			
cis-1,2-Dichloroethene	I <del>I</del>	57.1		56.6	"55	75.0-125			
Trichloroethene	17	57.1		54.4	,,	75.0-125		20.0	
Tetrachloroethene	**	57.I		64.3	"	75.0-125		20.0	
Surrogate: a,a,a-TFT	"	51		55.6	η	65.0-130	97.4		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remova	Sampled:	1/13/00
PO Box 318	Project Number:	•	Received:	1/13/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal *	Reported:	1/19/00 15:31

#### Notes and Definitions

#	Note
1	The reported value is an estimated value. The analyte was detected at a level which is higher than the calibration curve.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
3	The RPD is above the control limit due to a non-homogeneous sample matrix.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

North Creek Analytical, Inc.

# Report Exceptions List (for internal use only)

<u>Exception</u>	Analysis or Specific Method	· · · · · · · · · · · · · · · · · · ·	Analyte or General Method
No source sample number	VOC 8021B Screen	0100004-MSI	
Q-14 (3)	VOC 8021B Screen	0100004-MS1	a,a,a-TFT
Q-01 (2)	VOC 8021B Screen	0100004-MS1	cis-1,2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	cis-1,2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Tetrachloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Trichloroethene
Q-01 (2)	VOC 8021B Screen	0100004-MS1	Vinyl chloride
Q-14 (3)	VOC 8021B Screen	0100004-MS1	Vinyl chloride
No source sample number	VOC 8021B Screen	0100004-MSD1	
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	a.a.a-TFT
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	cis-1,2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	Tetrachloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	Trichloroethene
Q-14 (3)	VOC 8021B Screen	0100004-MSD1	Vinyl chloride
No source sample number	VOC 8021B Screen	0100005-MS1	
No source sample number	VOC 8021B Screen	0100005-MSD1	
Exceeds lower control limit	VOC 8021B Screen	M001005-06	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001005-08	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001005-11	Tetrachloroethene
Status is Received	VOC Headspace	M001005-01	
Status is Received	VOC Headspace .	M001005-02	
Status is Received	VOC Headspace	M001005-03	
Status is Received	VOC Headspace	M001005-04	
Status is Received	VOC Headspace	M001005-05	
Status is Received	VOC Headspace	M001005-06	
Status is Received	VOC Headspace	M001005-07	
Status is Received	VOC Headspace	M001005-08	
Status is Received	VOC Headspace	M001005-09	
Status is Received	VOC Headspace	M001005-10	
Status is Received	VOC Headspace	M001005-11	
Status is Received	VOC Headspace	M001005-12	
Status is Received	VOC Headspace	M001005-13	
Status is Received	VOC Headspace	M001005-14	
Report calculations are based on the MRL			•

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/13/00 to 1/14/00

PO Box 318

Project Number: Received: 1/14/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/19/00 15:28

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B5-B1 <b>-</b> 9'	M001006-01	Soil	1/13/00
B5-B2-9'	M001006-02	Soil	1/13/00
B5-B3-10'	M001006-03	Soil	1/13/00
B5-B4-12'	M001006-04	Soil	1/13/00
B5-N-8'	M001006-05	Soil	1/14/00
B5-W-9'	M001006-06	Soil	1/14/00
B5-E-12'	M001006-07	Soil	1/14/00
B5-S-10'	M001006-08	Soil	1/14/00

	Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00 to 1/14/00
Mukilteo, Wa 98275 Project Marager: Scott Waldal Reported: 1/19/00 15:28	PO Box 318	Project Number:		Received:	1/14/00
	Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:28

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			•
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u> </u>		<u> </u>						
B5-B1-9'			M00100	<u>6-01</u>			<u>Soil</u>	
Vinyl chloride	0100006	1/17/90	1/16/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	it .	**	55		15.0	ND	" .	
Trichloroethene	**	**	11		15.0	ND	н	
Tetrachloroethene	f1		JI		15.0	ND	ш	
Surrogate: a,a,a-TFT	и	"	"	65.0-130		88.6	%	
B5-B2-9'			M00100	<u>06-02</u>			<u>Soil</u>	
Vinyl chloride	0100006	1/17/90	1/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	. "	Ц	и		15.0	ND	"	
Trichloroethene	II .	**	**		15.0	ND	n	
Tetrachloroethene	. п	**	· #		15.0	ND	11	
Surrogate: a,a,a-TFT	71	,,	11	65.0-130		92.0	%	
B5-B3-10'			M00100	06-03			<u>Soil</u>	
Vinyl chloride	0100006	1/17/90	1/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	"	tr		15.0	ND	"	
Trichloroethene	н	tr	***		15.0	ND	11	
Tetrachloroethene	**	*	71		15.0	ND	н	
Surrogate: a,a,a-TFT	"	n	"	65.0-130		75.7	%	
B5-B4-12'			M00100	06-0 <u>4</u>			<u>Soil</u>	
Vinyl chloride	0100006	1/17/00	1/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ц	H	17		15.0	ND	"	
Trichloroethene	It	**	. "		15.0	ND	*1	
Tetrachloroethene		**	**	•	15.0	28.3	. 11	
Surrogate: a,a,a-TFT	и .	,,		65.0-130		82.0	%	
B5-N-8'			<u>M0010</u>	0 <u>6-05</u>			<u>Soil</u>	•
Vinyl chloride	0100006	1/17/00	1/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	u	11	n		15.0	ND	"	•
Trichloroethene	Ħ	n	H .		15.0	ND	re	
Tetrachloroethene	11	11	n '		15.0	ND	e ·	
Surrogate: a.a.a-TFT	72	zt .	и	65.0-130		118	%	
B5-W-9'			M0010	<u>06-06</u>			<u>Soil</u>	
Vinyl chloride	0100006	1/17 00	1/16/00	····	15.0	ND	ug/kg	
cis-1,2-Dichloroethene		и	II		15.0	ND	H	
Trichloroethene	п .	и .	u		15.0	ND	**	
					10.0			

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	. Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00 to 1/14/00	
PO Box 318	Project Number:		Received:	1/14/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:28	

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
			Timilyzau		Ļmat	100041	Ontis	110103
B5-W-9' (continued)			M00100	<u>6-06</u>			<u>Soil</u>	
Tetrachloroethene	0100006	1/17/00	1/16/00		15.0	20.0	ug/kg	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		77.0	%	
B5-E-12'	•		M00100	06-07			<u>Soil</u>	
Vinyl chloride	0100006	1/17/00	1/16/00	<u>.</u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	"	п		15.0	ND	"	
Trichloroethene	II.	n .	н.		15.0	ND		
Tetrachloroethene	н	**	<b>t</b> T		15.0	193	п	
Surrogate: a,a,a-TFT	- FF	"	Ħ	65.0-130	,	40.5	%	
B5-S-10'			M00100	)6-0 <u>8</u>			<u>Soil</u>	
Vinyl chloride	0100006	1/17/00	1/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	<b>17</b> .	"	"		15.0	ND	*	
Trichloroethene	**	11	. 11		15.0	ND	н ,	-
Tetrachloroethene	<b>n</b> .	ц	н		15.0	26.7	11	
Surrogate: a,a,a-TFT	n ·	"	11	65.0-130		88.0	%	,

North Creek Analytical, Inc.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/13/00 to 1/14/00

PO Box 318

Project Number: Received: 1/14/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/19/00 15:28

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0100006	Date Prepa	red: 1/17	<u>/00</u>		Extrac	tion Method: EPA	4 5035N	<u>1</u>	
Blank	0100006-B	LK1							
Vinyl chloride	1/16/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	***			ND	Ħ	15.0			
Trichloroethene	n			ND	IT	15.0			
Tetrachloroethene	II .			ND.	LT .	15.0			
Surrogate: a.a.a-TFT		40.0		38.8	"	65.0-130	97.0		
LCS	<u>0100006-F</u>	<u>8S1</u>							
Vinyl chloride	1/16/00	40.0		36.4	ug/kg	75.0-125	91.0		•
cis-1,2-Dichloroethene	11	40.0	•	34.9	"	75.0-125	87.3		
Trichloroethene	"	40.0		38.1	п	75.0-125	95.2		
Tetrachloroethene	Ħ	40.0		41.0	II.	75.0-125	103		
Surrogate: a.a.a-TFT	· n	40.0		36.9	"	65.0-130	92.3		
Matrix Spike	<u>0100006-N</u>	<u> 1S1</u>							
Vinyl chloride	1/16/00	56.8		53.8	ug/kg	75.0-125			-
cis-1,2-Dichloroethene	17	56.8		51.4	"	75.0-125			
Trichloroethene	n	56.8		50.9	11	75.0-125			•
Tetrachloroethene	11	56.8		54.4	**	75.0-125			
Surrogate: a,a,a-TFT	"	56.8		48.4	"	65.0-130	85.2	•	
Matrix Spike Dup	0100006-N	ASD1							
Vinyl chloride	1/16/00	65.I	•	61.9	ug/kg	75.0-125			
cis-1,2-Dichloroethene	IT	65.1		62.4	"	75.0-125			
Trichloroethene	м	65.1		58.3	. "	75.0-125		20.0	,
Tetrachloroethene	ur .	65.1		62.1	n	75.0-125			
Surrogate: a,a,a-TFT	"	65.1		54.4	"	65.0-130	83.6		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/13/00 to 1/14/00
PO Box 318	Project Number:	•	Received:	1/14/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 15:28

# Notes and Definitions

#	Note		 · · · · · ·	
DET	Analyte DETECTED			•
ND	Analyte NOT DETECTED at or above the reporting limit	•		
NR.	Not Reported			
dry	Sample results reported on a dry weight basis		ż	
Recov.	Recovery	·	·	
RPD	Relative Percent Difference			

North Creek Analytical, Inc.

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
No source sample number	VOC 8021B Screen	0100006-MS1	
No source sample number	VOC 8021B Screen	0100006-MSD1	
Exceeds lower control limit	VOC 8021B Screen	M001006-07	a,a,a-TFT
Status is Received	VOC Headspace	M001006-01	
Status is Received	VOC Headspace	M001006-02	
Status is Received	VOC Headspace	M001006-03	
Status is Received	VOC Headspace	M001006-04	
Status is Received	VOC Headspace	M001006-05	
Status is Received	VOC Headspace	M001006-06	
Status is Received	VOC Headspace	M001006-07	
Status is Received	VOC Headspace	M001006-08	
Report calculations are based on the MRL			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/18/00
PO Box 318	Project Number:	•	Received:	1/18/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 12:11

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D2-B1-10'	M001007-01	Soil	1/18/00
D2-B2-10'	M001007-02	Soil	1/18/00
D2-B3-10'	M001007-03	Soil	1/18/00
D2-N-10'	M001007-04	Soil	1/18/00
E1-B1-1'	M001007-05	Soil	1/18/00
E2-B2-1'	M001007-06	Soil	1/18/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/18/00
PO Box 318	Project Number:		Received:	1/18/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 12:11

### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Ѕштодате	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Resuit	Units	Notes*
<u>D2-B1-10'</u>	010000=	1 (10 (00	M00100	<u> 17-01</u>			<u>Soil</u>	
Vinyl chloride	0100007	1/18/00	1/19/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	,			15.0	ND	n	4
Trichloroethene			н		15.0	ND	IT	
Tetrachloroethene	11	н			15.0	ND	11	
Surrogate: a,a,a-TFT	"	"	n	65.0-130		98.1	%	
D2-B2-10'			M00100	<u> </u>			Soil	
Vinyl chloride	0100007	1/18/00	1/19/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	"	11		15.0	ND	1)	
Trichloroethene	**	n	**		15.0	ND	11	
Tetrachloroethene	n		<b>n</b>		15.0	ND	n ·	
Surrogate: a,a,a-TFT	п	17	11	65.0-130	-	96.4	%	
D2-B3-10'			M00100	<u> </u>			<u>Soil</u>	
Vinyl chloride	0100007	1/18/00	1/19/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	н	rş		15.0	ND	"	
Trichloroethene	n	т .	н		15.0	ND	11	
Tetrachloroethene	н ,	11	*1		15.0	ND	11	•
Surrogate: a,a,a-TFT	п	"	"	65.0-130		III	%	
D2-N-10'			M0010	07-04			<u>Soil</u>	
Vinyl chloride	0100007	1/18/00	1/19/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	*1	"	н .		15.0	ND	"	
Trichloroethene	и .	**	"		15.0	ND	ч	
Tetrachloroethene	н	n			15.0	ND	rt .	
Surrogate: a,a,a-TFT	. 11	n	11	65.0-130		107	%	
E <u>1-B1-1'</u>	•		M0010	07-0 <u>5</u>			<u>Soil</u>	
Vinyl chloride	0100007	1/18/00	1/19/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	U	п		15.0	ND	"	
Trichloroethene	H	н	ц		15.0	ND	H.	
Tetrachloroethene	, n	4	If		15.0	ND	u ·	
Surrogate: a,a,a-TFT		"	"	65.0-130		110	%	
<u>E2-B2-1'</u>			M0010	07-06			<u>Soil</u>	
Vinyl chloride .	0100007	1/18/00	1/19/00	· · · · · ·	15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	"	"	17 157 000		15.0	ND	n agrica	
Trichloroethene	11	**	h		15.0	ND	n	
FIGHORGING					13.0	IND		

North Creek Analytical, Inc.

Aspen Environmental, Ltd.	Ртојест:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/18/00
PO Box 318	Project Number:		Received:	1/18/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 12:11
	-			

	Batch	Date .	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E2-B2-1' (continued)			M00100	<u>)7-06</u>			<u>Soil</u>	
Tetrachloroethene	0100007	1/18 00	1/19/00		15.0	173	ug/kg	
Surrogate: a.a.a-TFT	"	"	"	65.0-130		84.8	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/18/00	ļ
PO Box 318	Project Number:		Received:	1/18/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 12:11	

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Levei	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0100007	Date Prepared: 1/18/00				Extraction Method: EPA 5035M				
Blank	0100007-B	LK1						_	
Vinyl chloride	1/19/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	н			ND	. н	15.0	-		
Trichloroethene	11			ND	19	15.0			
Tetrachloroethene				ND	" .	15.0			
Surrogate: a,a,a-TFT	н	40.0		36.5	п .	65.0-130	91.3		
<u>LCS</u>	0100007-B	<u>S1</u>		•					
Vinyl chloride	1/19/00	40.0		35.7	ug/kg	75.0-125	89.3		
cis-1,2-Dichloroethene	n	40.0		36.2	п .	75.0-125	90.5		
Trichloroethene	n	40.0		35.9	н	75.0-125	89.8		
Tetrachioroethene	n	40.0		37.9	11	75.0-125	94.8		
Surrogate: a,a,a-TFT	H .	40.0		33.7	"	65.0-130	84.3		
Matrix Spike	<u>0100007-N</u>	<u> 181 M</u>	001007-04						
Vinyl chloride	1/19/00	69.0	ND	66.0	ug/kg	75.0-125	95.7		
cis-1,2-Dichloroethene	Ħ	69.0	ND	78,4	II .	75.0-125	114		
Trichloroethene	η	69.0	ND	66.0	IŢ	75.0-125	95.7		
Tetrachloroethene	lt.	69.0	ND	74.1	**	75.0-125	107		
Surrogate: a,a,a-TFT		69.0		71.0	. ,,	65.0-130	103		
Matrix Spike Dup	0100007-N	<u> 1SD1 M</u>	001007 <u>-</u> 04						
Vinyl chloride	1/19/00	69.2	ND	61.9	ug/kg	75.0-125	89.5	20.0	6.70
cis-1,2-Dichloroethene	n	69.2	ND	75.4	,,	75.0-125	109	20.0	4.48
Trichloroethene	IT	69.2	ND	63.1	**	75.0-125	91.2	20.0	4.82
Tetrachloroethene	ц	69.2	ND	69.2		75.0-125	100	20.0	6.76
Surrogate: a.a.a-TFT	n	69.2		67.1	11	65.0-130	97.0		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/18/00	
PO Box 318	Project Number:		Received:	1/18/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/19/00 12:11	

# **Notes and Definitions**

#	Note
DET	Analyte DETECTED
ND .	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
ŖPD	Relative Percent Difference

North Creek Analytical, Inc.

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Status is Received	VOC Headspace	M001007-01	
Status is Received	VOC Headspace	M001007-02	
Status is Received	VOC Headspace	M001007-03	
Status is Received	VOC Headspace	M001007-04	
Status is Received	VOC Headspace	M001007-05	
Status is Received	VOC Headspace	M001007-06	
Report calculations are based on the MRL	• • •		

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/20/00
PO Box 318	Project Number:	•	Received:	1/20/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/21/00 11:05

# ANALYTICAL REPORT FOR SAMPLES:

		<u>.</u>	
Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E2-SW-6'	M001009-01	Soil	1/20/00
E2-SE-6'	M001009-02	Soil	1/20/00
E2-B1-6'	M001009-03	Soil	1/20/00
E2-B2-6'	M001009-04	Soil	. 1/20/00
E2-B3-6'	M001009-05	Soil	1/20/00
E2-B4-6'	M001009-06	Soil	1/20/00
D4-B1-11'	M001009-07	Soil	1/20/00
D4-B4-11'	M001009-08	Soil	1/20/00
D4-B6-11'	M001009-09	Soil	1/20/00
D4-W-11'	*M001009-10	Soil	1/20/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/20/00
PO Box 318	Project Number:	•	Received:	1/20/00
Mukilteo, Wa 98275	Project Manager.	Scott Waldal	Reported:	1/21/00 11:05

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>E2-SW-6'</u>			M00100	<u>19-01</u>			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н .	**	n		15.0	ND	H .	
Trichloroethene	. н	n .	n		15.0	$ND_{\bullet}$	77	
Tetrachloroethene	ιτ ,				15.0	ND	11	
Surrogate: a,a,a-TFT	"			65.0-130		70.0	%	
E2-SE-6'			M00100	<u> </u>			Soil	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II.	n	п		15.0	ND	" .	
Trichloroethene		11	11		15.0	ND		
Tetrachloroethene	**	11	**		15.0	ND	**	
Surrogate: a,a,a-TFT	. "	27	n	65.0-130		72.3	%	
TO TO (1			3.4001.01	20.02			5 ·I	
<u>E2-B1-6'</u>	0100000	1 /20 /00	M00100	<u>19-03</u>	150		<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	*1	**	" n		15.0	ND	11	
Trichloroethene	 #1	ы.	" u		15.0	ND	"	* •
Tetrachloroethene	n n	"	rr	65 O 130	15.0	ND .		
Surrogate: a,a,a-TFT				65.0-130		91.4	%	
E2-B2-6'			M0010	<u> </u>			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	tt.	**	**		15.0	ND	"	
Trichloroethene	17	Ħ	"		15.0	ND	19	
Tetrachloroethene	**	17	11		15.0	ND	"	
Surrogate: a,a,a-TFT	n	"	н .	65.0-130		87.3	%	
E2-B3-6'			M0010	09_05			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00	42 40	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	"	1/21/00		15.0	ND ND	ug/kg	
Trichloroethene	t†		11	•	15.0	ND		
Tetrachloroethene	**	17	71		15.0	ND ND	n	
Surrogate: a,a,a-TFT	н	<i>n</i>	H	65.0-130	15.0	86.7	%	
							, -	
E2-B4-6'			M0010	<u>09-06</u>			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	tt	17	н		15.0	ND	n	
Trichloroethene	11	11	п		15.0	ND	<b>71</b> ,	

North Creek Analytical, Inc.

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal Sampled:	1/20/00
PO Box 318	Project Number:	. Received:	1/20/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal Reported:	1/21/00 11:05

	Batch	Date	Date	Surrogate	Reporting		-	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
					,			
E2-B4-6' (continued)			<u>M00100</u>	<u>19-06</u>			<u>Soil</u>	
Tetrachloroethene	0100009	1/20/00	1/21/00		15.0	ND.	ug/kg	
Surrogate: a,a,a-TFT	"	"	" .	65.0-130		81.3	%	
<u>D4-B1-11'</u>			M00100	9-07			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	11	н	н		15.0	ND	" " " " "	
Trichloroethene	R	н .	" .		15.0	ND	u	
Tetrachloroethene	10	п	н		15.0	ND	и .	•
Surrogate: a,a,a-TFT	n		11	65.0-130	·	75.2	%	
D4-B4-11'			M09100	10_N2			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00	<del>19-00</del>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	n '	1720700	#		15.0	ND	л пñ.vñ	
Trichloroethene	п	11	17		15.0	ND ND	н	
Tetrachloroethene	п	71	**	•	15.0	ND	*1	•
Surrogate: a,a,a-TFT	n	<i>n</i>	п	65.0-130	13.0	81.8	%	
<u>D4-B6-11'</u>			M00100	<del>)9-09</del>			<u>Soil</u>	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II.	71	11		15.0	ND	н	
Trichloroethene	17	'n	н		15.0	370	19	1
Tetrachloroethene	"	IT	it.		15.0	744	**	. 1
Surrogate: a,a,a-TFT	ır	<b>"</b> .	7/	65,0-130		NR	%	1,2
D4-W-11'			M00100	39-10			Soil	
Vinyl chloride	0100009	1/20/00	1/21/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	11	11	11 .		15.0	ND	ug/kg	
Trichloroethene	ц	"	n .		15.0	ND	• н	
Tetrachloroethene	ii,	**	II .		15.0	ND	н	
Surrogate: a,a,a-TFT	"	"	и .	65.0-130		98.6	%	
<u> </u>						20.0	, ,	

North Creek Analytical, Inc.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/20/00
PO Box 318	Project Number:	•	Received:	1/20/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/21/00 11:05

## VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0100009	Date Prepa	red: 1/20	/00		Extract	ion Method: EPA	4 5035N	1		
Blank	0100009-BI							=		
Vinyl chloride	1/21/00			ND	ug/kg	15.0				
cis-1.2-Dichloroethene	Ħ			ND	7	15.0				
Trichloroethene	Ħ			ND	н	15.0				
Tetrachloroethene	Ħ			ND	-H	15.0				
Surrogate: a,a,a-TFT	11	40.0		37.0	"	65.0-130	92.5			
LCS	0100009-B	S1				•				
Vinyl chloride	1/21/00	40.0		32.4	ug/kg	75.0-125	81.0			
cis-1.2-Dichloroethene	"	40.0	•	32.9	" 5	75.0-125	82.3			
Trichloroethene	11	40.0		32.1	**	75.0-125	80.2			
Tetrachloroethene	It	40.0		33.9	п	75.0-125	84.8		•	
Surrogate: a,a,a-TFT	н	40.0	·	31.6	п	65.0-130	79.0			
Ma <u>trix Spike</u>	0100009-M	1S1 M	001009-02							
Vinyi chloride	1/21/00	53.3	ND	41.5	ug/kg	75.0-125	77.9			3
cis-1.2-Dichloroethene	11	53.3	ND	44.8	"	75.0-125	84.1			3
Trichloroethene	ц	53.3	ND	39.2	. н	75.0-125	73.5			3
Tetrachloroethene	и ,	53.3	ND	46.9	и	75.0-125	88.0	·		
Surrogate: a,a,a-TFT	"	53.3		<i>37.1</i>	n	65.0-130	69.6			3
Matrix Spike Dup	0100009-M	ISDI M	001009-02							
Vinyl chloride	1/21/00	59.0	ND	44.5	ug/ <b>kg</b>	75.0-125	75.4	20.0	3.26	3
cis-1,2-Dichloroethene	II.	59.0	ND	47.5	"	75.0-125	80.5	20.0	4.37	. 3
Trichloroethene	**	59.0	ND	45.1	н	75.0-125	76.4	20.0	3.87	3
Tetrachloroethene	**	59.0	ND	52.2	11	75.0-125	88.5	20.0	0.567	3
Surrogate: a,a,a-TFT	"	59.0		42.5	"	65.0-130	72.0			3

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/20/00
PO Box 318	Project Number:	• ,	Received:	1/20/00
Mukilteo. Wa 98275	Project Manager:	Scott Waldal	Reported:	1/21/00 11:05

#### **Notes and Definitions**

#	Note
- 1	The reported result is an estimated value. The analyte was detected at a level which is higher than the calibration curve.
2	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
3	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0100009-MS1	Trichloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MS1	a,a,a-TFT
Q-01 (3)	VOC 8021B Screen	0100009-MS1	cis-1,2-Dichloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MS1	Tetrachloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MSI	Trichloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MS1	Vinyl chloride
Q-01'(3)	VOC 8021B Screen	0100009-MSD1	a,a,a-TFT
Q-01 (3)	VOC 8021B Screen	0100009-MSD1	cis-1,2-Dichloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MSD1	Tetrachloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MSD1	Trichloroethene
Q-01 (3)	VOC 8021B Screen	0100009-MSD1	Vinyl chloride
Exceeds upper control limit	VOC 8021B Screen	M001009-09	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001009-09	a,a,a-TFT
S-02 (2)	VOC 8021B Screen	M001009-09	a,a,a-TFT
A-01 (I)	VOC 8021B Screen	M001009-09	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001009-09	Trichloroethene
Status is Received	VOC Headspace	M001009-01	
Status is Received	VOC Headspace	M001009-02	•
Status is Received	VOC Headspace	M001009-03	
Status is Received	VOC Headspace	M001009-04	
Status is Received	VOC Headspace	M001009-05	
Status is Received	VOC Headspace	M001009-06	
Status is Received	VOC Headspace	M001009-07	
Status is Received	VOC Headspace	M001009-08	
Status is Received	VOC Headspace	M001009-09	
Status is Received	VOC Headspace	M001009-10	•
Report calculations are based on the MRL			

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/25/00

PO Box 318

Project Number: Received: 1/25/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/26/00 09:29

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D4-B3-i1'	M001010-01	Soil	1/25/00
D4-B5-11'	M001010-02	Soil	1/25/00
D4-B7-11'	M001010-03	Soil	1/25/00
D4-B8-11'	M001010-04	Soil	1/25/00
D4-B2-I1'	M001010-05	Soil	1/25/00
E4-BI-11'	M001010-06	Soil	1/25/00
E4-B2-11'	M001010-07	Soil	1/25/00
E4-B4-11'	M001010-08	Soil	1/25/00
E4-B3-11'	M001010-09	Soil	1/25/00
E4-SW-11'	M001010-10	Soil	1/25/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00
PO Box 318	Project Number:	•	Received:	1/25/00
Mukilteo. Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:29

## VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting	· -		
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
					<del></del>			
D4-B3-11'			M00101	0-01			<u>Soil</u>	
Vinyl chloride	0100010	1/25/00	1/25/00	•	15.0	ND	ug/ <b>kg</b>	
cis-1,2-Dichloroethene	n .	17	ц.		15.0	ND	It	
Trichloroethene	н	н	**		15.0	ND	ч .	
Tetrachloroethene		"	77	•	15.0	407	. 11	1
Surrogate: a,a,a-TFT	"	"	11	65.0-130		83.I	%	
D4-B5-11'			<u>M00101</u>	<u>10-02</u>			<u>Soil</u>	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II .	и	"		15.0	ND	"	
Trichloroethene	17	Ц	79		15.0	ND	II .	
Tetrachloroethene	**	(f	Ц		15.0	775	It .	1
Surrogate: a,a,a-TFT	n	n	f#	65.0-130		71.3	%	
D4-B7-11'			M00101	10-03			Soil	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	.17	и	n		15.0	ND	,, ,	
Trichloroethene	***	IF.	п		15.0	ND	и .	
Tetrachloroethene	**	, tt	ji .		15.0	24.7	It	
Surrogate: a,a,a-TFT	If	11	71	65.0-130		99.4	%	٠.
D4-B8-11'			M00102	(0-04			<u>Soil</u>	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene		ц	11	•	15.0	16.7	" "	
Trichloroethene	n ·	r†	II .		15.0	ND	11	
Tetrachloroethene	. н	• '	tr.		15.0	55.3		
Surrogate: a,a,a-TFT	n	"		65.0-130		102	%	
D4-B2-11'			M0010	10-05			Soil	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	"	1123700		15.0	ND	ug kg	
Trichloroethene	**	**	ц		15.0	19.6	**	
Tetrachloroethene	71	en .	rf		15.0	1020	n	I
Surrogate: a,a,a-TFT	II .	n	"	65.0-130	12.0	72.5	%	
E4 D1 111	•		340010	10.06			6-11	
E4-B1-11'	0100010	1/25/00	M0010	10-00	15.0	NIE	Soil	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene		77	17		15.0	ND	. т	
Trichloroethene		*		-	15.0	ND	"	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00
PO Box 318	Project Number:	•	Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:29

## VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E4 D1 111 (aantinus d)			3400101	0.00				4
E4-B1-11' (continued) Tetrachloroethene	0100010	1/25/00	M00101 1/25/00	<u>.u-uo</u>	15.0	NID	<u>Soil</u>	•
	0100010	1/25/00	1/25/00	65.0-130	15.0	· ND	ug/kg	
Surrogate: a,a,a-TFT				63.U- <u>1</u> 3U		79.5	%	
E4-B2-11'			M00101	0-07			Soil	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	a	н	н		15.0	ND	# B	
Trichloroethene	er .	II .	н		15.0	ND	IT	
Tetrachloroethene	17	н	£†		15.0	ND	ч	
Surrogate: a,a,a-TFT	"	"	n	65.0-130		96.5	%	
E4-B4-11'		•		0.00				
Vinyl chloride	0100010	1/25/00	<u>M00101</u> 1/25/00	<u>10-08</u>	:60	3.773	<u>Soil</u>	
cis-1,2-Dichloroethene	77	1/23/00	1/23/00		15.0	ND	ug/kg "	
Trichloroethene	n	77	<b>n</b> .		15.0 15.0	113	11	
Tetrachloroethene	H	,,	II;		15.0	263 956	,,	1
Surrogate: a,a,a-TFT	"	"	"	65.0-130	15.0	NR	%	2
E4-B3-11'			3.500101	10.00			~	
Vinyl chloride	0100010	1/25/00	<u>M00101</u> 1/25/00	10-09			<u>Soil</u>	
cis-1,2-Dichloroethene	0100010	1/23/00 "	1/23/00		15.0	ND	ug/ <b>k</b> g	
Trichloroethene	+1		11		15.0	26.5	" H	
Tetrachloroethene	+1	17			15.0	ND	n	
	71	. ,,	и	CE 0 130	15.0	310		· 1
Surrogate: a,a,a-TFT				65.0-130		109	%	
E4-SW-11'			M00101	10-10			<u>Soil</u>	
Vinyl chloride	0100010	1/25/00	1/25/00		15.0	ND	ug/kg	•
cis-1.2-Dichloroethene	Ħ	m .	11		15.0	ND	n ne	
Trichloroethene	n	17	н	•	15.0	ND	fi .	
Tetrachloroethene	. 4	Ħ	п	•	15.0	54.9	11	
Surrogate: a,a,a-TFT	<i>n</i> ·	"	n	65.0-130	15.0	108	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	. Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00
PO Box 318	Project Number:		Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:29

## VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC		Reporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% No	tes*
Batch: 0100010	Date Prepa	red: 1/25	/00		Extrac	tion Method: EP	A 5035N	1		
Blank	0100010-B							_		
Vinyl chloride	1/25/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	п			ND	"	15.0				
Trichloroethene	n	,	•	ND	п	15.0				•
Tetrachloroethene	и			ND	IT.	15.0				
Surrogate: a,a,a-TFT	. "	40.0		43.0	н	65.0-130	108			
Blank	0100010-B	LK2								
Vinyl chloride	1/25/00			NĐ	ug/kg	15.0				
cis-1.2-Dichloroethene	**			ND	"	15.0				
Trichloroethene	11			ND	н	15.0				
Tetrachloroethene	н			ND	ų.	15.0				
Surrogate: a,a,a-TFT	"	40.0		50.9	"	65.0-130	127			
LCS	0100010-E	<u>8S1</u>								
Vinyl chloride	1/25/00	<del>-1</del> 0.0		44.8	ug/kg	75.0-125	112			
cis-1,2-Dichloroethene	н	40.0		36.0	"	75.0-125	90.0			
Trichloroethene	ц	40.0		33.4	•	75.0-125	83.5			
Tetrachloroethene	19	÷0.0		35.8	n	. 75.0-125	89.5			
Surrogate: a,a,a-TFT	"	40.0		38.2	п	65.0-130	95.5	1		
Matrix Spike	0100010-N	<u> MS1 M</u>	<u>001010-06</u>							
Vinyl chloride	1/25/00	37.7	ND	28.5	ug/kg	75.0-125	75.6			
cis-1,2-Dichloroethene	· Ħ	37.7	ND	37.8	н	75.0-125	100			
Trichloroethene	. "	37.7	ND	31.4	п	75.0-125	83.3			
Tetrachioroethene	"	37.7	ND	38.1	It	75.0-125	101			
Surrogate: a,a,a-TFT	"	37.7		35.8	. 11	65.0-130	95.0			
Matrix Spike Dup	<u>0100010-N</u>	MSDI M	001010-06							
Vinyl chloride	1/25/00	38.8	ND	24.8	ug/kg	75.0-125	63.9	20.0	16.8	3
cis-1,2-Dichloroethene	Ħ	38.8	ND	34.6	" ~	75.0-125	89.2	20.0	11.4	
Trichloroethene	n Î	38.8	ND	29.1	**	75.0-125	75.0	20.0	10.5	
Tetrachloroethene	*1	38.8	ND	35.8	11	75,0-125	92.3	20.0	9.00	
Surrogate: a,a,a-TFT	п	38.8		33.1	"	65.0-130	85.3			

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00	$\neg$
PO Box 318	Project Number:		Received:	1/25/00	1
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/26/00 09:29	

#### **Notes and Definitions**

#	Note
1 .	The concentration reported is an estimated value above the linear concentration range.
2	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
3	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ŅD	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

	(		
Exception .	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0100010-MSD1	Vinyl chloride
Q-01 (3)	VOC 8021B Screen	0100010-MSD1	Vinyl chloride
A-01 (1)	VOC 8021B Screen	M001010-01	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001010-02	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001010-05	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	M001010-08	a,a,a-TFT
S-02 (2)	VOC 8021B Screen	M001010-08	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001010-08	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001010-09	Tetrachloroethene
Report calculations are based on the MRL			•

Aspen Environmental: Ltd. PO Box 318

Mukilteo, Wa 98275

Project:

Cameron-Yakima Contaminated Soil Removal Sampled:

1/25/00 to 1/26/00

Project Number:

Project Manager: Scott Waldal

Received: 1/25/00

Reported: 1/27/00 09:15

#### **ANALYTICAL REPORT FOR SAMPLES:**

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E4-W-11'	M001011-01	Soil	1/25/00
E4-E-11'	M001011-02	Soil	1/25/00
E4-SE-11'	M001011-03	Soil	1/25/00
D4-W-11'	M001011-04	Soil	1/25/00
D4-E-11'	M001011-05	Soil	1/25/00
D4-N-II'	M001011-06	Soil	1/25/00
E5-B1-6'	M001011-07	Soil	1/26/00
E5-B2-6'	M001011-08	Soil	1/26/00
E5-B3-6'	M001011-09	Soil	1/26/00
E5-B4-6'	M001011-10	Soil	1/26/00

PO Box 318 Project Number: Received: 1/25/00 Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 1/27/00 09:15	Aspen Environmental, Ltd.	Project.	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00 to 1/26/00
Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 1/27/00 09:15	PO Box 318	Project Number:		Received:	1/25/00
	Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/27/00 09:15

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

Batch	Date	Date	Surrogate	Reporting		1.	
Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
					•		
			<u>1-01</u>				
				15.0			
n	"	rr	65.0-130		95.8	%	
		M00101	1-02			<u>Soil</u>	
0100011	1/26/00	1/26/00		15.0	16.7	ug/kg	
Ir		**		15.0	982	14	1
It		17		15.0	970	13	1
tt		**		15.0	2630	נו	l
н	н	"	65.0-130		117	%	
		M00101	11-03			Soil	
0100011	1/26/00	1/26/00		15.0	ND	ug/kg	
ń	Ħ	**		15.0	32.5	,,	
n	и .	н		15.0	ND.	71	
п	11	'n					
"	11	"	65.0-130		95.3	%	
		M0010	11-04	•		Soil	
0100011	1/26/00			15.0	ND .		
"	η	"				n G., G.	
11	17	11				п	
71	11	ц				18	
,,	11	11	65.0-130	12.0	94.2	%	
	***						
			<u>11-05</u>				
				15.0	· ND		
71		u		15.0	ND		
		H		15.0	ND	19	
		r ·		15.0	ND	17	
rr	и .	n	65.0-130	•	106	%	
		M0010	<u>11-06</u>			<u>Soil</u>	
0100011	1/26/00	1/26/00	<del>_</del>	15.0	ND		
II	н	n		15.0	ND	11	
	0100011 "" "" "" "" "" "" "" "" "" "" "" "" "	Number Prepared  0100011 1/26/00 " " " " "  0100011 1/26/00 " " " "  0100011 1/26/00 " " " " " " "  0100011 1/26/00 " " " " " " " " " " " " " " " " " "	Number   Prepared   Analyzed	Number   Prepared   Analyzed   Limits	Number         Prepared         Analyzed Limits         Limit           M001011-01           0100011         1/26/00         15.0           """"""""""""""""""""""""""""""""""""	Number	Number

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/25/00 to 1/26/00
PO Box 318	Project Number:	•	Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/27/00 09:15

## VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

,	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D4-N-11' (continued)			M00101	1 06		٠	<u>Soil</u>	
Tetrachloroethene	. 0100011	1/26/00	1/26/00		15.0	36.4	ug/kg	
Surrogate: a,a,a-TFT	, 0100011	"	n	65.0-130	15.0	90.7	%	
5 og						70.7		
E5-B1-6'	·		M00101	11-07			<u>Soil</u>	
Vinyl chloride	0100011	1/26/00.	1/26/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	If	t <del>t</del>	11		15.0	160	n 2	
Trichloroethene	Ħ	. 17	บ		15.0	482	п	· 1
Tetrachloroethene	t <del>t</del>	** .	н		15.0	4040	n	Ī
Surrogate: a,a,a-TFT	11	"	11	65.0-130		94.0	%	
E5-B2-6'			. M00101	11-08			Soil	
Vinyl chloride	0100011	1/26/00	1/26/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n,	įτ	17		15.0	ND	"	
Trichloroethene	II .	и .	17		15.0	ND	н	
Tetrachloroethene	II .	tt .	**		15.0	214	н	1
Surrogate: a,a,a-TFT	Ħ	"	"	65.0-130		105	%	
E5-B3-6'		•	M00101	11-09			<u>Soil</u>	
Vinyl chloride	0100011	1/26/00	1/26/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	. 11	"	"		15.0	24.3	ug/ng	
Trichloroethene	, <b>n</b>	n	11		15.0	58.3		
Tetrachloroethene	tt .	h ·	rt	•	15.0	2520	н.	1
Surrogate: a,a,a-TFT	н	"	" .	65.0-130		79.0	%	
E6 D4 (1	•		3.500.40	44 40				
E5-B4-6'	0100011	1.79.6.100	M00101	<u>11-10</u>			<u>Soil</u>	
Vinyl chloride	0100011	1/26/00	1/26/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	rr	11		15.0	17.0	н	
Trichloroethene	"	er			15.0	24.1	ц	
Tetrachloroethene	n.		11		15.0	1050	III .	1
Surrogate: a,a,a-TFT	77 .	"	"	<i>65.0-130</i>		49.9	%	2

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removai	Sampled:	1/25/00 to 1/26/00
PO Box 318	Project Number:		Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/27/00 09:15

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Levei	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
D-4-L- 0100011	Data Buana		/00		Extraction Method: EPA 5035M					
Batch: 0100011	<u>Date Prepa</u> <u>0100011-B</u> 1		<u>/80</u>		Extrac	7				
Blank	1/26/00	<u> </u>		ND	/	15.0				
Vinyl chloride	1/20/00				ug/kg		-			
cis-1,2-Dichloroethene	. 11			ND ND		15.0				
Trichloroethene	R		•	ND	n	15.0				
Tetrachloroethene	н	76.0		ND		15.0				
Surrogate: a,a,a-TFT	.,	40.0		46.3	.,	65.0-130	116			
Blank	0100011-B	LK2								
Vinyl chloride	1/26/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	P			ND	11	15.0				
Trichloroethene	R			ND	п	15.0				
Tetrachloroethene	17			ND	IT	15.0				
Surrogate: a,a,a-TFT	"	40.0		47.4	п	65.0-130	119			
LCS	<u>0100011-B</u>	<u>S1</u>								
Vinyl chloride	1/26/00	40.0		40.3	ug/kg	75.0-125	101			
cis-1,2-Dichloroethene	· · · · · ·	40.0		39.3	п	75.0-125	98.2			
Trichloroethene	Ħ	÷0.0		35.6	π	75.0-125	89.0			
Tetrachloroethene	**	40.0		39.0		75.0-125	97.5			
Surrogate: a,a,a-TFT	"	40.0		42.8	15 .	65.0-130	107			
LCS	<u>0100011-B</u>	157								
Vinyl chloride	1/26/00	40.0		36.6	ug/kg	75.0-125	91.5			
cis-1,2-Dichloroethene	1/20/00	40.0		39.4	n nakra	75.0-125	98.5			
Trichloroethene	II.	40.0		38.0	н .	75.0-125	95.0			
Tetrachloroethene	. "	40.0 40.0		36.0 49.2	F7					
Surrogate: a,a,a-TFT	и.	40.0	· immarray iin	49.2		75.0-125 65.0-130	123 105	<u>.</u>		
Dan Ogarot a, mar 1 2		7.0				05.0 150	100	,		
Matrix Spike	<u>0100011-N</u>	<u> 181 M</u>	<u>001011-01</u>	•						
Vinyl chloride	1/26/00	99.5	ND	87.6	ug/kg	75.0-125	88.0			
cis-1,2-Dichloroethene	Ħ	99.5	ND	98.8	**	75.0-125	99.3			
Trichloroethene	TT.	99.5	ND	91.3	**	75.0-125	91.8	•		
Tetrachloroethene	77	99.5	ND	131	**	75.0-125	132			4
Surrogate: a,a,a-TFT	"	99.5		110	"	65.0-130	111			
Matrix Spike Dup	0100011-N	ISDI M	001011-01							
Vinyl chloride	1/26/00	78.4	ND	58.8	ug/kg	75.0-125	75.0	20.0	16.0	
cis-1,2-Dichloroethene	1720/00	- 78.4	ND ·	62.0	ug/kg	75.0-125	79.1	20.0	22.6	3
Ci5-1,2-Dictioroculous		· · · · · ·	ייי	02.0		/3.0-123	17.1	20.0	44.U	3

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contamir	nated Soil Removal Sampled:	1/25/00 to 1/26/00
PO Box 318	Project Number:	•	Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/27/00 09:15

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Matrix Spike Dup (continued)	<u>0100011-M</u>	ISD1 MO	001011 <u>-01</u>							
Trichloroethene	1/26/00	78.4	ND	64.1	ug/kg	75.0-125	81.8	20.0	11.5	
Tetrachloroethene	If .	78.4	ND	73.3	"	75.0-125	93.5	20.0	34.1	3
Surrogate: a,a,a-TFT	"	78. <del>4</del>		68.6	"	65.0-130	87.5			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remova	Sampled:	1/25/00 to 1/26/00
PO Box 318	Project Number:		Received:	1/25/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/27/00 09:15

#### **Notes and Definitions**

=	Note
1	The concentration reported is an estimated value above the linear quantitation range.
2 .	Re-analysis confirms that low surrogate recovery may be due to adsorption by the sample matrix.
3	The RPD is above the control limit due to a non-homogeneous sample matrix.
4	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

	(101 III:Ciliai u	sc only,	
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds upper control limit	VOC 8021B Screen	0100011-MS1	Tetrachloroethene
Exceeds RPD limit	VOC 8021B Screen	0100011-MSD1	cis-1,2-Dichloroethene
Exceeds RPD limit	VOC 8021B Screen	0100011-MSD1	Tetrachloroethene
Q-14 (3)	VOC 8021B Screen	0100011-MSD1	cis-1,2-Dichloroethene
Q-14 (3)	VOC 8021B Screen	0100011-MSD1	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001011-02	cis-1,2-Dichloroethene
A-01(1)	VOC 8021B Screen	M001011-02	Tetrachloroethene
A-01 (I)	VOC 8021B Screen	M001011-02	Trichloroethene
Status is Batched	VOC 8021B Screen	M001011-03	
A-01 (1)	VOC 8021B Screen	M001011-07	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001011-07	Trichloroethene
Status is Batched	VOC 8021B Screen	M001011-08	
A-01 (1)	VOC 8021B Screen	M001011-08RE1	Tetrachloroethene
A-01 (1)	VOC 8021B Screen	M001011-09	Tetrachloroethene
Status is Batched	VOC 8021B Screen	M001011-10	
Exceeds lower control limit	VOC 8021B Screen	M001011-10RE1	a,a,a-TFT
S-14 (2)	VOC 8021B Screen	M001011-10RE1	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	M001011-10RE1	Tetrachloroethene
Report calculations are based on the MRL	·		

Aspen Environmental. Ltd.

Project: PO Box 318 Project Number: Mukilteo, Wa 98275 Project Manager:

Cameron-Yakima Contaminated Soil Removal Sampled: 1/26/00 to 1/27/00

Received: 1/26/00

1/28/00 09:02 Reported:

#### ANALYTICAL REPORT FOR SAMPLES:

Scott Waldal

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E5-SW-6'	M001012-01	Soil	1/26/00
E5-SE-6'	M001012-02	Soil	1/26/00
D5-B1-5'	M001012-03	Soil	1/27/00
D5-B2-5'	M001012-04	Soil	1/27/00
D5-B3-5'	M001012-05	Soil	1/27/00
D5-B4-5'	M001012-06	Soil	1/27/00
D5-B5-5'	M001012-07	Soil	1/27/00
O5-B6-5'	M001012-08	Soil	1/27/00
D5-B7 <u>-</u> 5'	M001012-09	Soil	1/27/00

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contamin	ated Soil Removal	Sampled:	1/26/00 to 1/27/00
PO Box 318	Project Number:	•		Received:	1/26/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	. "	Reported:	1/28/00 09:02

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting		•	
Analyte	Number	Prepared	Anaiyzed	Limits	Limit	Result	Units	Notes*
E5-SW-6'			M00101	2.01			<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00	<u> 2-01</u>	15.0	ND	<u>3011</u> ug/kg	
cis-1.2-Dichloroethene	0100012	1727700	"		15.0	ND	ug/kg	
Trichloroethene	н	н	**		15.0	ND	ц	
Tetrachloroethene	n .	**	n		15.0	442		1
Surrogate: a,a,a-TFT	n	,n	11	65.0-130	13.0	49.2	%	2
								_
<u>E5-SE-6'</u>			M00101	<u>2-02</u>			Soil -	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	II	11	п		15.0	18.4	11	
Trichloroethene	ц	н	п		15.0	15.9	to .	
Tetrachloroethene	UT.	ri 			15.0	829	"	1
Surrogate: a,a,a-TFT	n n	"	n	65.0-130		47.5	%	2
D5-B1-5'			M00101	2-03			Soil	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	μ	19	и		15.0	ND	11	
Trichloroethene	Tr.	**	и		15.0	ND	n	
Tetrachloroethene	II	n	ц		15.0	21.5	**	
Surrogate: a,a,a-TFT	n	и	11	65.0-130		83.1	%	
D5-B2-5'			M00101	12-04			<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	11	17	n		15.0	67.8	"	
Trichloroethene	п	ti			15.0	39.9	•	
Tetrachloroethene	n	**	п		15.0	1180	•	1
Surrogate: a,a,a-TFT	"		"	65.0-130		62.0	%	2
<u>D5-B3-5'</u>			M0010	11 NE			6.0	
Vinyl chloride	0100012	1/27/00	1/27/00	14-03	15.0	3.173	Soil	
cis-1,2-Dichloroethene	0100012	1/2//00	#		15.0	ND	ug/kg	
	"	u	,,	* .	15.0	ND	11	
Trichloroethene	. 11		"		15.0	ND	" "	
Tetrachloroethene	#		" .	/5 D 130	15.0	60.2		
Surrogate: a,a,a-TFT		••		65.0-130		92.2	%	
D5-B4-5'			M0010	12-96			<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	*1	п	n		15.0	ND	. "	
Trichloroethene	. 11	+7	н		15.0	ND		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 1/26/00 to 1/27/00

PO Box 318

Project Number: Received: 1/26/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 1/28/00 09:02

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D5-B4-5' (continued)			3/100101	2.04			0.21	
Tetrachloroethene	0100012	1/27/00	M00101	<u>4-00</u>	15.0	4	Soil	
	// // // // // // // // // // // // //	1/27/00	1/27/00		15.0	51.4	ug/kg	
Surrogate: a,a,a-TFT		"	"	65.0-130		84.8	%	
D5-B5-5'			M00101	2-07			<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	H	н	п		15.0	ND	"	-
Trichloroethene	***	n	н :		15.0	ND	**	
Tetrachloroethene	tı	IT	11		15.0	44.9	11	
Surrogate: a,a,a-TFT	"	n ·	·n	65.0-130		99.3	%	
D5-B6-5'			M00101	2-08			<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	p	- 11	71		15.0	ND	, "	
Trichloroethene	If	11	н	4	15.0	ND	n	
Tetrachloroethene	n.	н	н		15.0	32.7	п	
Surrogate: a,a,a-TFT	Ħ	rr	н	65.0-130		91.6	%	
D5-B7-5'			M00101	12-09	•		<u>Soil</u>	
Vinyl chloride	0100012	1/27/00	1/27/00	<del>.</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	и	**	**		15.0	ND	" " " " " " " " " " " " " " " " " " " "	
Trichloroethene	ú	17	11		15.0	ND	rt	
Tetrachloroethene	• <u>•</u>	*7	19		15.0	45.5	**	
Surrogate: a,a,a-TFT	. "	"	"	65.0-130		113	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminate	d Soil Removal Sampled:	1/26/00 to 1/27/00	
PO Box 318	Project Number:	•	Received:	1/26/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/28/00 09:02	

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	1	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
								_	
Batch: 0100012	Date Prepa		<u>/00</u>		Extrac	tion Method: EP	<u>A 5035N</u>	<u>1</u>	
Blank	0100012-BI	<u> </u>			_				
Vinyl chloride	1/27/00			ND	ug/kg "	15.0			•
cis-1,2-Dichloroethene	"			ND		15.0			
Trichloroethene				ND	II.	15.0			
Tetrachloroethene	It .			NĐ	11	15.0			
Surrogate: a,a,a-TFT	"	40.0		46.6	u .	65.0-130	116		
Blank	0100012-B	LK2	•		•				
Vinyl chloride	1/27/00	<del></del> .		ND	ug/kg	15.0			
cis-1,2-Dichloroethene	II			ND	"	15.0			
Trichloroethene	н		•	ND	15	15.0			
Tetrachloroethene	Iŧ			ND	17	15.0			
Surrogate: a,a,a-TFT	" .	40.0		46.6	"	65.0-130	116		
LCS	0100012-B	SI							
Vinyl chloride	1/27/00	40.0		38.8	ug/kg	75.0-125	97.0		
cis-1,2-Dichloroethene	1/2//00	40.0		40.7	n K. v. R	75.0-125 75.0-125	102		
Trichloroethene	u ·	40.0		36.3	, ,	75.0-125	90.7		
Tetrachloroethene	. 11	40.0		39.8	11	75.0-125	99.5		
Surrogate: a,a,a-TFT	"	40.0	······································	40.8	п	65.0-130	102		
* ^^	0100012	.co	•						•
LCS	0100012-B				_				
Vinyl chloride	1/27/00	40.0		36.6	ug/kg "	75.0-125	91.5		
cis-1.2-Dichloroethene	n	40.0		41.6		75.0-125	104		
Trichloroethene	"	40.0		37.3		75.0-125	93.2		
Tetrachloroethene		40.0		41.8		75.0-125	104		
Surrogate: a,a,a-TFT	"	40.0		43.3	n	65.0-130	108		
Matrix Spike	<u>0100</u> 012-N	<u>1S1</u> <u>M</u>	<u>001012-03</u>						
Vinyl chloride	1/27/00	78.7	ND	64.2	ug/kg	75.0-125	81.6		
cis-1,2-Dichloroethene	н	. 78.7	ND	78.9	"	75.0-125	100		
Trichloroethene	11	78.7	ND	72.6	H	75.0-125	92.2		
Tetrachloroethene	н	78.7	21.5	97.6	**	75.0-125	96.7		
Surrogate: a,a,a-TFT	"	78.7		81.5	"	65.0-130	104		•
Matrix Spike Dup	0100012-N	ISD1 M	001012-03						
Vinyl chloride	1/27/00	67.1	ND	54.9	ug/kg	75.0-125	81.8	20.0	0.245
cis-1,2-Dichloroethene	n .	67.1	ND	66.8	ug/kg	75.0-125	99.6	20.0	0.401
013-1,2-Diothorocarchic		07.1	, עא	00.8		/3.0-123	77.0	20.0	V-401

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remova	l Sampled:	1/26/00 to 1/27/00
PO Box 318	Project Number:		Received:	1/26/00
Mukiiteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/28/00 09:02

## VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Resuit	Units	Recov. Limits	%	Limit	% Notes*
Matrix Spike Dup (continued)	0100012-M	ISDI MO	001012-03						
Trichloroethene	1/27/00	67.1	ND	61.2	ug/kg	75.0-125	91.2	20.0	1.09
Tetrachloroethene	Ħ	67.1	21.5	78.2	II	75.0-125	84.5	20.0	13.5
Surrogate: a,a,a-TFT	"	67.1		68.1	"	65.0-130	101		

Aspen Environmental, Ltd.	Ртојест:	Cameron-Yakima Contaminated Soil Removal	Sampled:	1/26/00 to 1/27/00
PO Box 318	Project Number:		Received:	1/26/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	1/28/00 09:02

## Notes and Definitions

#	Note
1	The concentration reported is an estimated value above the linear quantitation range.
2	Re-analysis confirms that low surrogate recovery may be due to adsorption by the sample matrix.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

## Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	M001012-01	a,a,a-TFT
A-01 (2)	VOC 8021B Screen	M001012-01	a,a,a-TFT
O-03 (1)	VOC 8021B Screen	M001012-01	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	M001012-02	a.a.a-TFT
A-01 (2)	VOC 8021B Screen	M001012-02	a,a,a-TFT
· O-03 (1)	VOC 8021B Screen	M001012-02	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	M001012-04	a,a,a-TFT
A-01 (2)	VOC 8021B Screen	M001012-04	a,a,a-TFT
O-03 (1)	VOC 8021B Screen	M001012-04	Tetrachloroethene
Report calculations are based on the MRL		10 Page 10 Pag	

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/2/00
PO Box 318	Project Number:		Received:	2/2/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/3/00 08:23

## ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D5-B1-11'	M002002-01	Soil	2/2/00
D5-B2-11'	M002002-02	Soil	2/2/00
D5-B3-11'	M002002-03	Soil	2/2/00
D5-B4-11'	M002002-04	Soil	2/2/00
D5-B5-11'	M002002-05	Soil	2/2/00
E4-SW+5-6'	M002002-06	Soil	2/2/00
E4-SE+5-6'	M002002-07	Soil	2/2/00
E5-SW+5-6'	M002002-08	Soil	2/2/00
E5-SE+5-6'	M002002-09	Soil	2/2/00

	Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/2/00	
Ì	PO Box 318	Project Number:		Received:	2/2/00	
	Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/3/00 08:23	

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed		Limit	Result	Units	Notes*
					<del></del>			
<u>D5-B1-11'</u>			M00200	<u>2-01</u>			<u>Soil</u>	
Vinyl chloride	0200002	2/2/00	2/2/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	n	n		15.0	ND	п	
Trichloroethene	п	**	н		15.0	ND	. 11	
Tetrachloroethene	н	n			15.0	19.8	n	
Surrogate: a,a,a-TFT	" "	"	"	65.0-130		82.0	%	
D5-B2-11'			M00200	2-02			<u>Soil</u>	
Vinvl chloride	0200002	2/2/00	2/2/00	<del></del>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	It .	. "	œ		15.0	ND	"	
Trichloroethene	11	17	** .		15.0	ND	*1	
Tetrachloroethene	**	17	n ·		15.0	64.3	#1	
Surrogate: a,a,a-TFT	· 11	*1	11	65.0-130		92.8	%	
D5-B3-11'			M00200	12-03			Soil	
Vinyl chloride	0200002	2/2/00	2/2/00	<u>-2-05</u>	15.0	ND	ug/kg	•
cis-1.2-Dichloroethene	. #	"	. "		15.0	ND	n n	
Trichloroethene	**		п		15.0	ND	н	
Tetrachloroethene	н	ч	n		15.0	ND	п	
Surrogate: a,a,a-TFT	n n	"	11	65.0-130	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	87.3	%	
D5-B4-11'		1,	M0020	2 04			C_:1	
Vinyl chloride	0200002	2/2/00	2/2/00	<u>)2-04</u>	15.0	ND	Soil	
cis-1,2-Dichloroethene	0200002	2/2/ <b>V</b> V	2/2/00		15.0	ND ND	ug/kg "	
Trichloroethene	e :	н .	n		15.0	ND ND	n	•
Tetrachloroethene	. 17	•	,,		15.0	40.7	п	
Surrogate: a,a,a-TFT	n	"	n	65.0-130	13.0	92.3	%	
_					•		a	
<u>D5-B5-11'</u>	0=0005-		M00200	J2 <u>-05</u>			Soil	
Vinyi chloride	0200002	2/2/00	2/2/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	"	n	•	15.0	ND	11	
Trichloroethene	**	77	n		15.0	ND	ji	
Tetrachloroethene	**	**	n		15.0	36.8		
Surrogate: a,a,a-TFT	"	п	н	65.0-130		87.3	%	
E4-S <u>W+5-6'</u>			M0020	02-06			Soil	
Vinyl chloride	0200002	2/2/00	2/3/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n		11		15.0	ND	IP	
Trichloroethene	**	н	It		15.0	ND	п .	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/2/00
PO Box 318	Project Number:		Received:	2/2/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/3/00 08:23

	Batch	Date	Date	Surrogate	Reporting			<u>-</u>
Analyte	Number	Prepared	Anaiyzed	Limits	Limit	Result	Units	Notes*
E4-SW+5-6' (continued)			M00200	7_06			<u>Soil</u>	
Tetrachloroethene	0200002	2/2/00	2/3/00	2-00	15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	n	и	11	65.0-130	13.0	101	%	
E4-SE+5-6'			M00200	2-07			<u>Soil</u>	
Vinyl chloride	0200002	2/2/00	2/3/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	**	It	**		15.0	ND	H .	
Trichloroethene	n	н	**		15.0	ND	, n	
Tetrachloroethene	11	15	*1		15.0	31.5	Ir	
Surrogate: a,a,a-TFT	н	. ,,	11	65.0-130		96.3	%	
E5-SW+5-6'	•		M00200	12-08			<u>Soil</u>	
Vinyl chloride	0200002	2/2/00	2/3/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene		71	н		15.0	ND	41 11	
Trichloroethene	R	п	II .		15.0	ND	11	
Tetrachloroethene	IP	и .	**		15.0	ND	11	
Surrogate: a,a,a-TFT	"	11	"	65.0-130		114	%	
E5-SE+5-6'			M00200	12-09	-		Soil	
Vinyl chloride	0200002	2/2.00	2/3/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	н	77		15.0	ND	"	
Trichloroethene	**	IT	**		15.0	ND	It	
Tetrachloroethene	"	er .	•		15.0	15.3	Ir	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		115	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/2/00

PO Box 318

Project Number: Received: 2/2/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/3/00 08:23

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Resuit	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 0200002	Date Prepa	red: 2/2/0	<u>)0</u>		Extract	tion Method: EP.	A 5035N	<u> 1</u>		
Blank	0200002-B1	LKI								
Vinyi chloride	2/2/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	17			ND	17	15.0				
Trichloroethene	"			ND	**	15.0				
Tetrachloroethene	11			ND	н	15.0				
Surrogate: a,a,a-TFT	. II	40.0		40.5	11	65:0-130	101			
<u>LCS</u>	0200002-B	S1			*.					
Vinyl chloride	2/2/00	40.0		32.5	ug/kg	75.0-125	81.3	•		
cis-1.2-Dichloroethene		40.0		32.I	"	75.0-125	80.2			
Trichloroethene	,,	40.0		32.9	11	75.0-125	82.3			
Tetrachloroethene	н	40.0		35.6	и	75.0-125	89.0			
Surrogate: a,a,a-TFT	и	40.0		35.2	п	65.0-130	88.0			
Matrix Spike	0200002-M	<u>1S1 M</u>	002002-03							
Vinyl chloride	2/2/00	62.9	ND	48.4	ug/kg	75.0-125	76.9			
cis-1,2-Dichloroethene	n	62.9	ND	58.0	"	75.0-125	92.2			
Trichloroethene	'n	62.9	ND	50.8	17	75.0-125	80.8			
Tetrachloroethene •	п	62.9	ND	64.3	17	75.0-125	102	•		
Surrogate: a,a,a-TFT	"	62.9		59.4	"	65.0-130	94.4	·		
Matrix Spike Dup	0200002-M	<u>ISDI</u> M	0 <b>02002-</b> 03		-		•			
Vinyl chloride	2/2/00	58.0	ND '	51.4	ug/kg	75.0-125	88.6	20.0	14.1	
cis-1,2-Dichloroethene	Ħ	58.0	ND	59.7	n	75.0-125	103	20.0	11.1	
Trichloroethene	<b>?1</b>	58.0	ND	52.2	H	75.0-125	90.0	20.0	10.8	
Tetrachloroethene	11	58.0	ND	68.8	ц	75.0-125	119	20.0	15.4	
Surrogate: a,a,a-TFT	11	58.0		60.1	н	65.0-130	104			

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/2/00
PO Box 318	Project Number:	•	Received:	2/2/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/3/00 08:23

#### Notes and Definitions

Ħ	Note	
DET	Analyte DETECTED	
ND	Analyte NOT DETECTED at or above the reporting limit	
NR .	Not Reported	
dry	Sample results reported on a dry weight basis	
Recov.	Recovery	
RPD	Relative Percent Difference	

## Report Exceptions List (for internal use only)

Analyte or General Method

Exception	Analysis or Specific Method	Lab Number
Status is Received	VOC Headspace	M002002-01
Status is Received	VOC Headspace	M002002-02
Status is Received	VOC Headspace	M002002-03
Status is Received	VOC Headspace	M002002-04
Status is Received	VOC Headspace	M002002-05
Status is Received	VOC Headspace	M002002-06
Status is Received	VOC Headspace	M002002-07
Status is Received	VOC Headspace	M002002-08
Status is Received	VOC Headspace	M002002-09

Report calculations are based on the MRL

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/3/00

PO Box 318

Project Number: Received: 2/3/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/4/00 09:47

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B3-VB2-D	M002003-01	Soil	2/3/00
B3-VN-D	M002003-02	Soil	2/3/00
C3-VB1-D	M002003-03	Soil	2/3/00
C3-VB3-D	M002003-04	Soil	2/3/00
D3-VB3-D	M002003-05	Soil	2/3/00
E3-VB2-D	M002003-06	Soil	2/3/00
E4-SE+5-11'	M002003-07	Soil	2/3/00
E4-SW+5-11'	M002003-08	Soil	2/3/00
E5-SW+5-11'	M002003-09	Soil	2/3/00
D5-N-11'	M002003-10	Soil	2/3/00
D5-B6-11'	M002003-11	Soil .	2/3/00
D5-E-11'	M002003-12	Soil	2/3/00

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/3/00
PO Box 318	Project Number:	•	Received:	2/3/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/4/00 09:47

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
B3-VB2-D			M00200	3-01			<u>Soil</u>	
Vinyl chloride	0200003	2/3-00	2/4/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	.11	п		15.0	ND	"3-"5	
Trichloroethene	н	n	**		15.0	ND	17	
Tetrachloroethene	· u	n	"		15.0	ND	**	
Surrogate: a,a,a-TFT	#	п	"	65.0-130		91.9	%	
B3-VN-D			M00200	<u> </u>	·		<u>Soil</u>	
Vinyl chloride	0200003	2/3/00	2/4/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	ш ,	11		15.0	ND	п	
Trichloroethene	n		ш		15.0	ND	. 0 .	
Tetrachloroethene		37	†1		15.0	ND	1+	•
Surrogate: a,a,a-TFT	<i>n</i>	77	rs	65.0-130		76.1	. %	
<u>C3-VB1-D</u>			M00200	<u>13-03</u>			<u>Soil</u>	
Vinyl chloride	0200003	2/3/00	2/4/00		15.0	NĎ	ug/kg	
cis-1,2-Dichloroethene	17	71	н		15.0	ND	ff	
Trichloroethene	P	п	. и		15.0	ND	it.	
Tetrachloroethene	п	н			15.0	ND	н	
Surrogate: a,a,a-TFT	"	"	11	65.0-130		84.2	%	
<u>C3-VB3-D</u>			M00200	<u>)3-04</u>			<u>Soil</u>	
Vinyl chloride	0200003	2/3/00	2/4/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	in	н		15.0	ND	ıt	
Trichloroethene	11	II .	н		15.0	ND	H.	
Tetrachloroethene	"	н	rt .		15.0	ND	**	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		73.5	%	
<u>D3-VB3-D</u>			M0020	<u> </u>			<u>Soil</u>	
Vinyl chloride	0200003	2/3-00	2/4/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	II	It		15.0	ND	17	
Trichloroethene	79	It	II		15.0	ND	H	
Tetrachloroethene	11	ır	17		15.0	ND	T7	
Surrogate: a,a,a-TFT	"	H .	<i>u</i> :	65.0-130		95.3	%	
<u>E3-VB2-D</u>			M0020	03-06			Soil	
Vinyl chloride	0200003	2/3,00	2/4/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	fl	п	n		15.0	ND	n	
Trichloroethene	It	n.	71		15.0	ND	н	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

			•				•	
Aspen Environmental. Ltd.		Project:	Cameron-Y	akima Contami	inated Soil Remova	Sampled:	2/3/00	
PO Box 318	Proj	ect Number:				Received:	2/3/00	
Mukilteo, Wa 98275	Proje	ect Manager:	Scott Wald	al		Reported:	2/4/00 09:47	
	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E3-VB2-D (continued)			M00200	3-06			<u>Soil</u>	
Tetrachloroethene	0200003	2/3/00	2/4/00	- <del></del>	15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	" .	n	н	65.0-130		91.7	%	···
E4-SE+5-11'			<u>M0</u> 0200	03-07			Soil	
Vinyl chloride	0200003	2/3/00	2/4/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	**	<b>"</b> .		15.0	ND	, 5	
Trichloroethene	н	*1	71		15.0	ND	*1	
Tetrachloroethene	п	79	h		15.0	ND	н	
Surrogate: a,a,a-TFT	n	11	11	65.0-130		93.8	%	

M002003-08

65.0-130

2/4/00

0200003

2/3/00

E5-SW+5-11'			M002003-09			<u>Soil</u>
Vinyl chloride	0200003	2/3/00	2/4/00	15.0	ND	ug/kg
cis-1,2-Dichloroethene	И	n .	н .	15.0	ND	H .
Trichloroethene	. т	н	n ·	15.0	ND	<b>11</b>
Tetrachloroethene	· n	. 41	It	15.0	27.3	n
Surrogate: a,a,a-TFT	"	77	" 65.0-130		104	%
<u>D5-N-11'</u>			M002003-10			<u>Soil</u>
Vinyl chloride	0200003	2/3/00	2/4/00	15.0	ND	ug/kg

-					4 1	~~~ ~~~ ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
cis-1,2-Dichloroethene	"	If	π .	15.0	ND	"
Trichloroethene		11	15	15.0	ND	**
Tetrachloroethene	<b>H</b>	17	n .	15.0	ND	<b>7</b>
Surrogate: a,a,a-TFT	n	rr	" 65. <b>0</b> -130		100	%
				•		
<u>D5-B6-11'</u>			M002003-11			<u>Soil</u>
Vinyl chloride	0200003	2/3/00	2/4/00	15.0	ND.	ug/kg
cis-1,2-Dichloroethene	et .	п	17	15.0	ND	tt
Trichloroethene	Ħ	ч .	Ħ	15.0	ND	I <del>t</del>

Tetrachloroethene 15.0 ND Surrogate: a,a,a-TFT 65.0-130 94.7

North Creek Analytical, Inc.

E4-SW+5-11'

Vinyl chloride

Trichloroethene

Tetrachloroethene

cis-1,2-Dichloroethene

Surrogate: a,a,a-TFT

\*Refer to end of report for text of notes and definitions.

<u>Soil</u>

ug/kg

ND

ND

ND

ND

84.4

15.0

15.0

15.0

15.0

Kody Phillis, Mobile Lab Chemist

Page 3 of 6

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

							_	
	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*

Aspen Environmental. Ltd.		Project:	Cameron-Yak	ima Contamina	ted Soil Removal	Sampled:	2/3/00	
PO Box 318	) Box 318 Project Number:					Received:	2/3/00	
Mukilteo. Wa 98275	Proje	ct Manager:	Scott Waldal			Reported:	2/4/00 09:47	
D5-E-11'			M002003-1	<u>12</u>			<u>Soil</u>	
Vinyl chloride	0200003	2/3/00	2/4/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	н	п		15.0	ND	н	
Trichloroethene	. "	п	u		15.0	ND	н	
Tetrachloroethene	**		17		15.0	ND	··	.*
Surrogate: a,a,a-TFT	"	ii .	" 6	55.0-130		73.6	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/3/00
PO Box 318	Project Number:		Received:	2/3/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/4/00 09:47

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
70-4-L 0200002	D-4- D.		10		<b>*</b>			_	•
Batch: 0200003	Date Prepa		<u>)0</u>		Extract	ion Method: EP	A 5035N	<u>1</u>	
Blank	0200003-BI	<u>LK.I</u>							
Vinyl chloride	2/4/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene				, ND	н	15.0			
Trichloroethene	11			ND	11	15.0			
Tetrachloroethene	11			ND	n .	15.0			
Surrogate: a,a,a-TFT	, п	40.0		46.2	H	65.0-130	116		
1.00	0200003-B	C1				ř			
LCS				41.6		550 105			
Vinyl chloride	2/4/00	40.0		41.6	ug/kg	75.0-125	104	-	
cis-1,2-Dichloroethene	IF	40.0		34.5		75.0-125	86.3		
Trichloroethene		40.0		30.4	It	75.0-125	76.0		
Tetrachloroethene	IF	40.0		33.6	I!	75.0-125	84.0		
Surrogate: a,a,a-TFT	"	40.0		<i>32.7</i>	"	65.0-130	81.8		
•		٠,							
Matrix Spike	<u>0200003-M</u>		002003-01						
Vinyl chloride	2/4/00	63.5	ND	56.8	ug/kg	75.0-125	89.4		
cis-1,2-Dichloroethene		63.5	ND	55.2	· н	75.0-125	86.9		
Trichloroethene	11	63.5	ND	50.0	. 11	75.0-125	78.7		
Tetrachloroethene	" .	63.5	ND	56.8	71	75.0-125	89.4		
Surrogate: a,a,a-TFT	"	63.5		55.9	"	65.0-130	88.0		
Matrix Spiles Don	0200002 34	ICD1 M	303003 01						
Matrix Spike Dup	0200003-M		002003-01						
Vinyl chloride	2/4/00	67.1	ND	57.9	ug/kg	75.0-125	86.3	20.0	3.53
cis-1,2-Dichloroethene		67.1	ND	50.3	11	75.0-125	<b>75.0</b>	20.0	14.7
Trichloroethene		67.1	ND	51.5	"	75.0-125	76.8	20.0	2.44
Tetrachloroethene		67.1	ND	55.9		75.0-125	83.3	20.0	7.06
Surrogate: a,a.a-TFT	rt	67.I		50.8	Ħ	65.0-130	75.7		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/3/00
PO Box 318	Project Number:		Received:	2/3/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/4/00 09:47

#### **Notes and Definitions**

#	Note	
DET	Analyte DETECTED	
ND	Analyte NOT DETECTED at or above the reporting limit	
NR	Not Reported	
dry	Sample results reported on a dry weight basis	
Recov.	Recovery	
RPD	Relative Percent Difference	

# Report Exceptions List (for internal use only)

· ·	(101 Intornar u	se only)	
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Status is Received	VOC Headspace	M002003-01	
Status is Received	VOC Headspace	M002003-02	
Status is Received	VOC Headspace	M002003-03	•
Status is Received	VOC Headspace	M002003-04	•
Status is Received	VOC Headspace	M002003-05	
Status is Received	VOC Headspace	M002003-06	
Status is Received	VOC Headspace	M002003-07	
Status is Received	VOC Headspace	M002003-08	•
Status is Received	VOC Headspace	M002003-09	
Status is Received	VOC Headspace	M002003-10	4
Status is Received	VOC Headspace	M002003-11	·
Status is Received	VOC Headspace	M002003-12	
Report calculations are based on the MRL			

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/4/00
PO Box 318	Project Number:	•	Received:	2/4/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/7/00 11:08

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
D5-B7-11'	M002004-01	Soil	2/4/00
D5-B8-11'	M002004-02	Soil	2/4/00
E5-SE+5-11'	M002004-03	Soil	2/4/00
D5-E-11'	M002004-04	Soil	2/4/00
D6-W-6'	M002004-05	Soil	2/4/00
E6-W-6'	M002004-06	Soil	2/4/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/4/00
PO Box 318	Project Number:		Received:	2/4/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/7/00 11:08

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed		Limit	Result	Units	Notes*
		· · · · · ·	<del></del>					
<u>D5-B7-11'</u>			M00200	<u>4-01</u>			<u>Soil</u>	<u>1</u>
Vinyl chloride	0200004	2/4/00	2/6/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	п			15.0 -	ND	,, _	
Trichloroethene		п	h		15.0	ND	**	
Tetrachloroethene	R	я	,"		15.0	ND	11	
Surrogate: a,a,a-TFT	rt	"	"	. 65.0-130		56.2	- %	
<u>D5-B8-11'</u>			M00200	<u>4-02</u>			<u>Soil</u>	
Vinyl chloride	0200004	2/4/00	2/6/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	17	n		15.0	ND	"	
Trichloroethene	и	"	11		15.0	ND	It	
Tetrachloroethene	11	я	h	i	15.0	ND	Iţ.	
Surrogate: a,a,a-TFT	#	11	"	65.0-130		90.2	%	
E5-SE+5-11'			M00200	14_03		•	<u>Soil</u>	
Vinyl chloride	0200004	2/4/00	2/6/00	<del>17-03</del>	15:0	ND	ug/kg	
cis-1,2-Dichloroethene	л п	n	2000		15.0	ND	 π≅νβ	
Trichloroethene	n -	н	n		15.0	ND	ır	
Tetrachloroethene	ıı ·	п	н		15.0	ND	10	
Surrogate: a,a,a-TFT	. "	n	п	65.0-130	15.6	84.8	%	
De E (II			********	34.04				
<u>D5-E-11'</u>	0200004	2/4/00	<u>M00200</u>	<del>)4-04</del>			<u>Soil</u>	
Vinyl chloride	0200004	2/4/00	2/6/00	-	15.0	ND	ug/kg "	
cis-1,2-Dichloroethene	11		"		15.0	ND		
Trichloroethene	 H	 H	. "		15.0	ND		
Tetrachloroethene	75				15.0	ND	11	
Surrogate: a,a,a-TFT	,,	"	"	65.0-130		92.5	%	
D6-W-6'			M0020	<u>04-05</u>		·	<u>Soil</u>	
Vinyl chloride	0200004	2/4/00	2/6/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	, ir	11	er .		15.0	ND	n	
Trichloroethene	. 11	**	**	•	15.0	ND	н	
Tetrachloroethene	77	17	*1		15.0	22.3	n	
Surrogate: a,a,a-TFT	"	11	"	65.0-130		90.3	%	•
E6-W-6'			M0020	04_06			<u>Soil</u>	2
Vinyl chloride	0200004	2/4/00	2/6/00	<del>07.00</del>	15.0	ND	ug/kg	£
cis-1,2-Dichloroethene	U200004 ".	2/4/00 n	2/0/00		15.0		ug/kg	
Trichloroethene	**	**	"		15.0	ND	н	
1 Helifologilietie					15.0	ND	**	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/4/00

PO Box 318

Project Number: Received: 2/4/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported; 2/7/00 11:08

Analyte	Batch Number	Date Prepared	Date Analyzed	Surrogate Limits	Reporting Limit	Result	Units	Notes*
E6-W-6' (continued)			M00200	14-0 <u>6</u>			Soil	<u>2</u>
Tetrachloroethene	0200004	2/4/00	2/6/00		15.0	157	ug/kg	_
Surrogate: a,a,a-TFT	"	,	n	65.0-130		19.6	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/4/00
PO Box 318	Project Number:		Received:	2/4/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/7/00 11:08

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% 1	Notes*
Batch: 0200004	Date Prepa	red: 2/4/0	<u>)0</u>		Extract	tion Method: EP	A 5035N	1		
Blank	0200004-BI	LK1	_					-		
Vinyl chloride	2/6/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	n.			ND	"	15.0				
Trichloroethene	It			ND	н	15.0				
Tetrachloroethene	IF.			ND	н	15.0				
Surrogate: a,a,a-TFT	11	40.0		35.5	er .	65.0-130	88.8	***************************************	***************************************	••••
LCS	0200004-B	S1								
Vinyl chloride	2/6/00	<del>-1</del> 0.0		36.1	ug/kg	75.0-125	90.2			
cis-1.2-Dichloroethene	"	<del>1</del> 0.0		34.3	ug ng	75.0-125	85.7			
Trichloroethene	**	+0.0 +0.0		35.8	17	75.0-125	89.5			
Tetrachloroethene	# · ·	40.0		38.6	U	75.0-125	96.5			
Surrogate: a,a,a-TFT	u	40.0		35.8	и	65.0-130	89.5			
Matrix Spike	0200004-M	IŠ1 M	002004-03							
Vinyl chloride	2/6/00	84.4	ND	65.8	ug/kg	75.0-125	78.0			
cis-1,2-Dichloroethene	n	84.4	ND	82.9	ug Mg	75.0-125	98.2			
Trichloroethene	11	84.4	ND	70.7	11	75.0-125	83.8			
Tetrachloroethene	н	84.4	ND	93.2	"	75.0-125	110			
Surrogate: a,a,a-TFT	"	84.4		84.2	,,	65.0-130	99.8			
Matrix Spike Dup	0200004-N	ISD1 M	002004-03							
Vinyl chloride	2/6/00	60.1	ND	42.8	ug/kg	75.0-125	71.2	20.0	9.12	1
cis-1.2-Dichloroethene	"	60.1	ND	55.0	"	75.0-125	91.5	20.0	7.06	•
Trichloroethene	"	60.1	ND	47.7	**	75.0-125	79.4	20.0	5.39	
Tetrachloroethene	**	69.1	ND	60.5	17	75.0-125	101	20.0	8.53	
Surrogate: a,a,a-TFT	"	60.1		53.2	ir	65.0-130	88.5			

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/4/00
PO Box 318	Project Number:		Received:	2/4/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/7/00 11:08

#### Notes and Definitions

#	Note
1	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
2	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

	(101 memai u	se omy)	
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0200004-MSD1	Vinyl chloride
Q-01 (1)	VOC 8021B Screen	0200004-MSD1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Screen	M002004-01	a.a.a-TFT
Q-01 (1)	VOC 8021B Screen	M002004-01	
Exceeds lower control limit	VOC 8021B Screen	M002004-06	a.a,a-TFT
° Q-18 (2)	VOC 8021B Screen	M002004-06	
Status is Received	VOC Headspace	M002004-01	
Status is Received	VOC Headspace	M002004-02	
Status is Received	VOC Headspace	M002004-03	
Status is Received	VOC Headspace	M002004-04	
Status is Received	VOC Headspace	M002004-05	
Status is Received	VOC Headspace	M002004-06	
Report calculations are based on the MRL			

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/8/00
PO Box.318	Project Number:	•	Received:	2/8/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/9/00 08:24

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B6-WD-2'	M002005-01	Soil	2/8/00
B6-WD-4'	M002005-02	Soil	2/8/00
B6-WD-6'	M002005-03	Soil	2/8/00
B6-WD-8'	M002005-04	Soil	2/8/00
B6-WD-10'	M002005-05	Soil	2/8/00
B6-ED-2'	M002005-06	Soil	2/8/00
B6-ED-4'	M002005-07	Soil	2/8/00
B6-ED-6'	M002005-08	Soil	2/8/00
B6-ED-8'	M002005-09	Soil .	2/8/00
B6-ED-10'	M002005-10	Soii	2/8/00

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/8/00
PO Box 318	Project Number:		Received:	2/8/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/9/00 08:24

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
		······	<del></del>					
<u>B6-WD-2'</u>			M00200	<u>15-01</u>			<u>Soil</u>	<u>1</u>
Vinyl chloride	0200005	2/8.00	2/9/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	и .	n ,	**		15.0	ND	17	
Trichloroethene	и .	(† :	••		15.0	ND	n	
Tetrachloroethene	n	17	h .	-	15.0	184	н	
Surrogate: a,a,a-TFT	TF.	n	п	65.0-130		61.8	%	
B6-WD-4'			M00200	<u>05-02</u>			<u>Soil</u>	
Vinyl chloride	0200005	2/8/00	- 2/9/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	†1	17	п		15.0	ND	n	
Trichloroethene	11	17			15.0	ND	п	
Tetrachloroethene	п	#	u		15.0	51.4	11	
Surrogate: a,a,a-TFT	"	31	u .	65.0-130	, mmein	72.8	%	
B6-WD-6'			M00200	05-03	•		Soil	1
Vinyl chloride	0200005	2/8/00	2/9/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	' 4	T†	п		15.0	ND	"	
Trichloroethene	It	n	17		15.0	ND	**	
Tetrachloroethene	: 16	ц	"		15.0	41.7	"	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		61.3	%	
B6-WD-8'	•		M0020	05-04			Soil	
Vinyl chloride	0200005	2/8/00	2/9/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	71	н		15.0	ND	,, ,	
Trichloroethene	- "	<b>n</b> .	11		15.0	ND	11	
Tetrachloroethene	II.	11	**		15.0	ND	**	
Surrogate: a,a,a-TFT	" "	ir.	n	65.0-130		95.3	%	
B6-WD-10'			M0020	<u>05-05</u>			Soil	
Vinyl chloride	0200005	2/8.00	2/9/00		. 15.0	ND	ug/kg	
cis-1,2-Dichloroethene	и	71	**		15.0	ND	"	
Trichloroethene	TI.	n	PT		15.0	ND	**	
Tetrachloroethene	11	II .	. ш		15.0	ND	et.	
Surrogate: a,a,a-TFT	n .	"	"	65.0-130		84.1	%	
B6-ED-2'			M0020	<u>05-06</u>			Soil	1
Vinyl chloride	0200005	2/8/00	2/9/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	rt	н	п		15.0	ND	11	
Trichloroethene	"	п	п		15.0	ND	н	
					14.0	2.2		

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/8/00
PO Box 318	Project Number:	•	Received:	2/8/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/9/00 08:24

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
B6-ED-2' (continued)			M00200	<u> </u>	•		Soil	1
Tetrachloroethene	0200005	2/8.00	2/9/00	· -	15.0	59.5	ug/kg	_ ,
Surrogate: a,a,a-TFT	"	"	11	65.0-130		61.3	%	
B6-ED-4'			M00200	<u> </u>	•		<u>Soil</u>	
Vinyl chloride	0200005	2/8:00	2/9/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	н	"		15.0	ND	"	
Trichloroethene	11	и .	n .		15.0	ND	и	
Tetrachloroethene	IT		н		15.0	ND	u .	
Surrogate: a,a,a-TFT	11	. "	Ħ	65.0-130		72.0	%	
B6-ED-6'			M0020	<u>)5-08</u>			Soil	
Vinyl chloride	0200005	2/8/00	2/9/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	11	11		15.0	ND	п	
Trichloroethene	п	ń	ц		15.0	ND ·	II.	
Tetrachloroethene	te.	II	n		15.0	82.9	17	
Surrogate: a,a,a-TFT	11	"	"	65.0-130		89.8	%	
B6-ED-8'			M0020	05-0 <u>9</u>			<u>Soil</u>	1
Vinyl chloride	0200005	2/8/00	2/9/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	17	n	17		15.0	ND	п	
Trichloroethene	**	T¥	Ħ		15.0	16.2	n .	
Tetrachloroethene	f1	11	"		15.0	387	n	
Surrogate: a.a.a-TFT	"	"	"	65.0-130		50.8	%	
B6-ED-10'			M0020	05-10 ·			<u>Soil</u>	
Vinyl chloride	0200005	2/8/00	2/9/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	ц	11		15.0	ND	,, ,	
Trichloroethene	17	***	17		15.0	ND	н	
Tetrachloroethene	**	r <del>t</del>	17		15.0	24.9	п	
Surrogate: a,a,a-TFT	"	".	"	65.0-130		91.0	%	

North Creek Analytical, Inc.

PO Box 318 Project Number: Received: 2/8/00 Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 2/9/00 08:24	Aspen Environmental. Ltd.		Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/8/00
Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 2/9/00 08:24	PO Box 318	Pr	roject Number:		Received:	2/8/00
	Mukilteo, Wa 98275	Pre	oject Manager:	Scott Waldal	Reported:	2/9/00 08:24

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result ·	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 0200005	Date Prepa	red: 2/8/0	<u>)0</u>		Extract	tion Method: EPA	A 5035N	4		
<u>Blank</u>	0200005-BI	<u>LK1</u>						_		
Vinyl chloride	2/9/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	11	•		ND ·	11	15.0				
Trichloroethene	н			ND	*1	15.0				
Tetrachloroethene	н			ND	***	15.0				
Surrogate: a,a,a-TFT	"	40.0		41.4	,,	65.0-130	104			
LCS	0200005-B	12:				•				
Vinyl chloride	2/9/00	40.0		44.3	ug/kg	75.0-125	111			
cis-1,2-Dichloroethene	"	40.0		37.9	ug ng	75.0-125	94.8			
Trichloroethene	11	40.0		34.9	п	75.0-125	87.3			
Tetrachloroethene	n ·	40.0		38.7	**	75.0-125	96.8			
Surrogate: a,a,a-TFT		40.0		39.1	"	65.0-130	97.7			
Matrix Spike	0200005-M	1S1 M	002005-07							
Vinyl chloride	2/9/00	62.9	ND	31.3	ug/kg	75.0-125	49.8			2
cis-1,2-Dichloroethene	2) ) ( O O	62.9	ND	42.9	ug/Kg	75.0-125	68.2			2 2
Trichloroethene	ti .	62.9	ND.	39.3		75.0-125	62.5			2
Tetrachloroethene	н	62.9	ND.	63.2	**	75.0-125	100			
Surrogate: a.a.a-TFT	n	62.9	.,,	34.3	"	65.0-130	54.5			2
Matrix Spike Dup	0200005-M	teni M	002005-07							
Vinyl chloride	2/9/00	72.5	ND	38.9	uza/lea	75.0-125	53.7	20.0	7.54	1
cis-1.2-Dichloroethene	2/3/00	72.5 72.5	ND	56.9	ug/kg	75.0-125	78.5	20.0		2 2
Trichloroethene	**	72.5 72.5	ND ND	52.2	11	75.0-125	72.0	20.0	14.0 14.1	
Tetrachloroethene	11	72.5 72.5	ND ND	32.2 82.1	19	75.0-125 75.0-125	113	20.0		2
Surrogate: a.a.a-TFT	п	72.5		44.9		<del></del>		∠0.0	12.2	2
surroguie. u,u,u=11·1		12.0		44.9		65.0-130	61.9			2

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/8/00
PO Box 318	Project Number:	•	Received:	2/8/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/9/00 08:24

#### Notes and Definitions

=	Note
I	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND .	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
ďry .	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

	tioi internal u	sc omy)	
Exception	Analysis or Specific Method	<u>Lab Number</u>	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0200005-MS1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0200005-MS1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0200005-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0200005-MS1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0200005-MS1	a.a.a-TFT
Q-01 (2)	VOC 8021B Screen	0200005-MS1	cis-1,2-Dichloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MS1	Tetrachloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MS1	Trichloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MS1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Streen	0200005-MSD1	a.a.a-TFT
Exceeds lower control limit	VOC 8021B Screen	0200005-MSD1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0200005-MSD1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0200005-MSD1	a.a.a-TFT
Q-01 (2)	VOC 8021B Screen	0200005-MSD1	cis-1.2-Dichloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MSD1	Tetrachloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MSD1	Trichloroethene
Q-01 (2)	VOC 8021B Screen	0200005-MSD1	Vinyl chloride
Exceeds lower control limit	VOC 8021B Screen	M002005-01	a,a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002005-01	
Exceeds lower control limit	VOC 8021B Screen	M002005-03	a,a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002005-03	
Exceeds lower control limit	VOC 8021B Screen	M002005-06	a.a.a-TFT
Q-18 (1)	VOC 8021B Screen	. M002005-06	•
Exceeds lower control limit	VOC 8021B Screen	M002005-09	a,a,a-TFT
Q-18(1)	VOC 8021B Screen	M002005-09	
Status is Received	VOC Headspace	M002005-01	
Status is Received	VOC Headspace	M002005-02	
Status is Received	VOC Headspace	M002005-03	
Status is Received	VOC Headspace	M002005-04	
Status is Received	VOC Headspace	M002005-05	
Status is Received	VOC Headspace	M002005-06	
Status is Received	VOC Headspace	M002005-07	
Status is Received	VOC Headspace	M002005-08	• .
Status is Received	VOC Headspace	M002005-09	
Status is Received	VOC Headspace	M002005-10	e e
Report calculations are based on the MRL		•	•

Aspen Environmental. Ltd.	. Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/10/00
PO Box 318	Project Number:	•	Received:	2/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/11/00 08:12
		· ·		

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B5-B1-3'	M002006-01	Soil	2/10/00
B5-B2-3'	M002006-02	Soil	2/10/00
B5-B3-3'	M002006-4)3	Soil	2/10/00
B5-B4-3'	M002006-04	Soil	2/10/00
B5-B5-3'	M002006-05	Soil	2/10/00
C6-WD-2'	M002006-06	Soil	2/10/00
C6-WD-4'	M002006-07	Soil	2/10/00
C6-WD-6'	M002006-08	Soil	2/10/00
C6-WD-8'	M002006-09	Soil	2/10/00
C6-WD-10'	M002006-10	Soil	2/10/00

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal Sampled:	2/10/00
PO Box 318	Project Number:	. Received:	2/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal Reported:	2/11/00 08:12

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>B5-B1-3'</u>			M00200	<u>)6-01</u>			<u>Soil</u>	-
Vinyl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cîs-1.2-Dichloroethene	IT	ч	n		15.0	ND	п	
Trichloroethene	u ·	11	. "		15.0	ND	п	
Tetrachloroethene	(1)	**	1)		15.0	30.6	16	
Surrogate: a,a,a-TFT	it.	. 11	11	65.0-130		69.3	%	_
							•	
<u>B5-B2-3'</u>			M00200	<u>)6-02</u>			<u>Soil</u>	
Vinyl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	II .		17		15.0	ND	11	
Trichloroethene	ur ,	47	**		15.0	ND	11	
Tetrachloroethene	17	. 15	***		15.0	102	It	
Surrogate: a,a,a-TFT	и	n	#	65.0-130		45.9	%	
ne na al			3.500000	26.02				
<u>B5-B3-3'</u>	0200007	2/10/00	M00200	<u>16-03</u>			<u>Soil</u>	
Vinyl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	ri ri	и		15.0	ND	Ħ	
Trichloroethene	n.		,,		15.0	ND		
Tetrachloroethene	"	<u>"</u>	"		15.0	ND	11	
Surrogate: a,a,a-TFT			"	65.0-130		82.8	%	
B5-B4-3'			M00200	06-04			<u>Soil</u>	
Vinyl chloride	0200006	2/10/00	2/11/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	n	19		15.0	ND	ug Rg	
Trichloroethene	71	n	11		15.0	ND	11	
Tetrachloroethene	71	н	17		15.0	ND	n	
Surrogate: a,a,a-TFT	n	4	"	65.0-130	15.0	84.7	%	
				0010 100		01.7	,,,	
B5-B5-31			M00200	<u>06-05</u>			<u>Soil</u>	
Vinvl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	It	**	n .		15.0	ND	"	
Trichloroethene	**	37	n		15.0	ND	le .	
Tetrachloroethene	н .	н .	п		15.0	ND	r <del>t</del>	
Surrogate: a.a.a-TFT	"	1f	н	65.0-130		86.2	%	
-							-	
<u>C6-WD-2'</u>			M00200	<u>06-06</u>			<u>Soil</u>	
Vinyl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n		)ı		15.0	ND	"	
Trichloroethene	19	17	н .		15.0	ND	II	
	•							

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated	Soil Removal Sampled:	2/10/00	
PO Box 318	Project Number:	•	Received:	2/10/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/11/00 08:12	

	• •							
-	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes'
C6-WD-2' (continued)			M00200	<u> 6-06</u>			<u>Soil</u>	
Tetrachloroethene .	0200006	2/10/00	2/11/00		15.0	60.4	ug/kg	
Surrogate: a,a,a-TFT	"	,,	"	65.0-130		102	%	
<u>C6-WD-4'</u>			M00200	06-0 <u>7</u>			<u>Soil</u>	
Vinyl chloride	0200006	2.10/00	2/11/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	11	11		15.0	ND		
Trichloroethene	11	**	II .		15.0	ND	**	
Tetrachloroethene	H	7 <b>1</b>	lt .		15.0	72.8	11	
Surrogate: a,a,a-TFT	re	77	"	65.0-130		85.8	%	
C6-WD-6'			M00200	16-08			Soil	
Vinyl chloride	0200006	2/10/00	2/11/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	**	It .	•	15.0	ND	4	
Trichloroethene	11	21	· It		15.0	ND	11	
Tetrachloroethene	tţ	"	17		15.0	60.6	Ħ	
Surrogate: a,a,a-TFT	"	,,	"	65.0-130		75.5	%	·····
C6-WD-8'			M00200	36.00		-	Soil	
Vinyl chloride	0200006	2/10/00	2/11/00	<del>70-05</del>	15.0	ND	. —	
cis-1,2-Dichloroethene	0200000	2/10/00	2/11/00				ug/kg "	
Trichloroethene	11	н	lt .		15.0	ND	71	
	1t	4	. ,		15.0	ND	,,	
Tetrachloroethene	"	и	"	(5.0.130	15.0	50.4		
Surrogate: a,a,a-TFT				65.0-130		73.9	%	
<u>C6-WD-10'</u>			M0020	<u>06-10</u>			<u>Soil</u>	
Vinyl chloride	0200006	2/10/00	2/11/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	. н	IT	n		15.0	ND	11	
Trichloroethene	11	17	н		15.0	ND	**	
Tetrachloroethene	п		п		15.0	ND	n -	
Surrogate: a,a,a-TFT	Tr.	**	п	65.0-130		112	%	
	· · · · · · · · · · · · · · · · · · ·							

North Creek Analytical, Inc.

Aspen Environmental, Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/10/00

PO Box 318

Project Number: Received: 2/10/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/11/00 08:12

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Levei	Result	Result	Units	Recov. Limits	. %	Limit	% Notes*
Batch: 0200006	Date Prepa	red: 2/16	1/00		Extract	tion Method: EPA	4 50351	Л	
Blank	0200006-B		<del>2. 3 9</del>		DATIBLE	don meenod. En	<u> 1</u> 50551	<u> </u>	
Vinvl chloride	2/11/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	и ,			ND	"	15.0			
Trichloroethene	**			ND	41	15.0			
Tetrachloroethene	11			ND	19	15.0			
Surrogate: a,a,a-TFT	. "	40.0		36.8	,,	65.0-130	92.0		
LCS	0200006-E	S1							
Vinyl chloride	2/11/00	40.0		36.8	ug/kg	75.0-125	92.0		•
cis-1,2-Dichloroethene	11	40.0		37.4		75.0-125	93.5		
Trichloroethene	11	40.0		35.2	17	75.0-125	88.0		
Tetrachloroethene	17	40.0		37.6	**	75.0-125	94.0		
Surrogate: a,a,a-TFT	rt .	40.0		47.0	. "	65.0-130	118		
Matrix Spike	0200006-N	ASI M	002006-04						
Vinyl chloride	2/11/00	46.i	ND	35.7	ug/kg -	75.0-125	77.4		
cis-1.2-Dichloroethene	11	46.1	ND	44.4	"	75.0-125	96.3		
Trichloroethene	11	46.1	ND	37.4	n	75.0-125	81.1		
Tetrachloroethene	п.	<del>1</del> 6.1	ND	52.0	ш	75.0-125	113		
Surrogate: a,u,a-TFT	"	46.i		41.2	"	65.0-130	89.4	·	
Matrix Spike Dup	0200006-N	ASD1 M	1002006-04						
Vinyl chloride	2/11/00	42.7	ND	35.8	ug/kg	75.0-125	83.8	20.0	7.94
cis-1,2-Dichloroethene	n -	42.7	ND	42.6	12 VE	75.0-125	99.8	20.0	3.57
Trichloroethene		42.7	ND	36.2	11	75.0-125	84.8	20.0	4.46
Tetrachloroethene	· n	42.7	ND	48.4	11	75.0-125	113	20.0	0
Surrogate: a,a,a-TFT	. и	42.7		39.0	**	65.0-130	91.3		<u> </u>

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/10/00
PO Box 318	Project Number:		Received:	2/10/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/11/00 08:12

#### **Notes and Definitions**

#	Note
1	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number
Exceeds lower control limit	VOC 8021B Screen	M002006-02
Q-18 (1)	VOC 8021B Screen	M002006-02
Status is Received	VOC Headspace	M002006-01
Status is Received	VOC Headspace	M002006-02
Status is Received	VOC Headspace	M002006-03
Status is Received	VOC Headspace	M002006-04
Status is Received	VOC Headspace	M002006-05
Status is Received	VOC Headspace	M002006-06
Status is Received	VOC Headspace	M002006-07
Status is Received	VOC Headspace	M002006-08
Status is Received	VOC Headspace	M002006-09
Status is Received	VOC Headspace	M002006-10
Report calculations are based on the MRL		

#### Analyte or General Method

a,a,a-TFT a,a,a-TFT Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/11/00

PO Box 318

Project Number: Received: 2/11/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/14/00 12:58

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C6-ED-2'	M002007-01	Soil	· 2/11/00
C6-ED-4'	M002007-02	Soil	2/11/00
C6-ED-6'	M002007-03	Soil	2/11/00
C6-ED-8'	M002007-04	Soil	2/11/00
C6-ED-10'	M002007-05	Soil	2/11/00

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/11/00
PO Box 318	Project Number:		Received:	2/11/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/14/00 12:58

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
C6-ED-2'			M00200	7-01	•		Soil	1
Vinyl chloride	0200007	2/11 00	2/14/00		15.0	ND	ug/kg	Δ.
cis-1,2-Dichloroethene	. "	11	"		15.0	ND	ii Gere	
Trichloroethene	UT.		n		15.0	ND	n	•
Tetrachloroethene	**	"	u		15.0	15.7	r	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		62.8	%	
<u>C6-ED-4'</u>			M00200	7-02			<u>Soil</u>	
Vinyl chloride	0200007	2/11 00	2/14/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	st	п		15.0	ND	"	
Trichloroethene	и .	"	ü		15.0	ND	tf	
Tetrachloroethene	n	"	10		15.0	ND	स	
Surrogate: a,a,a-TFT	и .	11	rt-	65.0-130		88.8	%	
<u>C6-ED-6'</u>	•		M00200	<u> </u>			<u>Soil</u>	
Vinyl chloride	0200007	2/11 00	2/14/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	н	п		15.0	ND	"	
Trichloroethene	u	II	11		15.0	ND	17	*
Tetrachloroethene	**	If	II		15.0	ND	17	
Surrogate: a,a,a-TFT	<i>n</i>	"	"	65.0-130		95.3	%	
C6-ED-8'		<b>.</b>	M0020	07-04			<u>Soil</u>	
Vinyl chloride	0200007	2/11.00	2/14/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	IT	Ħ	п		15.0	ND	"	
Trichloroethene	ır	n	" .		15.0	ND	tt.	
Tetrachloroethene	IT	н	"		15.0	ND	17	
Surrogate: a,a,a-TFT	"	" .	11	65.0-130		98.7	%	
<u>C6-ED-10'</u>			M0020	<u> </u>			Soil	
Vinyl chloride	0200007	2/11 00	2/14/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	17	**		15.0	ND	,, ,	
Trichloroethene	11	**	"		15.0	ND	n	
Tetrachloroethene	11	п	77		15.0	19.7	ч	
Surrogate: a,a,a-TFT	μ	11		65.0-130		94.5	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/11/00	
PO Box 318	Project Number:	•	Received:	2/11/00	
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/14/00 12:58	

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC ·	F	Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 0200007	Date Prepa		<u>/00</u>	•	Extract	ion Method: EP	<u> 4 5035N</u>	<u>1</u>		
Blank	0200007-BI	<u>_K1</u>								
Vinyl chloride	2/14/00			ND	ug/kg	15.0		•		
cis-1,2-Dichloroethene	"			ND	11	15.0				
Trichloroethene	"			ND	И	15.0				
Tetrachloroethene	n			ND	11	15.0				
Surrogate: a,a,a-TFT	II .	40.0		37.9	H	65.0-130	94.8	'		
LCS	<u>0200007-B</u>	<u>S1</u>	\$							
Vinyl chloride	2/14/00	40.0		36.3	ug/kg	75.0-125	90.7			
cis-1,2-Dichloroethene	t <del>t</del>	40.0		36.2	" .	75.0-125	90.5			
Trichloroethene	27	40.0		33.7	п	75.0-125	84.3			
Tetrachloroethene	es	40.0		35.1	17	75.0-125	87.7			
Surrogate: a,a,a-TFT	11	40.0		45.8	"	65.0-130	114			
Matrix Spike	0200007-M	IS1 M	002007-05							
Vinyl chloride	2/14/00	48.8	ND	41.1	ug/kg	75.0-125	84.2			
cis-1,2-Dichloroethene	II .	48.8	ND	53.9	"	75.0-125	110	-		
Trichloroethene	u	48.8	ND	44.4	11	75.0-125	91.0			
Tetrachloroethene	<b>n</b> .	48.8	19.7	65.4	11	75.0-125	93.6			
Surrogate: a,a,a-TFT	<i>11</i> ·	48.8		47.7	"	65.0-130	97.7			
Matrix Spike Dup	0200007-M	ISD1 M	002007-05	•						
Vinyl chloride	2/14/00	46.2	ND	39.3	ug/kg	75.0-125	85.1	20.0	1.06	
cis-1,2-Dichloroethene	11	46.2	ND	52.4	" us vs	75.0-125	113	20.0	2.69	
Trichloroethene	n	46.2	ND	42.3	n	75.0-125	91.6	20.0	0.657	
Tetrachloroethene	71	46.2	19.7	73.3	**	75.0-125	116	20.0	21.4	2
Surrogate: a,a,a-TFT		46.2		44.7	"	65.0-130	96.8	20.0	21.7	

North Creek Analytical, Inc.

Aspen Environmental, Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/11/00
PO Box 318	Project Number:		Received:	2/11/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/14/00 12:58

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number
Exceeds RPD limit	VOC 8021B Screen	0200007-MSD1
Q-01 (2)	VOC 8021B Screen	0200007-MSD1
Exceeds lower control limit	VOC 8021B Screen	M002007-01
Q-18 (1)	VOC 8021B Screen	M002007-01
Status is Received	VOC Headspace	M002007-01
Status is Received	VOC Headspace	M002007-02
Status is Received	VOC Headspace	M002007-03
Status is Received	VOC Headspace	M002007-04
Status is Received	VOC Headspace	M002007-05
Report calculations are based on the MRL		

# Analyte or General Method Tetrachloroethene

Tetrachloroethene Tetrachloroethene a,a,a-TFT Aspen Environmental. Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/15/00

PO Box 318

Project Number: Received: 2/15/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/16/00 09:32

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C6-B2-3'	M002010-01	Soil	2/15/00
C6-B3-3'	M002010-02	Soil	2/15/00
C6-B4-3'	M002010-03	Soil	2/15/00
C6-B5-3'	M002010-04	Soil	2/15/00
D6-CARBON-3'	M002010-05	Soil	2/15/00
C6-B1-4'	M002010-06	Soil	2/15/00
C6-B6-4'	M002010-07	Soil	2/15/00
D6-B1-4'	M002010-08	Soil	2/15/00
D6-B2-4'	M002010-09	Soil	2/15/00
E6-B1-4'	M002010-10	Soil	2/15/00
E6-B2-4'	M002010-11	Soil	2/15/00

PO Box 318 Project Number: Received: 2/15/00 Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 2/16/00 09:32	Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Remova	Sampled:	2/15/00-
Mukilteo, Wa 98275 Project Manager: Scott Waldal Reported: 2/16/00 09:32	PO Box 318	Project Number:	•.	Received:	2/15/00
	Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/16/00 09:32

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

·	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
CC B3 21			3.600301	0.01			0.0	
C6-B2-3' Vinyl chloride	0200009	2/15/00	<u>M00201</u> 2/16/00	<u>v-v1</u>	15.0	NID	Soil	
cis-1,2-Dichloroethene	0200009	2/13/00	2/10/00		4	ND	ug/kg "	
Trichloroethene	11	11	**		15.0	ND	11	
Tetrachloroethene	ıt	17	,		15.0	ND	n	
	п	n		CE 0 110	15.0	ND		
Surrogate: a,a,a-TFT				65.0-130		88.0	%	
C6-B3-3'			M00201	0-02			Soil	
Vinyl chloride	0200009	2/15/00	2/16/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	n n			15.0	ND	" " " " "	,
Trichloroethene	11	11	**		15.0	ND	œ	
Tetrachloroethene	n	tT	n ,		15.0	52.0		
Surrogate: a,a,a-TFT	п	"	н	65.0-130	10.0	71.2	%	
					*		•	
<u>C6-B4-3'</u>			M00201	<u>10-03</u>			<u>Soil</u>	
Vinyl chloride	0200009	2/15/00	2/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	(1)	11		15.0	ND	η	
Trichloroethene	rr	н	п		15.0	. ND	jn.	
Tetrachloroethene	n .	н .			15.0	ND		•
Surrogate: a,a,a-TFT	#	"	"	65.0-130		78.8	%	
<u>C6-B5-3'</u>			M00201	10.04			<u>Soil</u>	
Vinyl chloride	0200009	2/15/00	2/16/00	10-04	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	77	2/10/00		15.0	ND	n nak k k	
Trichloroethene	n .	- **	11		15.0		n	
Tetrachioroethene	п	**	n		15.0	ND	п	
Surrogate: a,a,a-TFT	п	и	· ,,	65.0-130	13.0	ND 128	%	
·				05.0-150	•	. 120	, 70	
D6-CARBON-3'			M00201	<u>10-05</u>			<u>Soil</u>	1
Vinyl chloride	0200009	2/15/00	2/16/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	17	п	If		15.0	ND	"55	
Trichloroethene		и,	17		15.0	ND	**	•
Tetrachloroethene	19	T <del>†</del>	19		15.0	ND	19	
Surrogate: a,a,a-TFT	п	n	п	65.0-130		27.5	%	·
CC D1 II				10.04				
<u>C6-B1-4'</u>	0000000	2115100	M00201	<u>10-06</u>			<u>Soil</u>	
Vinyl chloride	0200009	2/15/00	2/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	tr	ji	Ü		15.0	ND	II.	
Trichloroethene	It	н .	н		15.0	ND	It	

North Creek Analytical, Inc.

Aspen Environmental, Ltd.		Projecti	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/15/00
PO Box 318		Project Number:		Received:	2/15/00
Mukilteo, Wa 98275	1	Project Manager:	Scott Waldal	Reported:	2/16/00 09:32

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes
C6-B1-4' (continued)			M00201	0-06			Soil	
Tetrachloroethene	0200009	2/15.00	2/16/00		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	n	"	"	65.0-130	1717	85.3	%	
						****		,
C6-B6-4'	:		M00201	.0-07			<u>Soil</u>	1
Vinyl chloride	0200009	2/15.60	2/16/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	**	и .	n		15.0	ND	" "	
Trichloroethene	**	ц	, n		15.0	ND	n	
Tetrachloroethene	n	ii.	п		15.0	210	n	
Surrogate: a,a,a-TFT	n	n	Ħ	65.0-130		64.4	%	
D6-B1-4'			M00201	0.00			Cail	
Vinyl chloride	0200009	2/15 00	2/16/00	<u>-U-U0</u>	15.0	ND	Soil	
cis-1,2-Dichloroethene	11	2/13 <b>()()</b>	2/10/00		15.0	ND	ug/kg "	
Trichloroethene	It		11		15.0	ND ND	10	
Tetrachloroethene	n	ŧ <del>1</del>			15.0	ND ND	,,	
Surrogate: a,a,a-TFT		,,	"	65.0-130	15.0	81.3	%	
Surrogate: u,u,u-1F1				05.0-150		61.3	%	
<u>D6-B2-4</u> <sup>†</sup>			M00201	10-09		.*	Soil .	
Vinyl chloride	0200009	2/15.00°	2/16/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	19	. 11	"	٠.	15.0	ND	H .	
Trichloroethene	"	li .	"		15.0	ND	II .	
Tetrachloroethene	".	11	ч		15.0	23.4	n	
Surrogate: a,a,a-TFT	u .	ıı .	n	65.0-130		89.0	%	
E6-B1 <u>-4'</u>			M0020	18-10			<u>Soil</u>	
Vinyl chloride	0200009	2/15/00	2/16/00	V IV	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	"	b		15.0	ND	ug Ke	
Trichloroethene	tt.	n	n		15.0	ND	п	
Tetrachloroethene	(1)	n	п		15.0	ND	н	
Surrogate: a,a,a-TFT	"	II	n	65.0-130	13.70	82.5	%	
		. *						•
<u>E6-B2-4'</u>			M0020	<u>10-11</u>			<u>Soil</u>	
Vinyl chloride	0200009	2/15/00	2/16/00		15.0	. ND	ug/kg	
cis-1,2-Dichloroethene	H	ff .	tr		15.0	ND	н	
Trichloroethene	n	17			15.0	ND	11.	•
Tetrachloroethene	11	**	"		15.0	ND	**	
Surrogate: a,a,a-TFT	"	"	п	65.0-130		85.8	%	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.	Project;	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/15/00
PO Box 318	Project Number:		Received:	2/15/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/16/00 09:32

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	F	Reporting Limit	Recov.	RPD	RPD
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Notes*
Batch: 0200009	<u>Date Prepa</u>	red: 2/15	/00		Extract	ion Method: El	PA 5035N	Л	
Blank	0200009-B	LK1						-	
Vinyl chloride	2/16/00			ND	ug/kg	15.0			
cis-1,2-Dichloroethene	lt.			ND		15.0			
Trichloroethene	17 .			ND	, Di	15.0			
Tetrachloroethene				ND	п	15.0			
Surrogate: a,a,a-TFT	ff.	40.0		38.8	77	65.0-130	97.0		<del></del>
LCS	<u>0200009-B</u>	<u>S1</u>							
Vinyl chloride	2/16/00	<del>-1</del> 0.0		30.5	ug/kg	75.0-125	76.3		
cis-1,2-Dichloroethene	.111-	40.0		37.0	m .	75.0-125	92.5		
Trichloroethene	n .	40.0		33.8	**	75.0-125	84.5		
Tetrachloroethene	11	40.0		35.2	Ħ	75.0-125	88.0		
Surrogate: a,a,a-TFT	"	40.0		33.8	"	65.0-130	84.5		
Matrix Spike	0200009-M	<u>IS1</u> M	002010-04						
Vinyl chloride	2/16/00	65.8	ND	59.2	ug/kg	75.0-125	90.0		
cis-1,2-Dichloroethene	Ħ	65.8	ND	61.8	"	75.0-125			
Trichloroethene	" -	65.8	ND	55.6	n	75.0-125	84.5		
Tetrachloroethene	. *1	65.8	ND	68.1	19	75.0-125	103		
Surrogate: a,a,a-TFT	"	65.8		58.9	"	65.0-130	89.5		
Matrix Spike Dup	0200009-M	ISD1 M	002010-04	• .					
Vinyl chloride	2/16/00	63.1	ND	52.2	ug/kg	75.0-125	82.7	20.0	8.45
cis-1,2-Dichloroethene	. "	63.1	ND	65.1	11	75.0-125		20.0	9.24
Trichloroethene	11	63.1	ND	56.0	Ħ	75.0-125		20.0	4.85
Tetrachloroethene	п	63.1	ND	69.6	н	75.0-125		20.0	6.57
Surrogate: a,a,a-TFT	п	63.1	Rith the street of the street	60.9	. п	65.0-130	96.5		3.07

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated	Soil Removal Sampled:	2/15/00
PO Box 318	Project Number:	· · · · · · · · · · · · · · · · · · ·	Received:	2/15/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/1,6/00 09:32

# Notes and Definitions

Note		
The surrogate recovery for this sample is out of NCA established control limits, which sample matrix.	n may be due to carbon	particles in the
Analyte DETECTED		2
Analyte NOT DETECTED at or above the reporting limit		
Not Reported		
Sample results reported on a dry weight basis		
Recovery		
Relative Percent Difference		
	The surrogate recovery for this sample is out of NCA established control limits, which sample matrix.  Analyte DETECTED  Analyte NOT DETECTED at or above the reporting limit  Not Reported  Sample results reported on a dry weight basis  Recovery	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon sample matrix.  Analyte DETECTED  Analyte NOT DETECTED at or above the reporting limit  Not Reported  Sample results reported on a dry weight basis  Recovery

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	M002010-05	a,a,a-TFT
O-18 (1)	VOC 8021B Screen	M002010-05 M002010-05	a,a,a-11 1
Exceeds lower control limit	VOC 8021B Screen	M002010-03	a.a.a-TFT
O-18 (1)	VOC 8021B Screen	M002010-07	_ a,a,a-11 1
Status is Received	VOC Headspace	M002010-07	
Status is Received	VOC Headspace	M002010-01	·
Status is Received	VOC Headspace	M002010-02 M002010-03	
Status is Received	VOC Headspace	M002010-03	
Status is Received	VOC Headspace	M002010-05	•
Status is Received	VOC Headspace	M002010-05	
Status is Received	VOC Headspace	M002010-07	•
Status is Received	VOC Headspace	M002010-08	
Status is Received	VOC Headspace	M002010-09	
Status is Received	VOC Headspace	M002010-10	
Status is Received	VOC Headspace	M002010-11	•
Report calculations are based on the MRL		1,1002010-11	

Aspen Environmental, Ltd.

Project: Cameron-Yakima Contaminated Soil Removal Sampled: 2/17/00

PO Box 318

Project Number: Received: 2/17/00

Mukilteo, Wa 98275

Project Manager: Scott Waldal Reported: 2/17/00 21:28

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E6-B4-4'	M002012-01	Soil	. 2/17/00
E6-B3-4'	M002012-02	Soil	2/17/00
D6-B3-4'	M002012-03	Soil	2/17/00
D6-B4-4'	M002012-04	Soil	2/17/00
D6-B5-4'	M002012-05	Soil	2/17/00
D6-B6-4'	M002012-06	Soil	2/17/00
E6-ED-2'	M002012-07	Soil	2/17/00
E6-ED-4'	M002012-08	Soil	2/17/00
E6-ED-6'	M002012-09	Soil	2/17/00
E6-ED-8'	M002012-10	Soil	2/17/00
E6-ED-10'	M002012-11	Soil	2/17/00
E6-B5-4'	M002012-12	Soil	2/17/00
E6-B6-4'	M002012-13	Soil	2/17/00

North Creek Analytical, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental, Ltd.	Project.	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/17/00
PO Box 318	Project Number:	•	Received:	2/17/00
Mukilteo, Wa 98275	Project Marager:	Scott Waldal	Reported:	2/17/00 21:28

#### VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

	Batch	Date	Date	Surrogate	Reporting			•
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
DC B4 (I			3.5000010	0.1	•		~	
<u>E6-B4-4'</u>	0200011	2.15.00	M002012	<u>-01</u>			<u>Soil</u>	
Vinyl chloride	0200011	2/17/00	2/17/00		15.0	ND	ug/kg "	
cis-1,2-Dichloroethene	. "	'n			15.0	ND		
Trichloroethene			" "		15.0	ND		
Tetrachloroethene			"		15.0	ND	ti .	
Surrogate: a,a,a-TFT			"	65.0-130		78.8	%	
E6-B3-4'			M002012	-02			<u>Soil</u>	<u>1</u>
Vinyl chloride	0200011	2/17/00	2/17/00		15.0	ND	ug/kg	· -
cis-1,2-Dichloroethene	n	п	"		15.0	ND	" "	
Trichloroethene	**	ц	**	•	15.0	ND	t <del>!</del>	
Tetrachloroethene	#	11	н		15.0	ND	11	
Surrogate: a,a,a-TFT	n	17	"	65.0-130	15.0	60.7	%	
<u>D6-B3-4'</u>			M002012	<u>-03</u>			<u>Soil</u>	
Vinyl chloride	0200011	2/17/00	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	18	н .	η		15.0	ND	н	
Trichloroethene	10	31	IF		15.0	ND	IF	•
Tetrachloroethene		11	II		15.0	ND	P	
Surrogate: a,a,a-TFT	"	H	. "	65.0-130		78.3	%	14
D6-B4-4'			M002012	2-04	•		Soil	
Vinyl chloride	0200011	2/17/00	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	11	11		. 15.0	ND	ug/kg	
Trichloroethene	11	14	11		15.0	ND	**	
Tetrachloroethene	n	**	13	•	15.0	ND	11	
Surrogate: a,a,a-TFT	r f	p	"	65.0-130	15.0	81.5	%	
<u>D6-B5-4'</u>			M002012	<u>-05</u>			<u>Soil</u>	<u>1</u>
Vinyl chloride	0200011	2/17/90	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene		н	"		15.0	ND	It	
Trichloroethene	и .	11	ц		15.0	43.9	п	
Tetrachloroethene	Ħ.	n	II .		15.0	657	If	
Surrogate: a,a,a-TFT	п	п	n	65.0-130		39.0	%	
D6-B6-4'			M002012	2-06			Soil	
Vinyl chloride	0200011	2/17 00	2/17/00	<u>- v v</u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	±17.00	# 2/1///O		15.0		ug/kg	
Trichloroethene	ır	Ħ				ND	 II	
Hemoroemene			•		15.0	ND	**	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd. PO Box 318	Proi	Project: ect Number:	Cameron-Y	akima Contami	nated Soil Remova	l Sampled: Received:		
Mukilteo, Wa 98275		ect Manager:	Scott Wald	al		Reported:	2/17/00 21:	28
		· · ·					,	
	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D6-B6-4' (continued)			M002012	<u>-06</u>			<u>Soil</u>	
Tetrachioroethene	020001 I	2/17/00	2/17/00		15.0	25.0	ug/kg	
Surrogate: a,a,a-TFT	п	11	"	65.0-130		89.3	%	
E6-ED-2'			M002012	-07			<u>So</u> il	. <u>1</u>
Vinyl chloride	0200011	2/17/00	2/17/00	<del></del>	15.0	ND	ug/kg	-
cis-1,2-Dichloroethene	11	11	n		15.0	ND	"	
Trichloroethene	**	it	и .		15.0	ND	n	
Tetrachloroethene	, n	**	п		15.0	ND	п	
Surrogate: a,a,a-TFT	II .	II	71	65.0-130		63.1	%	
E6-ED-4'			M002012	-08	•		<u>Soil</u>	
Vinyl chloride	0200011	2/17/00	2/17/00	<u>-00</u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	н	11		15.0	ND	n A K E	
Trichloroethene	17	ır	n		15.0	ND	71	
Tetrachloroethene	11	11	n		15.0	ND	н	
Surrogate: a,a,a-TFT	11	"	<i>n</i> .	65.0-130		73.6	%.	
E6-ED-6'			M002012	. 00			Coll	
Vinyl chloride	0200011	2/17/00	2/17/00	<del>-09</del>	15.0	ND	<u>Soil</u>	
cis-1,2-Dichloroethene	0200011	11 // 00	2/17/00		15.0	ND ND	ug/kg	
Trichloroethene	, n	н	**		15.0	ND	n	
Tetrachloroethene	17	11	'n	•	15.0	ND	n	
Surrogate: a,a,a-TFT		"		65.0-130	15.0	103	%	
. EZ EN 91			Managas	. 10			G-11	
E6-ED-8' Vinyl chloride	0200011	2/17/00	M002012 2/17/00	<u>-10</u>	15.0	NID	Soil	
•	· 0200011	2/17/00	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene Trichloroethene	п	ji	,, 11		15.0	ND		
	s#	п	n		15.0	ND	н	
Tetrachloroethene	<i>n</i> .	"	n .	65.0.120	15.0	ND	%	
Surrogate: a,a,a-TFT				65.0-130		91.9	70	
E6-ED-10'	•		M002012	<u>2-11</u>			<u>Soil</u>	
Vinyl chloride	0200011	2/17/00	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	' at	"	ц	•	15.0	ND	"	
Trichloroethene	11	11	17	-	15.0	ND	Iŝ	
Tetrachloroethene	**	н	it		15.0	ND	IP .	

North Creek Analytical, Inc.

Surrogate: a,a,a-TFT

90.0

Kody Phillis, Mobile Lab Chemist

Page 3 of 6.

# VOC Screening per EPA Method 8021B North Creek Analytical - Mobile Lab

65.0-130

			-					
	Batch	Date	Date	Surrogate	Reporti	ıg		
Analyte	Number	Prepared	Analyzed	Limits	Lin	it Result	Units	Notes*

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental. Ltd.		Project:	Cameron-	Yakima Contamii	nated Soil Removal	Sampled:	2/17/00	
PO Box 318	Ртој	ect Number:				Received:	2/17/00	
Mukilteo, Wa 98275	Proje	ct Manager:	Scott Wal	dal		Reported:	2/17/00 21:28	
* .								
<u>E6-B5-4'</u>		-	M002012	<u>2-12</u>			<u>Soil</u>	<u>1</u>
Vinyl chloride	0200011	. 2/17/00	2/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	н	n		15.0	ND	н .	
Trichloroethene	rt	It	п		15.0	ND	**	
Tetrachloroethene	75	**	٠.		15.0	ND	nt	
Surrogate: a,a,a-TFT	n	n	31	65.0-130		60.0	%	
<u>E6-B6-4'</u>			M002013	<u>2-13</u>			Soil	1
Vinyl chloride	0200011	2/17:00	2/17/00		15.0	ND	ug/kg	_
cis-1,2-Dichloroethene	tt .	**	19		15.0	ND	11	
Trichloroethene	***	*1	**	•	15.0	ND	u	
Tetrachloroethene	n	**	**		15.0	ND	r <del>r</del>	
Surrogate: a.a.a-TFT	ıı	и .	11	65.0-130	•	58.2	%	

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/17/00
PO Box 318	Project Number:		Received:	2/17/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/17/00 21:28

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Mobile Lab

	Date	Spike	Sample	QC	R	eporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% N	otes*
Batch: 0200011	Date Prepa	red: 2/17	<u>//00</u>		Extrac	tion Method: El	PA 5035N	<u>1</u>		
Blank	0200011-B	LK1								
Vinyl chloride	2/17/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	"			ND	η	15.0				
Trichloroethene	11			NĐ	ц	15.0				
Tetrachloroethene	. II			ND		15.0				
Surrogate: a,a,a-TFT	rr	40.0		38.9	"	65.0-130	97.3			
TCS	<u>0200</u> 011-E	121								
<u>LCS</u> Vinyl chloride	<u>0200011-B</u> 2/17/00	40.0		33.1	na/ka	75.0-125	82,7			
cis-1.2-Dichloroethene	2/17/00	40.0 40.0		33.1 41.8	ug/kg	75.0-125				
Trichloroethene	11	±0.0 ±0.0		44.0	.,	· 75.0-125				
Tetrachloroethene	II.	40.0		46.7	11	75.0-125				
Surrogate: a,a,a-TFT	"	40.0		43.9	"	65.0-130				<del></del>
Matrix Spike	0200011-N	/S1 V/0/	02012-01							
Vinyl chloride	2/17/00	75.2	.ND	57.3	ug/kg	75.0-125	76.2			
cis-1.2-Dichloroethene	2/1//00	75.2	ND ND	70.5	. na/ra	75.0-125 75.0-125				
Trichloroethene	1¢	75.2 75.2	ND	60.7	11	75.0-125				
Tetrachloroethene	IF	75.2 75.2	ND	64.8	н	75.0-125				
Surrogate: a,a,a-TFT	"	75.2	112	65.0	11	65.0-130				
Matrix Spike Dup	<u>0200011-N</u>	ASD1 Ma	02012_01							•
Vinyl chloride	2/17/00	66.9	<u>02012-01</u> ND	47.0	ug/kg	75.0-125	70.3	20.0	8.05	2
cis-1,2-Dichloroethene	2/1//00	66.9	ND ND	46.3	ug/kg	75.0-125 75.0-125		20.0	30.2	
Trichloroethene	n	66.9	.ND	49.5	77	75.0-125 75.0-125		20.0	30.2 8.66	
Tetrachloroethene	11	66.9	ND	52.2	**	75.0-125 75.0-125		20.0	9.99	
Surrogate: a,a,a-TFT	<i>"</i>	66.9	TND	47.8	п	65.0-130		20.0	7.33	
Jui I Uzute. u,u,u-11 1		00.3		77.0		02.0-130	/1.4			

North Creek Analytical, Inc.

Aspen Environmental. Ltd.	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	2/17/00
PO Box 318	Project Number:		Received:	2/17/00
Mukilteo, Wa 98275	Project Manager:	Scott Waldal	Reported:	2/17/00 21:28

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample is out of NCA established control limits, which may be due to carbon particles in the sample matrix.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
D	Analyte NOT DETECTED at or above the reporting limit
R	Not Reported
У	Sample results reported on a dry weight basis
ecov.	Recovery
PD .	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	• /	Analyte or General Method
Exceeds lower control limit	VOC 8021B Screen	0200011-MSD1	cis-1,2-Dichloroethene
Exceeds RPD limit	VOC 8021B Screen	0200011-MSD1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0200011-MSD1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0200011-MSD1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0200011-MSD1	<del>፣</del>
Exceeds lower control limit	VOC 8021B Screen	M002012-02	a,a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002012-02	
Exceeds lower control limit	VOC 8021B Screen	M002012-05	a.a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002012-05	
Exceeds lower control limit	VOC 8021B Screen	M002012-07	a.a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002012-07	
Exceeds lower control limit	VOC 8021B Screen	M002012-12	a.a.a-TFT
Q-18 (1)	VOC 8021B Screen	M002012-12	
Exceeds lower control limit	VOC 8021B Screen	M002012-13	a,a,a-TFT
Q-18 (1)	VOC 8021B Screen	M002012-13	
Status is Received	VOC Headspace	M002012-01	
Status is Received	VOC Headspace	M002012-02	
Status is Received	VOC Headspace	M002012-03	
Status is Received	VOC Headspace	M002012-04	
Status is Received	VOC Headspace	M002012-05	-
Status is Received	VOC Headspace	M002012-06	
Status is Received	VOC Headspace	M002012-07	
Status is Received	VOC Headspace	M002012-08	
Status is Received	VOC Headspace	M002012-09	
Status is Received	VOC Headspace	M002012-10	
Status is Received	VOC Headspace	M002012-11	•
Status is Received	VOC Headspace	M002012-12	
Status is Received	VOC Headspace	M002012-13	
Report calculations are based on the MRL	•		

March 9, 2000

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on March 8, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephen Wilson Environmental Services Group Leader

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/8/00
PO Box 318	Ртојесt Number:		Received:	3/8/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/9/00 11:48

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
B5-VB1	C003069-01	Soil	3/8/00
B5-VB2	C003069-02	Soil	3/8/00
B5-VB3	C003069-03	Soil	3/8/00
B5-VN	C003069-04	Soil	3/8/00
C5-VB2	C003069-05	Soil	3/8/00

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/8/00
PO Box 318	Project Number:		Received:	3/8/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/9/00 11:48

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
B5-VB1			<u>C0030</u> 6	60_01			Soil	
Vinyl chloride	0300027	3/8/00	3/8/00	<del>09-01</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	7	376700		15.0	ND ND	ug/kg	
Trichloroethene	п	n	n		15.0	ND ND	*1	
Tetrachloroethene	я	II .	ш		15.0	ND	**	
Surrogate: a.a.a-TFT	#	п	rı .	65.0-130	15.0	122	%	
DE VIDA			C0040	(0.0 <del>1</del>			G 17	
<u>B5-VB2</u>	0200027	2:0:00	C0030	<u>09-02</u>	150		<u>Soil</u>	
Vinyl chloride	0300027	3/8/00	3/8/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	" , It	" h			15.0	ND	#	
Trichloroethene	. "	"	"		15.0	ND	#	
Tetrachloroethene	"	"			15.0	ND	11	
Surrogate: a,a,a-TFT	"		. "	65.0-130		127	%	
B5-VB3			C0030	69-03			Soil	
Vinyl chloride	0300027	3/8/00	3/8/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	н	п	-	15.0	ND	"	
Trichloroethene	11	н	п		15.0	ND	71	
Tetrachloroethene	It	н	tt.	•	15.0	ND	tí	
Surrogate: a,a,a-TFT	n	"	"	65.0-130		122	%	
		÷						
B5-VN	4.00		C0030	<u>69-04</u>			<u>Soil</u>	
Vinyl chloride	0300027	3/8/00	3/8/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	11	11		15.0	ND	11	
Trichloroethene	н	11	ц		15.0	ND	н	
Tetrachloroethene	. п	71	п		15.0	ND	11 .	
Surrogate: a,a,a-TFT	. 11	н .	п.	65.0-130		126	%	
C5-VB2		-	C0030	69-05			<u>Soil</u>	
Vinyl chloride	0300027	3/8/00	3/8/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	lf.	н		15.0	NĐ	II	•
Trichloroethene	, n	rr	n		15.0	ND .	II	
Tetrachloroethene	<b>n</b> ,	11	11		15.0	ND	u	
Surrogate: a,a,a-TFT	. "	п	"	65.0-130	15.0	126	%	***

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/8/00
PO Box 318	Project Number:		Received:	3/8/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/9/00 11:48

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% ]	Notes*
-					_					
Batch: 0300027	Date Prepa		<u>)</u>		Extract	tion Method: Ger	<u>neral Pre</u>	<u>paration</u>		
Blank	0300027-B	LK1				•				
Vinyl chloride	3/8/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	"			ND	н	15.0				
Trichloroethene				ND	ii	15.0				
Tetrachloroethene	· · · · · · · · · · · · · · · · · · ·			ND	ır .	15.0				
Surrogate: a,a,a-TFT	II .	10 <b>0</b>		122	"	65.0-130	122			
L <u>CS</u>	0300027-B	S1								
Vinyl chloride	3/8/00			109	ug/kg	75.0-125	109			
cis-1,2-Dichloroethene	li .	100		108	п	75.0-125	108			
Trichloroethene	Ħ	100		91.3	п	75.0-125	91.3			
Tetrachloroethene	11	100		109	17 .	75.0-125	109			
Surrogate: a,a,a-TFT	"	100		112	"	65.0-130	112			
Duplica <u>te</u>	0300027-D	IIPI C	003069-01	•						1
Vinyl chloride	3/8/00	<u> </u>	ND	ND	ug/kg		-	20.0		1
cis-1,2-Dichloroethene	H .		ND	ND	ug/kg			20.0		
Trichloroethene	ıt		ND	ND	11			20.0		
Tetrachloroethene	11		ND	ND	It			20.0		
Surrogate: a,a,a-TFT	ri .	102		120	п	65.0-130	118	20.0		
M. Lin Calles	0200027 34	(e) C	002060 01	•						
Matrix Spike	<u>0300027-M</u> 3/8/00	69.9	003069-01	764	/1	75.0.135	100			
Vinyl chloride	3/6/00		ND	76.4	ug/kg	75.0-125				
cis-1,2-Dichloroethene		69.9	ND	77.1	#	75.0-125				
Trichloroethene		69.9	ND	66.8	71	75.0-125				
Tetrachioroethene		69.9	ND	78.3	"	75.0-125				
Surrogate: a,a,a-TFT	"	. 69.9		81.3	. "	65.0-130	116			
Matrix Spike Dup	0300027-M	ISD1 C	003069-01							
Vĭnyl chloride	3/8/00	50.4	ND	57.3	ug/kg	75.0-125	114	20.0	4.48	
cis-1,2-Dichloroethene	π	50.4	ND	57.2	"	75.0-125	113	20.0	2.69	
Trichloroethene	. "	50.4	ND	50.4	Ħ	75.0-125	100	20.0	4.50	
Tetrachloroethene	"	50.4	ND	60.1	11	75.0-125	119	20.0	6.06	
Surrogate: a,a,a-TFT	"	50.4		61.0	n	65.0-130	121			

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/8/00
PO Box 318	Project Number:		Received:	3/8/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/9/00 11:48

#### Notes and Definitions

#	Note
1	Analyses are not controlled on RPD values from sample concentrations less than 5 times the reporting limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Report Exceptions List
(for internal use only)

ific Method Lab Number
en 0300027-DUP1

Exception

At least one excess analyte Q-06 (1)

Report calculations are based on the MRL

Analysis or Specific Method VOC 8021B Screen VOC 8021B Screen

0300027-DUP1

Analyte or General Method

March 17, 2000

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on March 17, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephen Wilson Environmental Services Group Leader

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/16/00
PO Box 318	Project Number:		Received:	3/17/00
Milkilteo, WA 98275	Project Manager:	Scott Waldai	Reported:	3/17/00 15:16
	· · · · · · · · · · · · · · · · · · ·			

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C6-VB1-5	C003114-91	Soil	3/16/00
B6-VB1-5	C003114-92	Soil	3/16/00
D6-VB1-5	C003114-03	Soil	3/16/00
E6-VB1-5	C003114-94	Soil	3/16/00

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/16/00
PO Box 318	Project Number:		Received:	3/17/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/17/00 15:16

<del></del> -	Batch	Date	Date	Surrogate	Reporting	<del></del>		
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
CC VIII 5							~ ~	
<u>C6-VB1-5</u>	0200055	2/17/00	<u>C0031</u>	<u>14-U1</u>			<u>Soil</u>	
Vinyl chloride	0300055	3/17/00	3/17/00		15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	"		11		15.0	ND	#1	
Trichloroethene					15.0	ND	n	
Tetrachloroethene	19	n	IT		15.0	ND	"	
Surrogate: a,a,a-TFT	"	n	<i>n</i>	65.0-130		108	%	
B6-VB1-5			C0031	14-02			<u>Soil</u>	
Vinyl chloride	0300055	3/17/00	3/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	11	11		15.0	ND	- <del></del>	
Trichloroethene	it.	71	11		15.0	ND	н	
Tetrachloroethene	r.	н	R		15.0	46.3	н	
Surrogate: a,a,a-TFT	"	"	n.	65.0-130		87.5	%	
D6-VB1-5		٠	C0031	14-03			<u>Soil</u>	
Vinvl chloride	0300055	3/17/00	3/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n .	1)	78		15.0	ND	" "E	
Trichloroethene	н	n	η	•	15.0	ND	11	
Tetrachloroethene	11	"	n		15.0	ND	n	
Surrogate: a,a,a-TFT	п	"	n	65.0-130		106	%	
E6-VB1-5			C0031	14-04			<u>Soil</u>	
Vinyl chloride	0300055	3/17/00	3/17/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	ft	"	•	15.0	ND	ug/ng	
Trichloroethene	**	11	H .		15.0	ND	II	
Tetrachloroethene	**	IT	н	•	15.0	ND	17 -	
Surrogate: a,a,a-TFT	H	н		65.0-130	13.0	110	%	

PO Box 318 Project Number: Received: 3/17/00 Milkilteo, WA 98275 Project Manager: Scott Waldal Reported: 3/17/00 15:16	Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/16/00
Milkilteo, WA 98275 Project Manager: Scott Waldal Reported: 3/17/00 15:16	PO Box 318	Project Number:		Received:	3/17/00
	Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/17/00 15:16

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	: %	Notes*
Batch: 0300055	Date Prepa	red: 3/17/0	)0		Extrac	tion Method: Ger	neral Pre	paration		
Blank	0300055-B				<del></del>				,	
Vinyl chloride	3/17/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	Ħ			ND	H C	15.0				
Trichloroethene	Ħ			ND	1t	15.0				
Tetrachloroethene	n			ND	17	15.0				
Surrogate: a,a,a-TFT	# · ·	100		120	**	65.0-130	120			
LCS	0300055-B	S1								
Vinyl chloride	3/17/00	100		101	ug/kg	75.0-125	- 101			
cis-1.2-Dichloroethene	н	100		109	"	75.0-125	109			
Trichloroethene	n	100		92.0	11	75.0-125	92.0			
Tetrachloroethene	n	100	-	103	"	75.0-125	103			
Surrogate: a,a,a-TFT	n	100		112	n ·	65.0-130	112			
•			•							
Matrix Spike	0300055-M	<u>(S1</u> <u>C</u>	<u>003114-01</u>							
Vinyl chloride	3/17/00	60.8	ND.	57.1	ug/kg	75,0-125	93.9			
cis-1,2-Dichloroethene	11	60.8	ND	62.9	п .	75.0-125	103			
Trichloroethene	IP	60.8	ND	52.1	**	75.0-125	85.7			
Tetrachloroethene	17	60.8	ND	58.1	71	75.0-125	95.6			
Surrogate: a,a,a-TFT	n	60.8		62.9	, н -	65.0-130	103			-
Matrix Spike Dup	0300055-M	ISD1 · C	003114-01							
Vinyl chloride	3/17/00	75.8	ND	74. <del>4</del>	ug/kg	75.0-125	98.2	20.0	4.48	
cis-1,2-Dichloroethene	n .	75.8	ND	82.2	"	75.0-125	108	20.0	4.74	
Trichloroethene	η	75.8	ND	69,5	п	75.0-125	91.7	20.0	6.76	
Tetrachloroethene	п.	75.8	ND	77.5	Ħ	75.0-125	102	20.0	6.48	
Surrogate: a,a,a-TFT	"	75.8		<i>84.1</i>	"	65.0-130	111			

North Creek Analytical - Bend

\*Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled: 3/16/00
PO Box 318	Project Number:		Received: 3/17/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported: 3/17/00 15:16

# Notes and Definitions

#	Note
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

Report Exceptions List
(for internal use only)

Analysis or Specific Method Lab Number

Exception
Report calculations are based on the MRL

Analyte or General Method

March 24, 2000

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on March 23, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Craig Bradle Project Manager

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/22/00
PO Box 318	Project Number:	•	Received:	3/23/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/24/00 10:12

# ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
C6-B3-6	C003153-01	Soil	3/22/00
C6-B6-6	C003153-02	Soil	3/22/00
B6-VB1-10	C003153-03	Soil	3/22/00

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/22/00
PO Box 318	Project Number:	•	Received:	3/23/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	3/24/00 10:12

`	Batch	Date	Date	Surrogate	Reporting	- 1		
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
<u>C6-B3-6</u>			C0031	53-0 <u>1</u>			<u>Soil</u>	•
Vinvl chloride	0300071	3/23.00	3/23/00	<del></del>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	Ħ		**		15.0	ND	,, ,	
Trichloroethene	11	4	11		15.0	ND	. п	
Tetrachloroethene	II .	**	н		15.0	· ND	11	
Surrogate: a,a,a-TFT	"	,,	n	65.0-130		92.4	%	
<u>C6-B6-6</u>	·		C0031	<u>53-02</u>			Soil	
Vinyl chloride	0300071	3/23/00	3/23/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	п	н	n .		15.0	ND	" -	
Trichloroethene	It	и	II.		15.0	ND	**	
Tetrachloroethene	n	11	t <del>r</del>		15.0	ND	11	
Surrogate: a,a,a-TFT	"	"	"	65.0-130		94.4	%	
B6-VB1-10			C0031	53-03			<u>Soil</u>	
Vinyl chloride	0300071	3/23/00	3/23/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II	n	II		15.0	ND	"	
Trichloroethene	117	и	"		15.0	ND	"	
Tetrachloroethene	н '	"	11		15.0	ND	н .	
Surrogate: a.a.a-TFT	"	,,	11	65.0-130		77.3	%	

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/22/00
PO Box 318	Project Number:		Received:	3/23/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	. Reported:	3/24/00 10:12

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0300071	Date Prepa	red: 3/23/0	)0		Extrac	tion Method: Ger	neral Pre	naration		
Blank	0300071-BI									
Vinyl chloride	3/23/00			ND	ug/kg	15.0		•		
cis-1,2-Dichloroethene	n			ND		15.0				
Trichloroethene	n			ND	17	15.0	,	•		
Tetrachloroethene	п			ND	15	15.0				
Surrogate: a,a,a-TFT	11	100		89.0	"	65.0-130	89.0			
LCS	<u>9300071-B</u> 5	_								
Vinyl chloride	3/23/00	100		90.8	ug/kg	75.0-125	90.8			
cis-1,2-Dichloroethene	u .	100		95.3	II	75.0-125	95.3			
Trichloroethene	**	100		81.3	ır	75.0-125	81.3			
Tetrachloroethene	"	100		92.3		75.0-125	92.3			
Surrogate: a,a,a-TFT	n	100		102	"	65.0-130	102			
Duplicate	0300071-D	ÚP1 C	003153-02							
Vinyl chloride	3/23/00		ND	ND	ug/kg					
cis-1,2-Dichloroethene	rr		ND	ND	"					
Trichloroethene	u		ND	ND	It		•			
Tetrachloroethene	rt		ND	ND	ır					
Surrogate: a,a,a-TFT	н	65.4		54.9	п	65.0-130	83.9			
Matrix Spike	<u>030</u> 0071-M	S1 C	003153-03	•						
Vinyl chloride	3/23/00	66.4	ND	45.0	ug/kg	75.0-125	67.8		•	1
cis-1,2-Dichloroethene	"	66.4	ND	54.3	 αδ\νδ	75.0-125 75.0-125	81.8			1
Trichloroethene	n	66.4	ND	- 48.5	n	75.0-125 75.0-125	73.0			1
Tetrachloroethene	**	66.4	ND	53.2	*1	75.0-125	80.1			1
Surrogate: a,a,a-TFT		66.4	MD	57.5	·- ' <sub>17</sub> -	65.0-130	86.6			
Surroguie. u,u,u-11 1		00.4		37.3		02.1-0.0	<b>60.0</b>			
Matrix Spike Dup	<u>0300071-M</u>	SD1 C	003153-03							
Vinyl chloride	3/23/00	58.3	ND	. 45.6	ug/kg	75.0-125	78.2	20.0	14.2	
cis-1,2-Dichloroethene	<b>H</b>	58.3	ND	49.4	,,	75.0-125	84.7	20.0	3.48	
Trichloroethene	**	58.3	ND	43.9	σ.	75.0-125	75.3	20.0	3.10	
Tetrachloroethene	. "	58.3	ND-	46.2	Ħ	75.0-125	79.2	20.0	1.13	
Surrogate: a,a,a-TFT	и	58.3		50.0	rt	65.0-130	85.8			

North Creek Analytical - Bend

\*Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project: Cameron-Yakima Contaminated Soil Removal	Sampled: 3/22/00	
PO Box 318	Project Number:	Received: 3/23/00	
Milkilteo, WA 98275	Project Manager: Scott Waldal	Reported: 3/24/00 10:12	

# Notes and Definitions

#	Note
1	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

	(101 IIIICIIIAI	use omy	
Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
At least one excess analyte	VOC 8021B Screen	0300071-DUP1	
Exceeds lower control limit	VOC 8021B Screen	0300071-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0300071-MS1	Vinyl chloride
Q-01 (1)	VOC 8021B Screen	0300071-MS1	Trichloroethene
Q-01 (1)	VOC 8021B Screen	0300071-M\$1	Vinvl chloride
Report calculations are based on the MRL		•	

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on March 30, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephen Wilson
Environmental Services Group Leader

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E8-B1-3	C003198-01	Soil	3/28/00
E8-B2-3	C003198-02	Soil	3/28/00
E8-B3-3	C003198-03	Soil	3/28/00
D8-B1-3	C003198-04	Soil	3/28/00
D8-B2-3	C003198-05	Soil	3/28/00
D8-B3-3	C003198-06	Soil	3/28/00
D8-B4-3	C003198-07	Soil	3/28/00
D8-B5-3	C003198-08	Soil	3/28/00
C7-B1-3	C003198-09	Soil	3/28/00
C7-B2-3	C003198-10	Soil	3/28/00
C7-B3-3	C003198-11	Soil	3/28/00
C7-B4-3	C003198-12	Soil	3/28/00
C7-B5-3	C003198-13	Soil	3/28/00
B7-B1-2	C003198-14	Soil	3/28/00
B7-B2-2	C003198-15	Soil	3/28/00
B7-B3-2	C003198-16	Soil	3/28/00
B7-B4-3	C003198-17	Soil	3/28/00
B7-B5-3	C003198-18	Soil	3/28/00
B7-N-2	C003198-19	Soil	3/28/00

North Creek Analytical - Bend

The results in this report apply to the samples analyzed in accordance with the chain of custody document.

This analytical report must be reproduced in its entirety.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

·	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepareci	Analyzed	Limits	Limit	Result	Units	Notes*
E8-B1-3			C00319	98-01			Soil	
Vinyl chloride	0300099	3/30/00	3/30/00	<del>7 7 7 1</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	п	n	11		15.0	ND	".	
Trichloroethene	u ·	rt .	**		15.0	ND	н	
Tetrachloroethene		**	n		15.0	ND	II .	
Surrogate: a,a,a-TFT	"	"	n .	65.0-130		63.5	%	1
E8-B2-3			C0031	98-02	į.		Soil	
Vinyl chloride	0300099	3/30/00	3/30/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	4	71		15.0	ND	" 5" 5	
Trichloroethene	"	"	"		15.0	ND	II .	
Tetrachloroethene .	n	11	n .		15.0	25.7	п	
Surrogate: a,a.a-TFT	"	"	"	65.0-130		70.3	%	·
E8-B3-3			C0031	08_03			<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/30/00	<del>20-03</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	11	"		15.0	ND	ug/kg	
Trichloroethene	"	•	11		15.0	ND	11	
Tetrachloroethene	*1	Ħ	*1		15.0	ND	н .	
Surrogate: a,a,a-TFT	· · ·	. "	. "	65.0-130		64.9	%	1
D8-B1-3			<u>C0031</u>	98-04			<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/30/00	<del>20 0 1</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	II .	11	n -	•	15.0	ND	n E vE	
Trichloroethene	IT.	Œ	**		15.0	ND	н	
Tetrachloroethene	Ħ	(f	Ħ		15.0	ND	п	
Surrogate: a,a,a-TFT	"	"	It	65.0-130		64.6	%	1
D8-B2-3			C0031	98-05			Soil	
Vinyl chloride	0300099	3/30/00	3/31/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	If	11	tt		15.0	ND	"	
Trichloroethene	It	11	**		15.0	ND	**	
Tetrachloroethene	ır	It	n	•	15.0	ND	n	
Surrogate: a,a,a-TFT	11	η	n	65.0-130		72.7	%	
D8-B3-3			<u>C0031</u>	98-06			<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/31/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ır	п	"		15.0	ND	"	
						A 14.		

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

	Batch	Date	Date	Surrogate	Reporting		<u>-</u>	
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
			<u> </u>		•			
D8-B3-3 (continued)		,	C0031	<u>98-06</u>			<u>Soil</u>	
Tetrachloroethene	0300099	3/30/00	3/31/00		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	11	"	"	65.0-130		65.2	%	
D8-B4-3	•		C0031	9807		•	<u>Soil</u>	•
Vinyl chloride	0300099	3/30/00	3/30/00	<del>20-07</del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	3/30/00 n	3/30/00		15.0	ND ND	л п8∖к8	
Trichloroethene	"	l <del>t</del>	н				н	
Tetrachloroethene	"		п		15.0	ND	tt	
		#		(5.0.120°	15.0	ND		
Surrogate: a,a,a-TFT				65.0-130		73.2	%	
<u>D8-B5-3</u>			C0031	<u>98-08</u>	•		Soil	
Vînyl chloride	0300099	3/30/00	3/30/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	eş	Iŧ	н		15.0	ND		
Trichloroethene	17	If	ıt		15.0	ND	10	
Tetrachloroethene	n	IF.	п		15.0	ND		
Surrogate: a,a,a-TFT	"	n	п	65.0-130		76.3	%	
<u>C7-B1-3</u>			C0031	00.00			C-B	
Vinyl chloride	0300099	3/30/00	3/30/00	<del>20-03</del>	15.0	NDS.	Soil	
cis-1,2-Dichloroethene	0200033	3/30/00	3/30/00			ND	ug/kg "	
Trichloroethene	ır	н			15.0	ND	**	
	n		<b>.</b>		15.0	ND	- " *1	•
Tetrachloroethene	"	"	<i>n</i>	C= 0 120	15.0	ND		·
Surrogate: a,a,a-TFT				65.0-130		49.9	%	1
C7-B2-3			C0031	<u>98-10</u>	•		<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/30/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	17	17	. н		15.0	ND		
Trichloroethene	P	п	11		15.0	ND	н .	
Tetrachloroethene	r	п	)r		15.0	ND	n , *	•
Surrogate: a.a.a-TFT	"	п	и	65.0-130		80.7	%	<del></del>
CT P2 2	•			00.11			a	
<u>C7-B3-3</u>	0200000	7/20/00	C0031	<u>98-11</u>			<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/30/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ir ir	" "	. 11		15:0	ND	II	
Trichloroethene					15.0	ND	п	-
Tetrachloroethene	IT		н		15.0	ND	ır .	
Surrogate: a,a,a-TFT	n	n	n	65.0-130		53.8	%	1

North Creek Analytical - Bend

\*Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	. Project Number:		Received:	3/30/00
Milkilteo. WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

Batch	Date	Date	Surrogate	Reporting			
Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
		C0021	10 12			C-23	
0200000	3/30/00		70-12	160	NT.		
0300099	3/30/00	3/30/00					
	ır	) r					•
		·		15.0			
••		"	65.0-130		99.5	%	
		C0031	98-1 <u>3</u>	•		Soil	
0300099	3/30/00			15.0	ND		
, 11	u	**				"	
п	**	**				II	
п .	**	#				It	
п	11	н	65.0-130		87.3	%	
		C0021		•		0.0	
020000	2/20/00		98-14	150	> 150		
	3/30/00						•
	"						•
				15.0			
"	,,	" ,	65.0-130		53.0	%	1
		C0031	98-1 <u>5</u>			Soil	
0300099	3/30/00	3/30/00		15.0	ND	ug/kg	
**	IŢ	rt		15.0	ND	,, ,	
'n	lt .	17		15.0		п	
11	н	n		15.0	ND	U .	
'n	"	"	65.0-130	0.	66.7	%	
,		C0031	98-16	•		Soil	
0300000	3/31/00		<u> </u>	150	ND		
"	או	3/31/00				ug/kg	
n							
**	ц .	lt.					
				15.0			
•	,,	11	65.0-130		<i>88.2</i>	%	•
		C0031	<u>98-17</u>			<u>Soil</u>	
0300099	3/30/00	3/31/00		15.0	ND	ug/kg	
*	ır	u		15.0	ND	"	
- ·	0300099 "" "" 0300099 "" "" 0300099 "" "" 0300099 "" "" 0300099	Number Prepared  0300099 3/30/00  """"  0300099 3/30/00  """"  0300099 3/30/00  """  """  0300099 3/30/00  """  """  0300099 3/30/00  """  """  0300099 3/30/00	Number         Prepared         Analyzed           C0031!         0300099         3/30/00         3/30/00           """"""""""""""""""""""""""""""""""""	Number         Prepared         Analyzed         Limits           C003198-12           0300099         3/30/00         3/30/00           C003198-13           0300099         3/30/00         3/30/00           """"""""""""""""""""""""""""""""""""	Number         Prepared         Analyzed         Limits         Limit           C003198-12           0300099         3/30/00         3/30/00         15.0           """"""""""""""""""""""""""""""""""""	Number         Prepared         Analyzed         Limits         Limit         Result           C003198-12           0300099         3/30/00         3/30/00         15.0         ND           """"""""""""""""""""""""""""""""""""	Number         Prepared         Analyzed         Limits         Limit         Result         Units           C003198-12         Soil           0300099         3/30/00         3/30/00         15.0         ND         "           """"""""""""""""""""""""""""""""""""

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

	Batch	Date	Date	Surrogate	Re	porting			
Analyte	Number	Prepared	Analyzed	Limits		Limit	Result	Units	Notes*
B7-B4-3 (continued)			C0031	98-17			•	<u>Soil</u>	
Tetrachloroethene	0300099	3/30:00	3/31/00			15.0	ND	ug/kg	•
Surrogate: a,a,a-TFT		"	n	65.0-130			71.4	%	
<u>B7-B5-3</u>			C0031	98-18				<u>Soil</u>	
Vinyl chloride	0300099	3/30/00	3/31/00			15.0	ND	ug/kg	
cis-1,2-Dichloroethene	. "	19	н			15.0	ND	"	
Trichloroethene	**		п			15.0	ND	n ·	
Tetrachloroethene	te .	11	и.			15.0	ND	II.	
Surrogate: a,a,a-TFT	,,	n	п	65.0-130			74.0	%	
<u>B7-N-2</u>			C0031	98-1 <u>9</u>				Soil	
Vinyl chloride	0300099	3/30:00	3/31/00			15.0	ND	ug/kg	
cis-1,2-Dichloroethene	11	11	**			15.0	ND	,, ,	
Trichloroethene	11	I <b>!</b>	•			15.0	ND	#1	
Tetrachloroethene	· II	II.	۳ .			15.0	ND	H	
Surrogate: a,a,a-TFT	. н	"	и	65.0-130	_		46.0	%	1

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike.	Sample	QC		Reporting Limit	Recov.	RPD	RPD	$\neg$
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	% Not	es*
Batch: 0300099	Date Prepa	rad: 2/30/		•	Tertmon	da-Mathada Cu	nawal D	<b></b>		
Blank	0300099-BI		<u>, , , , , , , , , , , , , , , , , , , </u>		EXITAC	tion Method: Ger	пегат Р ге	parauon	,	
Vinyl chloride	3/30/00	<u> </u>		ND	nadea	15.0				
cis-1,2-Dichloroethene	יי ייי			ND	ug/ <b>kg</b>					
Trichloroethene	**			ND	11	15.0 15.0				
Tetrachloroethene	*1			ND	н					
Surrogate: a,a,a-TFT		100	<del>-</del>	111	**	65.0-130	111			—
		233				Q3.0·130	111			
<u>Blank</u>	0300099-B1	LK2								
Vinyl chloride	3/31/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	19			ND	f# ·	15.0				
Trichloroethene	11 -			ND	**	15.0				
Tetrachloroethene	11			ND	17	15.0				
Surrogate: a.a,a-TFT	"	100		87.0	11	65.0-130	87.0			
T CS	0300099-B	S-1								
LCS Vînyi chloride	3/30/00	100 21		0.00		75.0.125	00.0			
	3/30/00			88.8	ug/kg "	75.0-125				
cis-1,2-Dichloroethene	Ir	10 <b>0</b>		96.5	**	75.0-125				
Trichloroethene	"	100		88.8	" . ••	75.0-125				
Tetrachloroethene Surrogate: a,a,a-TFT	- "	100		92.5 93.5	<del> "</del>	75.0-125				
Surrogate: a,a,a-1F1		100		93.3		65.0-130	93.5			
LCS	0300099-B	<u>S2</u>								
Vinyl chloride	3/31/00	100		95.3	ug/kg	75.0-125	95.3			
cis-1,2-Dichloroethene	***	100		85.3	"	75.0-125			•	
Trichloroethene	*11	100		87.5	17	75.0-125				
Tetrachloroethene	71	100		92.0	II.	75.0-125				
Surrogate: a,a,a-TFT	"	100		96.3	"	65.0-130	96.3			
~ u	0200000 T	****	*******							
<u>Duplicate</u>	0300099-D	<u>UPI C</u>	003198-19		_					
Vinyl chloride	3/31/00		ND	ND	ug/kg					
cis-1,2-Dichloroethene	11		ND	ND	19					
Trichloroethene			ND	ND	19					
Tetrachloroethene	H		ND	ND	H					
Surrogate: a.a,a-TFT	n	77.5	-	36.2	"	65.0-130	46.7			Ī
Matrix Spike	0300099-M	( <b>S</b> 1 C	003198-12							<u>2</u>
Vinyl chloride	3/31/00	73.3	ND -	45.2	ug/kg	75.0-125	61.7			=
cis-1,2-Dichloroethene	. 11	73.3	ND	37.9	" GE NE	75.0-125				

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd Project: Cameron-Yakima Contaminated Soil Removal Sampled: 3/28/00
PO Box 318 Project Number: Received: 3/30/00
Milkilteo, WA 98275 Project Manager: Scott Waldal Reported: 4/1/00 19:13

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Resuit	Units	Recov. Limits	%	Limit	%	Notes*
Matrix Spike (continued)	0300099-M	S1 C	003198-12							<u>2</u>
Trichloroethene	3/31/00	73.3	. ND	45.2	ug/kg	75.0-125	61.7			=
Tetrachloroethene	11	73.3	ND	47.1	11 G-1-5	75.0-125	64.3			
Surrogate: a,a,a-TFT	п	73.3		45.4	п	65.0-130	61.9	,		<del></del>
Matrix Spike	0300099-M	<u>S2</u> <u>C</u> (	003198-13							<u>2</u>
Vinyl chloride	3/31/00	84.0	ND	60.7	ug/kg	75.0-125	72.3			_
cis-1,2-Dichloroethene	**	84.0	ND	64.7	17	75.0-125	77.0			
Trichloroethene	. "	84.0	ND	65.3	**	75.0-125	77.7			
Tetrachloroethene	11	84.0	ND	66.6	п	75.0-125	79.3			
Surrogate: a,a,a-TFT	н	84.0	<del></del> .	68.1	"	65.0-130	81.1	- 1		
Matrix Spike Dup	0300099-M	SDI C	003198-12							2
Vinyl chloride	3/31/00	77.2	ND	57.5	ug/kg	75.0-125	74.5	20.0	18.8	_
cis-1,2-Dichloroethene	· H	77.2	ND	54.2	. 0	75.0-125	70.2	20.0	30.4	
Trichloroethene	н .	77.2	ND	56.8	F9	75.0-125	73.6	20.0	17.6	
Tetrachloroethene		77.2	ND	58.9	17	75.0-125	76.3	20.0	17.1	
Surrogate: a,a,a-TFT	"	77.2		63.I	"	65.0-130	81.7			
Matrix Spike Dup	0300099-M	SD2 C	003198-13							2
Vinyl chloride	3/31/00	86.2	ND	59.7	ug/kg	75.0-125	69.3	20.0	4.24	
cis-1,2-Dichloroethene	ú	86.2	ND	65.5	. "	75.0-125	76.0	20.0	1.31	
Trichloroethene	11	86.2	ND	59.1		75,0-125	68.6	20.0	12.4	
Tetrachloroethene	н	86.2	ND	61.0	н	75.0-125	70.8	20.0	11.3	
Surrogate: a,a,a-TFT	н	86.2		73.1	H.	65.0-130	84.8			

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/28/00
PO Box 318	Project Number:		Received:	3/30/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/1/00 19:13

# Notes and Definitions

#	Note
I	The surrogate spike recovery is out of control limits. Re-analysis confirms low recovery may be due to carbon particles present in the sample matrix.
2	The spike recoveries for this QC sample are out of control limits. Re-analysis confirms that this may be due to carbon particles present in the sample matrix.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
At least one excess analyte	VOC 8021B Screen	0300099-DUP1	
Exceeds lower control limit	VOC 8021B Screen	0300099-DUP1	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	0300099-DUP1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0300099-MS1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0300099-MS1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MS1	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MS1	Vinyl chloride
A-02 (2)	VOC 8021B Screen	0300099-MS1	
Exceeds lower control limit	VOC 8021B Screen	0300099-MS2	Vinyl chloride
A-02 (2)	VOC 8021B Screen	0300099-M\$2	
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD1	cis-1,2-Dichloroethene
Exceeds RPD limit	VOC 8021B Screen	0300099-MSD1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD1	Vinyl chloride
A-02 (2)	VOC 8021B Screen	0300099-MSD1	•
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD2	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD2	Trichloroethene .
Exceeds lower control limit	VOC 8021B Screen	0300099-MSD2	Vinyl chloride
A-02 (2)	VOC 8021B Screen	0300099-MSD2	
Exceeds lower control limit	VOC 8021B Screen	C003198-01RE1	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-01RE1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-03	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-03	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-04	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-04	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-09	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-09	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-11	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-11	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-14	a,a,a-TFT
A-01 (1)	VOC 8021B Screen	C003198-14	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	C003198-19	a,a,a-TFT
A-0I (I)	VOC 8021B Screen	C003198-19	a,a,a-TFT
Report calculations are based on the MRL			

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on March 31, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephen Wilson Environmental Services Group Leader

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00	
PO Box 318	Project Number:	•	Received:	3/31/00	
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12	
	· · · · · · · · · · · · · · · · · · ·				

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E8-TP1-4	C003209-01	Soil	3/31/00
E8-TP1-6	C003209-02	Soil	3/31/00
E8-TP1-8	C003209-03	Soil	3/31/00
E8-TP2-4	C003209-04	Soil Soil	3/31/00
E8-TP2-6	C003209-95	Soil	3/31/00
E8-TP2-8	C003209-96	Soil	3/31/00
D8-TP1-4	C003209-07	Soil	3/31/00
D8-TP1-6	C003209-08	Soil	3/31/00
D8-TP1-8	C003209-59	Soil	3/31/00
D8-TP2-4	C003209-10	Soil	3/31/00
D8-TP2-6	C003209-11	Soil	3/31/00
D8-TP2-8	C003209-12	Soil	3/31/00
D8-TP3-4	C003209-13	Soil	3/31/00
D8-TP3-6	C003209-14	Soil	3/31/00
D8-TP3-8	C003209-15	Soil	3/31/00

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:	•	Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

	Batch	Date	Date	Surrogate	Reporting			. ]
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
wa ==== .						·		
<u>E8-TP1-4</u>	0.400000	447.00	C00320	<u>09-01</u>			<u>Soil</u>	
Vinyl chloride	. 0400002	4/1/00	4/1/00 "		15.0	ND.	ug/kg	
cis-1,2-Dichloroethene	11	" "	п		15.0	ND	н	
Trichloroethene	" "	"	u u		15.0	ND	н	
Tetrachloroethene	"				15.0	ND	п	
Surrogate: a,a,a-TFT	<b>"</b> .	"	**	65.0-130		106	%	• .
E8-TP1-6		,	C0032	09-02			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/1/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	n	*1	н		15.0	ND	tt	
Trichloroethene	#1	n	н	•	15.0	ND	**	
Tetrachloroethene	11	n	1Ú:		15.0	ND	fi	
Surrogate: a,a,a-TFT	"	н	n .	65.0-130		102	%	
E8-TP1-8			<u>C0032</u>	00-03	*		<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/1/00	09-03	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	*	11700	7/1/00		15.0	ND	u n≅∖ıx≅	•
Trichloroethene	**	tt	+1		15.0	ND ND		•
Tetrachloroethene	11	11	11		15.0	ND ND	ŋ	
Surrogate: a,a,a-TFT	т	"	"	65.0-130	15.0	67.3	%	·
						57.0		
<u>E8-TP2-4</u>			C0032	<u>09-04</u>			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/1/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	н	п	***		15.0	ND	It	
Trichloroethene	16	и	ď		15.0	ND	"	
Tetrachloroethene	ų.	<u>.</u>	"		15.0	ND	IT.	
Surrogate: a,a,a-TFT	n	"	"	65.0-130		94.8	%	<u> </u>
E8-TP2-6			C0032	09-05			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/1/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	**	79	n		15.0	ND	"	
Trichloroethene	79	. "	н		15.0	ND	n	
Tetrachloroethene		יו	11		15.0	ND	*	
Surrogate: a,a,a-TFT	"	"	п	65.0-130		84.4	%	
E8-TP2-8			C0032	00 <u>-</u> 06			Soil	2
Vinyl chloride	0400002	4/1/00	4/1/00	<del>02-00</del>	15.0	NIP	Soil	
2	0400002	4/ 1/00 n	4/1/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	**	17			15.0	ND	" U	
Trichloroethene					15.0	ND	•	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:	•	Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
E8-TP2-8 (continued)			C0032	<u>09-06</u>			<u>Soil</u>	
Tetrachloroethene	0400002	4/1/00	4/1/00		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	"	n	Ŋ	65.0-130		83.5	%	
D8-TP1-4			C0032	09-07			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/1/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	Ħ	**	п		15.0	ND	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Trichloroethene	Ħ	4	II .		15.0	ND	n	
Tetrachloroethene	11	H	. 15		15.0	ND	11	
Surrogate: a,a,a-TFT	н .	77	п	65.0-130		88.2	%	
D8-TP1-6			C0032	09-08			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/2/00	·	15.0	ND	ug/kg	-
cis-1,2-Dichloroethene	n	R	п	•	15.0	ND	11	
Trichloroethene	rr .	16	n		15.0	ND	rr -	
Tetrachloroethene	n	ŧ <del>Ţ</del>	н		15.0	ND	10	
Surrogate: a,a,a-TFT	"	"	и	65.0-130		102	%	
D8-TP1-8			C0032	09-09	•		Soil	
Vinyl chloride	0400002	4/1/00	4/2/00		15.0	ND	ug/kg	
cis-1.2-Dichloroethene	11	n	+ <b>H</b>		15.0	ND	и	
Trichloroethene	, #	h	11.		15.0	ND	u '	
Tetrachloroethene	P	n	n		15.0	16.1	pr ·	
Surrogate: a,a,a-TFT	н	n	"	65.0-130		84.0	%	
D8-TP2-4			C0032	:09-10			Soil	
Vinyl chloride	0400002	4/1/00	4/2/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	**	m	и		15.0	ND	" "	
Trichloroethene	17	**	и		15.0	ND	11	
Tetrachloroethene	11		Ц		15.0	ND	TT	
Surrogate: a,a,a-TFT	и	"	"	65.0-130		85.7	%	
					•			
<u>D8-TP2-6</u>			C0032	<u> 109-11</u>	•		<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/2/00		15.0	ND	ug/kg	-
cis-1,2-Dichloroethene	H	л	н '		. 15.0	ND	tf	
Trichloroethene	11	и ,	н		15.0	ND	IF.	
Tetrachloroethene	н		н		15.0	ND		
Surrogate: a,a,a-TFT		и	"	65.0-130		80.6	%	•

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:		Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
DO TIDE O			C00000	00.10				
<u>D8-TP2-8</u>	0.400000	4/1/00	C0032	<u>19-12</u>			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/2/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene		"	ıı		15.0	ND		
Trichloroethene		" "			15.0	ND	it .	
Tetrachloroethene	er .		u		15.0	ND		
Surrogate: a,a,a-TFT		"	n,	65.0-130		80.1	%	
<u>D8-TP3-4</u>			C0032	<u>09-13</u>			<u>Soil</u>	
Vinyl chloride	0400002	4/1/00	4/2/00	<del></del>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	TP.	17	н		15.0	ND	11	
Trichloroethene		H .	1t		15.0	ND	tt.	
Tetrachloroethene	"	**	19		15.0	ND	**	
Surrogate: a.a.a-TFT	n	"	"	65.0-130		79.5	%	
<u>D8-TP3-6</u>	٠,		C0032	09-14			<u>Soil</u>	
Vinvl chloride	0400002	4/2/00	4/2/00	<u></u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	**		**	٠	15.0	ND	"	
Trichloroethene		,,	•	•	15.0	ND	n	
Tetrachloroethene	n	H	4		15.0	ND	. 11	
Surrogate: a,a,a-TFT	11	"	n	65.0-130		93.9	%	
D8-TP3-8			C0032	09-15			<u>Soil</u>	
Vinyl chloride	0400002	4/2/00	4/2/00	<del></del>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	"	"		15.0	ND	" uSvS	
Trichloroethene	1+	**			15.0	ND ND	**	
Tetrachloroethene		**	ti		15.0	ND	11	
Surrogate: a,a,a-TFT	n .	"	n .	65.0-130	15.0	8I.7	%	

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:		Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
					_					
Batch: 0400002	Date Prepa				Extract	ion Method: Ger	<u>ieral Pre</u>	paration		
Blank	<u>0400002-B1</u>	<u>LK1</u>			-					
Vinyl chloride	4/1/00			ND	ug/kg	15.0				
cis-1,2-Dichloroethene	"			ND	**	15.0				
Trichloroethene	11			ND	и .	15.0				
Tetrachloroethene	t†			ND	11	15.0				
Surrogate: a,a,a-TFT	"	100	-	94.0	***	<i>65.0-130</i>	94.0			
Blank	0400002-B	LK2								
Vinyl čhloride	4/2/00	<del></del>		ND	ug/kg	15.0				
cis-1,2-Dichloroethene	. "			ND	"	15.0				
Trichloroethene	n			ND	n	15.0				
Tetrachloroethene	11			ND	н	15.0				
Surrogate: a,a,a-TFT	и	100		91.5	п	65.0-130	91.5			
<u>LCS</u>	<u>0400002-B</u> 3									
Vinyl chloride	4/1/00	100		98.3	ug/kg	75.0-125	98.3			
cis-1,2-Dichloroethene	ir .	100		85.5	19	75.0-125	85.5			
Trichloroethene		100		87.8	11	75.0-125	87.8			
Tetrachloroethene	· rr	100		91.5	"	75.0-125	91.5			
Surrogate: a,a,a-TFT	. "	100		92.0	"	65.0-130	92.0			
LCS	0400002-B	S2								
Vinyl chloride	4/2/00	100		95.3	ug/kg	75.0-125	95.3			
cis-I,2-Dichloroethene	n	100		83.3	н .	75.0-125	83.3			
Trichloroethene	п	100		84.5	н	75.0-125	84.5			
Tetrachloroethene	н	100		89.0	It	75.0-125	89.0			
Surrogate: a,a,a-TFT	n	100		88.5	"	65.0-130	88.5			-
Duplicate	0400002-D	libi ca	003209-15							
Vinyl chloride	4/2/00	<u> </u>	ND	ND	ug/kg					
cis-1,2-Dichloroethene	11	•	ND	ND	n n n					
Trichloroethene	п		ND	ND	ır					
Tetrachloroethene	· n		ND	ND	и					
Surrogate: a,a,a-TFT		69.0	ND	63.4	"	65.0-130	91.9			
Matrix Snika	0400002-M	(S1 C)	003209-04							
Matrix Spike		1 <u>51</u> <u>C(</u> 84.4		44.0		75.0:125	52.2			1
Vinyl chloride	4/1/00		NĎ	44.9	ug/kg	75.0-125	53.2			
cis-1,2-Dichloroethene	•	84.4	· ND	45.4		75.0-125	53.8			

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:	4	Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

#### VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit	Recov.	RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Matrix Spike (continued)	0400002-MS	1 (	2003209-04	•						1
Trichioroethene	4/1/00	84.4	ND	49.8	ug/kg	75.0-125	59.0			-
Tetrachloroethene	н	34.4	ND	49.4	n Z	75.0-125	58.5			
Surrogate: a,a,a-TFT	n	34.4		45.6	n .	65.0-130	54.0	_		
Matrix Spike Dup	0400002-MS	<u>D1</u> (	2003209-04							1
Vinyl chloride	4/1/00	84.7	ND	55.9	ug/kg	75.0-125	66.0	20.0	21.5	_
cis-1,2-Dichloroethene	п	.84.7	ND	60.4	n	75.0-125	71.3	20.0	28.0	
Trichloroethene	н .	\$4.7	ND	62.9	11	75.0-125	74.3	20.0	23.0	
Tetrachloroethene	Ir	84.7	ND	63.I	п	75.0-125	74.5	20.0	24.1	-
Surrogate: a,a,a-TFT	n i	÷≠.7		60.2	"	65.0-130	71.1			

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	3/31/00
PO Box 318	Project Number:	•	Received:	3/31/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/4/00 16:12

# Notes and Definitions

<del>#</del>	Note	
1	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.	
DET	Analyte DETECTED	
ďD	Analyte NOT DETECTED at or above the reporting limit	
ĮR.	Not Reported	
гу	Sample results reported on a dry weight basis	
ecov.	Recovery	
PĎ	Relative Percent Difference	

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
At least one excess analyte	VOC 8021B Screen	0400002-DUP1	
Exceeds lower control limit	VOC 8021B Screen	0400002-MS1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0400002-MS1	cis-1.2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MS1	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MS1	Vinyl chloride
Q-01 (1)	VOC 8021B Screen	0400002-MS1	
Exceeds lower control limit	VOC 8021B Screen	0400002-MSD1	cis-1,2-Dichloroethene
Exceeds RPD limit	VOC 8021B Screen	0400002-MSD1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MSD1	Tetrachloroethene
Exceeds RPD limit	VOC 8021B Screen	0400002-MSD1	Tetrachloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MSD1	Trichloroethene
Exceeds RPD limit	VOC 8021B Screen	0400002-MSD1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400002-MSD1	Vinyl chloride
Exceeds RPD limit	VOC 8021B Screen	0400002-MSD1	Vinyl chloride
Q-01 (1)	VOC 8021B Screen	0400002-MSD1	•
Report calculations are based on the MRL			

April 6, 2000

Scott Waldal Aspen Environmental, Ltd PO Box 318 Milkilteo, WA 98275

RE: Cameron-Yakima Contaminated Soil Removal

Dear Scott Waldal

Enclosed are the results of analyses for sample(s) received by the laboratory on April 5, 2000. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Stephen Wilson Environmental Services Group Leader

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	4/4/00
PO Box 318	Project Number:		Received:	4/5/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/6/00 09:47

#### ANALYTICAL REPORT FOR SAMPLES:

Sample Description	Laboratory Sample Number	Sample Matrix	Date Sampled
E9-B1-3	C004026-01	Soil	4/4/00
E9-B2-3	C004026-02	Soil	4/4/00
E9-B3-3	C004026-03	Soil	4/4/00
D9-B1-3	C004026-04	Soil	4/4/00
D9-B2-3	C004026-05	Soil	4/4/00
D9-B3-3	C004026-06	Soil	4/4/00
D9-B4-3	C004026-07	Soil	4/4/00
D9-B5-3	C004026-08	Soil	4/4/00
Septic N-C7-6	C004026-09	Soil	4/4/00
Septic S-C7-6	C004026-10	Soil	4/4/00
Sump-E8-6	C004026-11	Soil	4/4/00

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled: 4/4/00
PO Box 318	Project Number:		Received: 4/5/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported: 4/6/00 09:47

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
TO D. 2			C00.40					
<u>E9-B1-3</u>	0400013	4/5/00	<u>C0040</u>	<u> 20-01</u>	150	3.775	Soil	
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	•
cis-1.2-Dichloroethene			**		15.0	ND	" "	
Trichloroethene		ji	**		15.0	ND		
Tetrachloroethene	<sub>II</sub>				15.0	ND	"	
Surrogate: a,a,a-TFT			. "	65.0-130		76.2	%	
E9-B2-3			C0040	26-02	:		<u>Soil</u>	
Vinyl chloride	0400012	4/5/00	4/5/00	•	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	, It	н	17		15.0	ND	"	
Trichloroethene	"	н	n		15.0	ND.	"	•
Tetrachloroethene	**	u	n		15.0	ND	<b>"</b> .	
Surrogate: a.a.a-TFT	11	11	n · · ·	65.0-130		86.4	%	
						***	•	
<u>E9-B3-3</u>	•		C0040	<del>26-03</del>			<u>Soil</u>	
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	ır .	**	79		15.0	ND	n	
Trichloroethene	н	11	11		15.0	ND	π,	
Tetrachloroethene	II	н	19		15.0	ND	IF	
Surrogate: a,a,a-TFT	"	п	"	65.0-130	·	66.2	%	
D9-B1-3			<u>C0040</u>	26-04			Soil	
Vinyl chloride	0400012	4/5/00	4/5/00	<u> </u>	15.0	ND	ug/kg	
cis-1.2-Dichloroethene	"	11	17 57 00	•	15.0	ND	ug/kg	
Trichloroethene	n	re	п		15.0	ND	n	
Tetrachloroethene	n	18	II.		15.0	ND	"	
Surrogate: a,a,a-TFT		71	<u>"</u>	65.0-130	. 13.0	90.5	%	
				05.0 150		70.2	70	
D9-B2-3			C0040	26-0 <u>5</u>			Soil	
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	
cîs-1,2-Dichloroethene	II .	"	11		15.0	ND	"	
Trichloroethene	ıt	n	n		15.0	ND	TF.	
Tetrachloroethene	н	m .	ti .		15.0	ND	16	
Surrogate: a,a,a-TFT	н	п	n	65.0-130		85.6	%	
D0 P2 2			C106.40	26.06			G 11	
D9-B3-3	0400012	4(2)00	<u>C0040</u>	<u> 40-00</u>			<u>Soil</u>	
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg "	
cis-1,2-Dichloroethene	11	.,	ur	•	15.0	ND	11	
Trichloroethene		*1	*1		15.0	ND	"	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	•	Project;	Cameron-Yakima Contaminated Soil Removal	Sampled:	4/4/00
PO Box 318		Project Number:	•	Received:	4/5/00
Milkilteo, WA 98275		Project Manager:	Scott Waldal	Reported:	4/6/00 09:47

	Batch	Date	Date	Surrogate	Reporting			
Analyte	Number	Prepared	Analyzed	Limits	Limit	Result	Units	Notes*
D9-B3-3 (continued)			C0040	<u>26-06</u>			<u>Soil</u>	
Tetrachloroethene	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	
Surrogate: a,a,a-TFT	"	"		65.0-130		90.6	%	
D9-B4-3			C0040	<u> 26-07</u>			Soil	-
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	."	17	**		15.0	ND	"	A
Trichloroethene	II .	14	"		15.0	ND	**	-
Tetrachloroethene	IT	18	ři.		15.0	ND	*1	
Surrogate: a,a,a-TFT	ır	п	<i>n</i>	65.0-130		85.0	%	
D9-B5-3		•	<u>C0040</u>	26-08			<u>Soil</u>	
Vinyl chloride	0400012	4/5/00	4/5/00	<u> 20 00</u>	15.0	ND	ug/kg	
cis-1,2-Dichloroethene	"	"	11 27 00		15.0	ND	ug/ng	
Trichloroethene	11	11	п		15.0	ND	n	
Tetrachloroethene	11	л	п		15.0	ND	II	•
Surrogate: a,a,a-TFT	п	п	#	65.0-130	15.0	88.7	%	
Septic N-C7-6			C0040	26.00			6.7	
Vinyl chloride	0400012	4/5/00	<u>C0040</u>	20-09	150	) III)	<u>Soil</u>	
cis-1,2-Dichloroethene	U <del>1</del> 00012	4/3/00	4/5/00	•	15.0	ND	ug/kg	
Trichloroethene	n .		"		15.0	ND	**	
Tetrachioroethene	"	17	. 4		15.0	ND	" "	
	"	"	,,	65.0.130	15.0	ND		
Surrogate: a,a,a-TFT		· "	"	65.0-130		85.4	%	
Septic S-C7-6	. •		C0040	<u> 26-10</u>			Soil	
Vinyl chloride	0400012	4/5/00	4/5/00		15.0	ND	ug/kg	
cis-1,2-Dichloroethene	<b>r</b>	"	11		15.0	ND	11	
Trichloroethene	**	. "	u .		15.0	ND	н	
Tetrachloroethene	n '	"	ıt		15.0	ND	17	4.3
Surrogate: a,a,a-TFT	·	"	п	65.0-130	-	84.4	%	
Sump-E8-6			C0040	26-11			Soil	
Vinyl chloride	0400012	4/5/00	4/5/00	41	15.0	ND	ug/kg	•
cis-1,2-Dichloroethene	. "	17 37 00	11 27 00		15.0	ND	ug/kg	
Trichloroethene	11	IT	n		15.0	ND ND	0	
Tetrachioroethene	ni	1f	и		15.0	ND ND		
Surrogate: a,a,a-TFT	и	n	11	65.0-130	13.0	68.6	%	
surroguie. u,u,u-11-1				05.0-150		08.0	70	

<sup>\*</sup>Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled: 4/4/00	ı
PO Box 318	Project Number:		Received: 4/5/00	
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported: 4/6/00 09:47	_

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

	Date	Spike	Sample	QC		Reporting Limit		RPD	RPD	
Analyte	Analyzed	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Batch: 0400012	Date Prepa	red: 4/5/00	)		Extract	tion Method: Ger	ıeral Pre	naration	•	
Blank	0400012-B		-		DAULE	ion method. Ger	ici ai e i c	paracion		
Vinyl chloride	4/5/00			NĐ	ug/kg	15.0				
cis-1,2-Dichloroethene				ND	יים יים יים וו	15.0				
Trichloroethene	11			ND	a a	15.0				
Tetrachloroethene	"			ND	I†	15.0				
Surrogate: a,a,a-TFT	, n	100		68.5	"	65.0-130	68.5			
LCS	0400012-B	S1								
Vinyl chloride	4/5/00	100		97.0	ug/kg	75.0-125	97.0			
cis-1.2-Dichloroethene	11	100		81.3	"	75.0-125	81.3			
Trichloroethene	n	100		82.8	**	75.0-125	82.8			
Tetrachloroethene	11	100	•	88.0	n .	75.0-125	88.0			
Surrogate: a,a,a-TFT	н .	100		85.3	п	65.0-130	85.3			
LCS	0400012-B	S2 .								
Vinyl chloride	4/5/00	100		103	ug/kg	75.0-125	103			
cis-1,2-Dîchloroethene	**	100	•	84.0	"	75.0-125	84.0			
Trichloroethene	n	100		82.3	n	75.0-125	82.3			
Tetrachloroethene	n	100	•	87.8	n	75.0-125	87.8		•	
Surrogate: a,a,a-TFT	и	100	<del></del>	85.0	"	65.0-130	85.0			
<u>Duplicate</u>	0400012-D	UP1 C	<u>004026-06</u>		,					
Vinyl chloride	4/5/00		ND	ND	ug/kg					
cis-1,2-Dichloroethene	II.		ND	ND	н					
Trichloroethene	17		ND	ND	н					
Tetrachloroethene		•	ND	ND						
Surrogate: a,a,a-TFT	"	43.6		19.8	"	65.0-130	45.4			I
Matrix Spike	0400012-M	ISI C	004026-05							2
Vinyl chloride	4/5/00	51.4	ND	36.9	ug/kg	75.0-125	71.8			-
cis-1,2-Dichloroethene	n	51.4	ND	35.6	"	75.0-125				
Trichloroethene	**	51.4	ND	37.7	n	75.0-125				
Tetrachloroethene	n	51.4	ND	39.1	n	75.0-125				
Surrogate: a,a,a-TFT	,	51.4	. 125	35.2	"	65.0-130	68.5	*		- i
Matrix Spike Dup	0400012-M	ISDI C	004026-05	٠						<u>2</u>
Vinyl chloride	4/5/00	51.9	ND	38.8	ug/kg	75.0-125	74.8	20.0	4.09	=
cis-1.2-Dichloroethene		51.9	ND	42.9	"	75.0-125	82.7	20.0	17.6	
oid 1,2 Bibliotobaldia			.12			75.0 125	02.7	20.0	17.0	

North Creek Analytical - Bend

\*Refer to end of report for text of notes and definitions.

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	4/4/00
PO Box 318	Project Number:	•	Received:	4/5/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/6/00 09:47

# VOC Screening per EPA Method 8021B/Quality Control North Creek Analytical - Bend

Analyte	Date Analyzed	Spike Level	Sample	QC	77.5.	Reporting Limit		RPD	RPD	
Allasyte	Allatyzeti	Level	Result	Result	Units	Recov. Limits	%	Limit	%	Notes*
Matrix Spike Dup (continued)	<u>0400012-M</u>	SD1 C	004026-05		•					2
Trichloroethene	4/5/00	51.9	ND	41.9	ug/kg	75.0-125	80.7	20.0	9.61	_
Tetrachloroethene	31	51.9	ND	44.0	11	75.0-125	84.8	20.0	10.8	
Surrogate: a,a,a-TFT	"	51.9		42.9	n	65.0-130	82.7	<del>.</del>		

Aspen Environmental, Ltd	Project:	Cameron-Yakima Contaminated Soil Removal	Sampled:	4/4/00
PO Box 318	Project Number:		Received:	4/5/00
Milkilteo, WA 98275	Project Manager:	Scott Waldal	Reported:	4/6/00 09:47

#### Notes and Definitions

#	Note
1	The surrogate recovery for this sample is outside of NCA established control limits.
2	The spike recovery for this QC sample is outside of established control limits. Review of associated batch QC indicates the recovery for this analyte does not represent an out-of-control condition for the batch.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
Recov.	Recovery
RPD	Relative Percent Difference

# Report Exceptions List (for internal use only)

Exception	Analysis or Specific Method	Lab Number	Analyte or General Method
At least one excess analyte	VOC 8021B Screen	0400012-DUP1	
Exceeds lower control limit	VOC 8021B Screen	0400012-DUP1	a,a,a-TFT
S-03 (1)	VOC 8021B Screen	0400012-DUP1	a,a,a-TFT
Exceeds lower control limit	VOC 8021B Screen	0400012-MS1	cis-1,2-Dichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400012-MS1	Trichloroethene
Exceeds lower control limit	VOC 8021B Screen	0400012-MS1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0400012-MSI	•
Exceeds lower control limit	VOC 8021B Screen	0400012-MSD1	Vinyl chloride
Q-01 (2)	VOC 8021B Screen	0400012-MSD1	
Report calculations are based on the MRL			