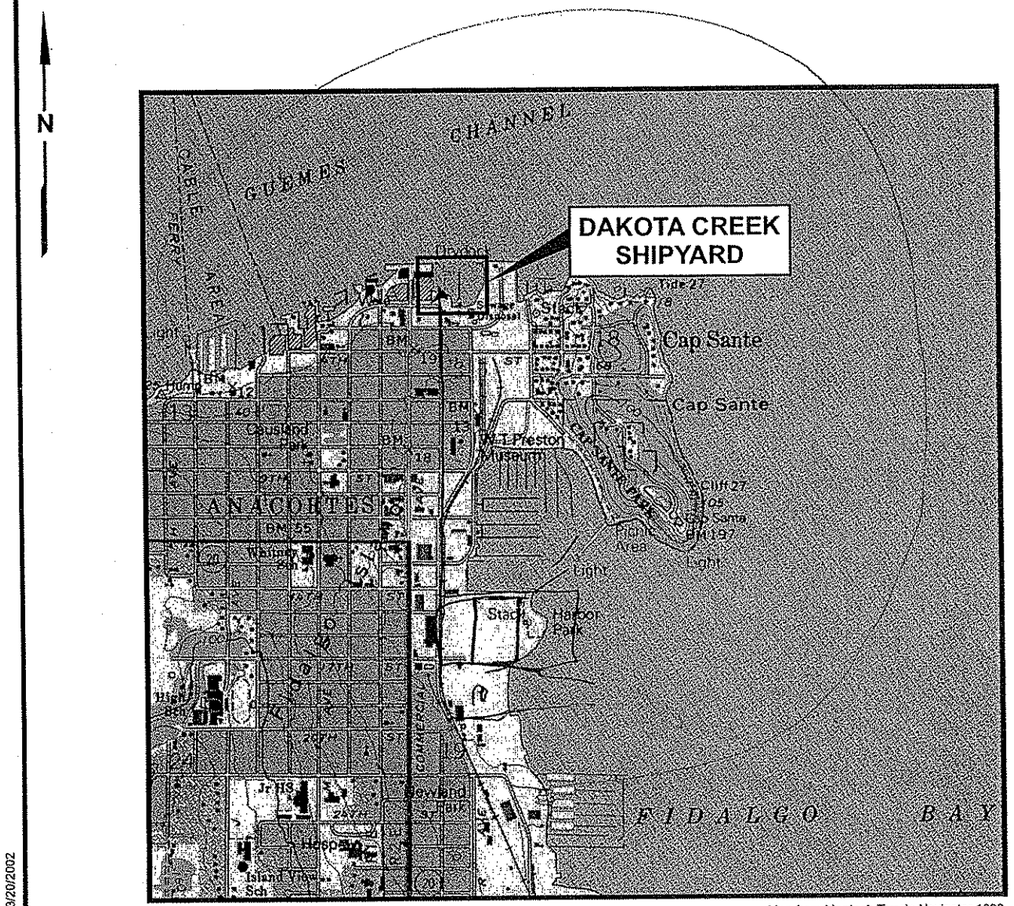
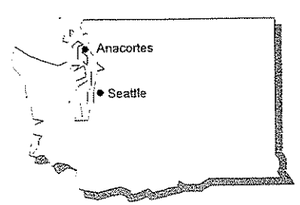
EXHIBIT - A



Map from Maptech Terrain Navigator 1998

0 1/2 1

Approximate Scale in Miles



Dakota Creek Industries/RI-FS Report | T:\52900\0041\RI-FS Report\Fig1.cdr (C) 3/20/2002

Landau Associates

Dakota Creek Industries Anacortes, Washington	**Vicinity Map**	Figure 1

Exhibit A – Dakota Creek Industries Site

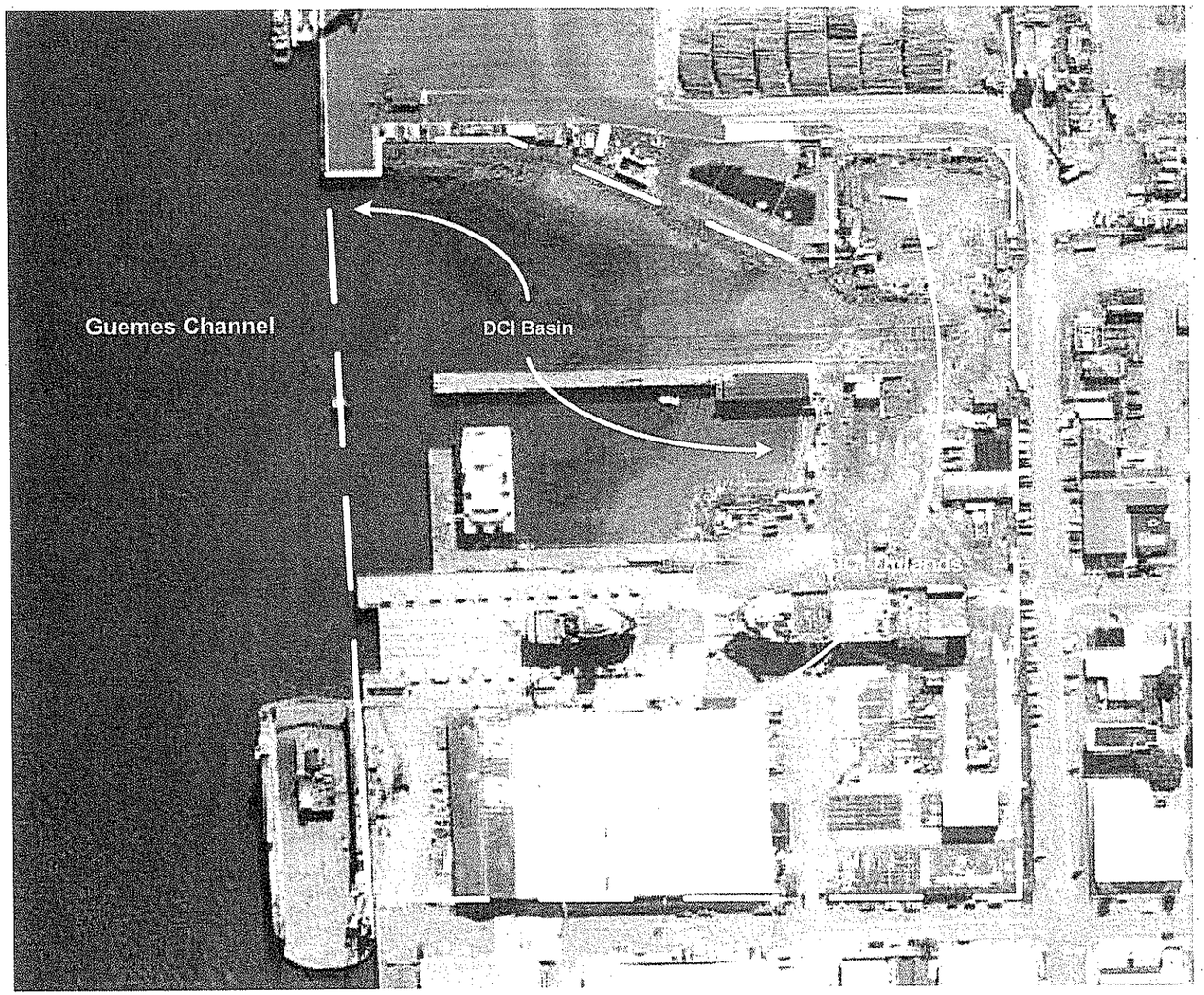


EXHIBIT - B

EXHIBIT B – Project Schedule

The anticipated schedule for major project milestones is outlined below. Days are calendar days; if due dates fall on a weekend or holiday, deliverables will be submitted to Ecology on the next business day. Where the deliverable due date is triggered by notification, comments, or approvals, the starting date for the period shown is the date of actual receipt by Port of Anacortes of the notification, comments, or approval, unless otherwise shown. Where triggered by Ecology receipt of a deliverable, the starting date for the period shown is based on the date of actual receipt by Ecology.

Project Milestone	Schedule
Submission by Port of Draft RI/FS and Interim Action Work Plan	45 days from effective date of Agreed Order
Submission by Port of Draft Final RI/FS and Interim Action Work Plan for Public Review	30 days from receipt by Port of Ecology comments on Draft RI/FS and Interim Action Work Plan
Submission by Port of Final RI/FS and Interim Action Work Plan	15 days from receipt by Port of Ecology comments on Draft Final RI/FS and Interim Action Work Plan
Interim Action	To be determined based on approval of Work Plan evaluation of existing data and identification of data gaps. Marine area interim actions will be implemented during allowable in-water work windows (July 15 to January 15)
Field Investigation to fulfill RI data gaps (if identified)	Initiated 60 days from approval of Work Plan (if determined to be necessary) or completion of interim Action
Submission by Port of Draft RI/FS Report	60 days from receipt by Port of final analytical data package or completion of the Interim Action
Submission by Port of Final RI/FS Report	30 days from receipt by Port of Ecology comments on Draft RI/FS Report.
Submission by Port of Draft Cleanup Action Plan	45 days from receipt by Port of Ecology

	comments on Final RI/FS Report
Submission by Port of Draft Final Cleanup Action Plan	30 days from receipt by Port of Ecology comments on Draft Cleanup Action Report

The Ecology review periods are assumed to be 30 days for draft documents and 15 days for draft final and final documents. Schedule durations are presented for planning purposes, final schedule will be determined by Ecology based on project progress and conditions. Documents become final upon written approval by Ecology.

EXHIBIT - C

5.2.2

Report

Remedial Investigation/Feasibility Study
Dakota Creek Industries, Inc.
Anacortes, Washington

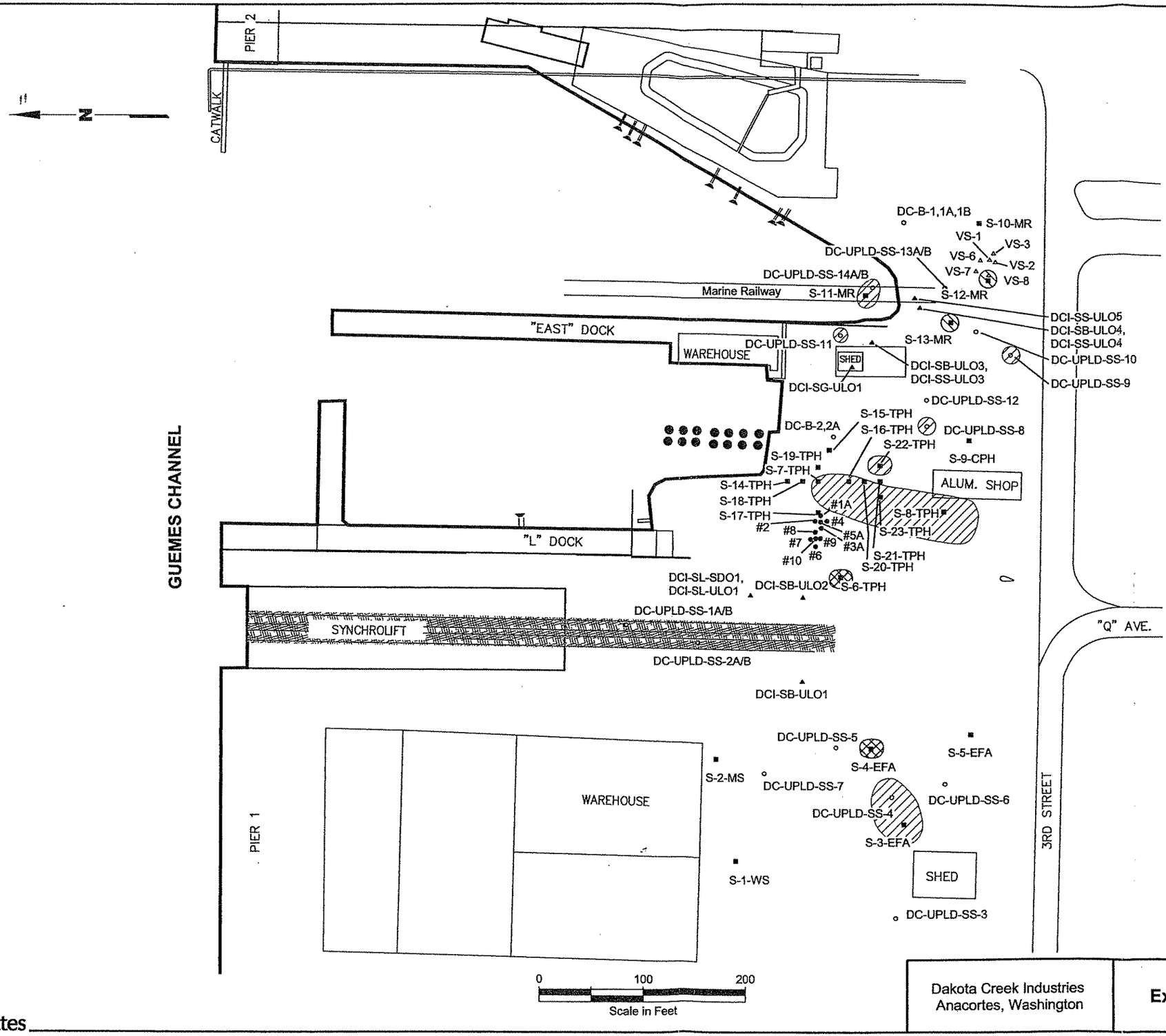
LANDAU ASSOCIATES

TABLE 1
SOIL SAMPLES EXCEEDING PRELIMINARY SCREENING LEVELS
DAKOTA CREEK INDUSTRIES

Area	Sample ID	Depth (ft BGS)	Analyte	Concentration (mg/kg)	Preliminary Screening Level (mg/kg)
Petroleum Area	S-16-TPH-1	1 - 3.7	Gasoline-Range Petroleum Hydrocarbons	120	100
Petroleum Area	S-16-TPH-4	4 - 6.3	Diesel-Range Petroleum Hydrocarbons	40000	2000
Petroleum Area	S-16-TPH-4	4 - 6.3	Gasoline-Range Petroleum Hydrocarbons	2000	100
Petroleum Area	S-20-TPH-4	4 - 6.5	Diesel-Range Petroleum Hydrocarbons	2600	2000
Petroleum Area	S-20-TPH-4	4 - 6.5	Gasoline-Range Petroleum Hydrocarbons	210	100
Petroleum Area	S-22-TPH-1B	2.5 - 4	Diesel-Range Petroleum Hydrocarbons	6700	2000
Petroleum Area	S-22-TPH-1B	2.5 - 4	Gasoline-Range Petroleum Hydrocarbons	700	100
Petroleum Area	S-22-TPH-4	4 - 5	Gasoline-Range Petroleum Hydrocarbons	360	100
Petroleum Area	S-23-TPH-4	4 - 6.7	Diesel-Range Petroleum Hydrocarbons	3800	2000
Petroleum Area	S-7-TPH-1	1 - 4	Diesel-Range Petroleum Hydrocarbons	4400	2000
Petroleum Area	S-7-TPH-2	4 - 7	Diesel-Range Petroleum Hydrocarbons	4400	2000
Petroleum Area	S-7-TPH-2	4 - 7	Gasoline-Range Petroleum Hydrocarbons	560	100
Petroleum Area	S-8-TPH-0	0 - 1	Gasoline-Range Petroleum Hydrocarbons	130	100
Petroleum Area	S-8-TPH-0	0 - 1	Oil-Range Petroleum Hydrocarbons	4100	2000
Petroleum Area	S-8-TPH-1	1 - 4	Gasoline-Range Petroleum Hydrocarbons	310	100
Petroleum Area	#2	Unknown	Gasoline-Range Petroleum Hydrocarbons	166	100
Marine Railway Area	DC-UPLD-SS-11	0 - 0.6	Diesel-Range Petroleum Hydrocarbons	16300	2000
Marine Railway Area	DC-UPLD-SS-11	0 - 0.6	Gasoline-Range Petroleum Hydrocarbons	126	100
Marine Railway Area	DC-UPLD-SS-14A	0 - 0.5	Oil-Range Petroleum Hydrocarbons	18500	2000
Marine Railway Area	DC-UPLD-SS-14B	0.3 - 1.4	Diesel-Range Petroleum Hydrocarbons	2900	2000
Marine Railway Area	DC-UPLD-SS-14B	0.3 - 1.4	Oil-Range Petroleum Hydrocarbons	2820	2000
Marine Railway Area	DC-UPLD-SS-8	0 - 0.5	Oil-Range Petroleum Hydrocarbons	2100	2000
Marine Railway Area	DC-UPLD-SS-9	0 - 0.6	Diesel-Range Petroleum Hydrocarbons	8360	2000
Marine Railway Area	DC-UPLD-SS-9	0 - 0.6	Gasoline-Range Petroleum Hydrocarbons	233	100
Marine Railway Area	DC-UPLD-SS-9	0 - 0.6	Oil-Range Petroleum Hydrocarbons	4470	2000
Marine Railway Area	S-11-MR	0 - 1	Diesel-Range Petroleum Hydrocarbons	2600	2000
Marine Railway Area	S-11-MR	0 - 1	Gasoline-Range Petroleum Hydrocarbons	470	100
Marine Railway Area	S-12-MR	0 - 0.7	Arsenic	240	88
Marine Railway Area	S-13-MR	0 - 0.5	Arsenic	270	88
1975 Earth Fill Area	DC-UPLD-SS-4	0 - 0.8	Oil-Range Petroleum Hydrocarbons	2220	2000
1975 Earth Fill Area	S-3-EFA-0	0 - 1	Gasoline-Range Petroleum Hydrocarbons	200	100
1975 Earth Fill Area	S-3-EFA-1	1 - 4	Gasoline-Range Petroleum Hydrocarbons	250	100
1975 Earth Fill Area	S-4-EFA-2	4 - 7	Benzo(a)anthracene	0.94	0.22
1975 Earth Fill Area	S-4-EFA-2	4 - 7	Chrysene	1.1	0.25
1975 Earth Fill Area	S-6-TPH-2	4 - 7	Benzo(a)anthracene	0.67	0.22
1975 Earth Fill Area	S-6-TPH-2	4 - 7	Chrysene	0.6	0.25

cPAH

Note:
Soil boring S-6-TPH is not actually located in the 1975 earth fill area, but contamination at that location is addressed with contamination in the earth fill area, as discussed in the text of the *Cleanup Action Work Plan (Landau Associates 2002)*.



Dakota Creek Industries/RI-FS Report | T:\52900\6\041\RI-FS Report\Fig10.dwg (A) *Figure 10* 3/20/2002

Landau Associates

Dakota Creek Industries Anacortes, Washington	**Extent of Soil Contamination**	Figure 10

Completion Report
Independent Cleanup Action
Dakota Creek Industries Shipyard Facility
Anacortes, Washington

December 20, 2002

Prepared for

Port of Anacortes
First and Commercial Avenue
P.O. Box 297
Anacortes, WA 98221

LANDAU ASSOCIATES
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This independent cleanup action completion report has been prepared for the exclusive use of the Port of Anacortes. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

This document has been prepared under the supervision and direction of the following key staff.

LANDAU ASSOCIATES, INC.

Charles P. Halbert, P.E.
Senior Project Engineer

and

Kristy J. Hendrickson, P.E.
Principal

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1.0 INTRODUCTION

This report documents the independent cleanup action performed at the upland area of the Dakota Creek Industries, Inc., (DCI) shipyard facility (site) located at 115 Q Avenue in Anacortes, Washington (Figure 1). The *Remedial Investigation/Feasibility Study Report* (RI/FS; Landau Associates 2002a) for this area was based on a number of site investigations conducted by others as well as by Landau Associates. The *Cleanup Action Plan and Cleanup Action Work Plan* (Landau Associates 2002b) and its addendum (Landau Associates 2002c), collectively referred to as the work plan, were forwarded to Ecology on March 21, 2002 for review under the Voluntary Cleanup Program. The cleanup action described herein was developed and implemented to meet the regulatory requirements set forth by the Model Toxic Control Act (MTCA, WAC 173-340-360). The cleanup was initiated after receipt of a comfort letter from the Washington State Department of Ecology (Ecology) dated May 22, 2002.

The cleanup action included excavation, off-site transport and disposal of soil, and additional sampling of groundwater monitoring wells. Activities associated with the excavation and removal of soil at the site were completed between August 19 and August 30, 2002. Four rounds of groundwater quality monitoring have been completed between the third quarter of 2001 and the third quarter of 2002 (third quarter 2001, fourth quarter 2001, second quarter 2002, and third quarter 2002). One additional round of groundwater monitoring is scheduled during the fourth quarter of 2002, the results of which will be provided separately.

This report is organized into five sections, which contain the following information:

- Section 1.0 – Introduction: This section presents an overview of the site history and objectives of the independent cleanup action. The history and background are more fully described in the RI/FS (Landau Associates 2002a).

- Section 2.0 – Soil Cleanup Action: This section describes the implementation of the cleanup action for soil in the petroleum area, marine railway area, and 1975 earth fill area. The cleanup action and rationale is more fully described in the work plan (Landau Associates 2002b,c).

- Section 3.0 – Groundwater Conditions: This section describes the results of groundwater investigations based on four quarterly groundwater sampling events.

- Section 4.0 – Summary: This section presents the results of the cleanup action.

- Section 5.0 – References: This section provides a list of the references identified in this document.

1.1 SITE DESCRIPTION AND HISTORY

The site is located on property that has been used as a shipyard and for shipping- and maritime-related purposes since 1879. The Port purchased the parcels that together comprise the site over a period of years, the largest as recently as 1976. In addition to the construction and repair of vessels, a dock near existing Pier 1 was used for ferry boats in the early 1900s. Historically, various aboveground storage tanks (ASTs), a railroad spur, and associated buildings (e.g., machine shops, welding shops, and equipment sheds) were present. DCI began leasing the property from the Port in 1977 and has continued to use the site as a shipyard since that time. Historical and current property uses are shown on Figures 2 and 3, respectively.

Several ASTs were historically located at the site. Review of Sanborn maps from 1925, 1950, 1958, and 1962 indicate the presence of at least six ASTs on the parcel on Q Avenue, approximately midway between 2nd and 3rd Streets. Two vertical cylindrical tanks with one large horizontal steel tank immediately to the north, and two smaller horizontal steel tanks and at least one larger horizontal tank immediately to the east, were located on the parcel. The tanks were not present in 1925, but were present by 1946, and remained in place until at least 1962. Review of aerial photographs confirms the tanks were present by 1946 at least until 1969.

No ASTs were present when the Port purchased the parcel on Q Avenue between 2nd and 3rd Streets in 1976. Some or all of the parcel, then owned by Pacific Tow Boat, was leased to Standard Oil of California beginning in late 1946. The lease provided Standard Oil with the right to install and maintain pipelines and store petroleum products. Pacific Tow Boat, also known as Foss Tug, transferred the parcel to Dillingham Corporation on August 2, 1969, which later sold it to the Port.

The site is an active shipyard currently used for construction and repair of vessels. Existing site features include a pier (Pier 1); two outfitting piers (the “L Dock” and the “East Dock”); a dry dock; a marine railway; and a synchrolift elevator system used to raise vessels for out-of-water hull maintenance (Figure 3). Typical activities performed on the synchrolift system and dry dock include abrasive blasting, painting, and pressure washing. Other site features include upland fabrication areas, shops, a sandblast grit storage shed, and warehouse and storage areas.

The site is mostly unpaved except for an asphalt-covered area south of the synchrolift and main building complex, and concrete areas along Pier 1 and adjacent to the synchrolift. The site is relatively flat and ground surface elevation is approximately 15 ft above mean lower low water (MLLW). Surface and subsurface soil consists of historical fill over native glacial sediments. The fill consists of silt, sand, and gravel. The thickness of the fill varies across the site. Previous explorations indicated that the fill was 2.5 to 6.5 ft thick in the areas evaluated. The glacial sediments consist of medium dense glaciomarine drift with varying thicknesses of silt, sand, and gravel over dense, compacted gravelly sands

with siltier interbeds (Hart Crowser 2001). Clay was encountered during the remedial investigation (RI), particularly on the west half of the site. Groundwater elevations beneath the site are influenced by tidal and seasonal variations. Tidal variations at the shoreline range from about -3 to 9 ft MLLW with a mean tidal range of 2.6 to 7.4 ft MLLW (Hart Crowser 2001). Depth to groundwater at the site ranges from approximately 4 to 12 ft below ground surface (BGS). Groundwater flows north-northeast toward Guemes Channel.

1.2 CLEANUP ACTION OBJECTIVES

The objective of the independent cleanup action at the site was to protect human health and the environment by meeting the cleanup standards established in WAC 173-340-700 through 173-340-760 in upland areas of the site. Cleanup levels for the site and the rationale for cleanup level development are more fully described in the RI/FS (Landau Associates 2002a) and are summarized in tables summarizing confirmation samples and groundwater samples, in this report. The schedule for this cleanup action was driven by the redevelopment of Pier 1, and a site inspection performed in 2001 by the U.S. Environmental Protection Agency (EPA).

2.0 UPLANDS CLEANUP ACTION

This section describes the cleanup action for soil in three upland areas: the petroleum area, marine railway area, and 1975 earth fill area. These three areas, designated for convenience, are shown on Figure 4 and described further below. Remediation of soil contamination at concentrations above cleanup levels was achieved by excavation and offsite treatment and disposal, as described in the work plan (Landau Associates 2002b,c). Excavated soil that did not meet cleanup levels was transported to Rinker Materials' thermal desorption facility in Everett, Washington for treatment and disposal.

The site's setting, historical use, zoned future use and the planned redevelopment support industrial use of the site; therefore, industrial soil cleanup levels are applicable to the site. MTCA Method A cleanup levels are used for petroleum hydrocarbons, lead, and polychlorinated biphenyls (PCBs). MTCA Method C industrial soil cleanup levels, protective of direct contact, are used for all other chemicals detected in onsite soil. Cleanup levels and rationale are described in greater detail in sections 3.0 and 5.0 of the RI/FS.

Prior to initiation of the cleanup action, an area west of the existing sandblast grit shed was prepared for use in stockpiling clean soil encountered during the excavation. For the purposes of this report, clean soil is considered to be any soil with chemical concentrations below cleanup levels. The clean soil stockpile area was prepared by laying down a 10-mil plastic liner to serve as a barrier between the stockpile and the existing grade. Materials for berm construction and a 10-mil plastic cover were available for use in case of inclement weather (i.e., wind or rain with the potential to create runoff or dust issues). The clean soil stockpile location is identified on Figure 4.

Soil with moderate to heavy petroleum contamination was loaded directly into dump trucks and trailers for transportation to Rinker Materials' thermal desorption facility. Moderate to heavy petroleum contamination was defined as soil with:

- Moderate to heavy visible film present, or
- Moderate to heavy sheen produced during sheen test. The sheen test consisted of collecting a grab soil sample from the center of the soil in the excavator bucket or from the sidewall or bottom of the excavation. Water was added to the soil and then the water and soil were agitated. If a moderate to heavy sheen was visible on the surface of the water, the soil was considered to have moderate to heavy petroleum contamination, or
- Photoionization detector (PID) readings of volatile compound concentrations at or above 20 parts per million (ppm).

Excavated soil destined for offsite disposal was sampled in accordance with requirements provided by Rinker Materials. Results from the disposal characterization samples are summarized in Table 1.

Excavated soil that did not meet the definition of moderate to heavy petroleum contamination was placed in the clean soil stockpile area (but segregated from the bulk stockpile pending analytical confirmation), sampled, and analyzed for petroleum hydrocarbons in an onsite mobile laboratory to confirm that actual concentrations were below cleanup levels. Analytical results from the clean soil stockpile samples are presented in Table 2. If analytical results for soil placed in the clean soil stockpile showed petroleum hydrocarbons at concentrations exceeding cleanup levels, that material was immediately removed from the clean soil stockpile area and placed into dump trucks and trailers and transported offsite for treatment and disposal at Rinker Materials' thermal desorption facility.

Excavations were determined to be complete when confirmation samples verified that chemical concentrations in the remaining soil were below cleanup levels (Table 3). After excavations were completed for each area identified in the work plan, clean soil was used to backfill the excavations to original grade.

Field work performed during the independent cleanup action was documented through the combined use of field notes and photographs. Selected photographs of the cleanup action are presented in Appendix A.

2.1 PETROLEUM AREA

The petroleum area was defined as the area where soil with petroleum hydrocarbons (predominantly gasoline range and diesel range) concentrations exceeding the cleanup levels and known or suspected sources of releases had been previously identified. The MTCA Method A industrial soil cleanup levels for petroleum hydrocarbons are 2,000 mg/kg each for diesel-range hydrocarbons and oil-range hydrocarbons and 100 mg/kg for gasoline-range hydrocarbons. The area of contamination extended from the location of a building formerly identified as an equipment maintenance shed to the former location of several ASTs, as shown on Figure 4. The areal extent of excavation is also shown on Figure 4.

The petroleum area excavation encompassed an area of approximately 8,800 ft^2. Excavation depths ranged from 1.5 ft at the south end of the excavation, near the aluminum shop, to 8 ft in the areas further north of the aluminum shop. Approximately 2,600 yd^3 of soil were excavated from the petroleum area. Roughly 1,300 yd^3 of excavated soil were hauled offsite for treatment and disposal. The remaining 1,300 yd^3 of clean soil were temporarily stockpiled onsite, tested, and used as backfill in the completed excavation.

The subsurface soil observed in the petroleum area excavation consisted primarily of silty sand with scattered thin layers of clay, peat, and wood chips. Active stormwater and air lines were encountered in the excavation as were two abandoned fuel lines, one abandoned water line, and one

abandoned unidentified utility line. Several vertical concrete footings (some with visible petroleum contamination) and one horizontal concrete slab were also encountered in the petroleum area excavation at locations consistent with the historical presence of ASTs. Petroleum area excavation features are shown on Figure 5. Photographs of the petroleum area excavation are presented in Appendix A.

Forty-four confirmation samples were collected from the bottom and sidewalls of the excavation to verify the petroleum hydrocarbons concentrations in the remaining soil were less than cleanup levels. Two samples, selected because they had the greatest concentrations of petroleum hydrocarbons in soil remaining at the excavation boundaries, were also analyzed for total metals, polycyclic aromatic hydrocarbons (PAH), and PCBs. Of the 44 confirmation sample locations in the petroleum area, 5 (CS-17, CS-19, CS-20, CS-26, and CS-38) were overexcavated because the levels of petroleum hydrocarbons concentrations initially exceeded cleanup levels. After overexcavation, the samples characterizing remaining soil (shown on Figure 5) had concentrations less than cleanup levels. Lead was the only metal detected in any petroleum area confirmation sample; it was detected at a concentration of 8 mg/kg in sample CS-30 (which is well below the cleanup level). PAHs and PCBs were not detected in petroleum area confirmation samples.

2.2 MARINE RAILWAY AREA

The marine railway area, which was defined as the area near the existing marine railway structure which is no longer in use, contained soil with petroleum hydrocarbons and arsenic concentrations exceeding the cleanup levels. The soil cleanup levels for petroleum hydrocarbons are 2,000 mg/kg each for diesel-range hydrocarbons and oil-range hydrocarbons and 100 mg/kg for gasoline-range hydrocarbons. The soil cleanup level for arsenic is 88 mg/kg. Seven areas of contamination were identified within the marine railway area, as shown on Figure 4.

Two of the areas identified for excavation in the work plan were so identified due to elevated arsenic concentrations. However, composite soil samples collected from these locations for disposal characterization purposes showed arsenic concentrations were below the detection limit of 5 mg/kg. Discrete excavation confirmation samples collected from these areas verified that arsenic was below the detection limit of 5 mg/kg. Based on these results, we conclude that the elevated arsenic concentrations detected as described in the RI were isolated occurrences which were not repeatable and hence were not characteristic of general soil conditions in the marine railway area.

Surface soil (0 to 1 ft BGS) was excavated to remove petroleum hydrocarbon contamination at four locations in the marine railway. These four excavations were each 10 ft by 10 ft and centered on the sample locations from previous investigations with elevated petroleum hydrocarbons. Discrete confirmation samples collected from excavation bottoms in these areas verified that concentrations of

petroleum hydrocarbons in these four areas were below cleanup levels. Contaminants were not detected in any of the confirmation samples, except for oil-range hydrocarbons, which were detected in two samples at concentrations of 320 mg/kg and 720 mg/kg. The detected concentrations were well below the cleanup level of 2,000 mg/kg.

Two surface soil samples in one area along the marine railway alignment, collected during the U.S. Environmental Protection Agency's (EPA) site inspection, contained concentrations of PAHs that were elevated (with concentrations of individual PAHs up to 8.9 mg/kg), but below cleanup levels protective of the direct contact pathway. Although the detected concentrations were below cleanup levels, the Port elected to excavate surface soil in this area and transport the soil offsite for treatment and disposal. This part of the cleanup action was not identified in the work plan because EPA's report (2002) was not available for review until the cleanup action was underway.

The main excavation in the marine railway area, shown on Figure 4, encompassed an area of approximately 2,300 ft^2 and extended to depths ranging from 3.5 ft to 5 ft. Approximately 350 yd^3 of soil were excavated from the main excavation in the marine railway area. Roughly 300 yd^3 of excavated soil were hauled offsite for treatment and disposal. Roughly 50 yd^3 of clean soil from the main marine railway area excavation were temporarily stockpiled onsite and used as backfill in the completed excavation.

Soil observed in the main marine railway area excavation consisted primarily of fine to medium sand. Several wood pilings were also encountered in this excavation. Wood pilings were left in place. Photographs of the main marine railway area excavation are presented in Appendix A.

Seven confirmation samples were collected from the bottom and sidewalls of the main marine railway area excavation to verify that the remaining soil had petroleum hydrocarbons concentrations below cleanup levels. No petroleum hydrocarbons were detected in any of the confirmation samples from the main excavation in the marine railway area.

2.3 1975 EARTH FILL AREA

Based on a review of historical Sanborn maps and aerial photographs, this area was used residential purposes from before 1925 until after 1966. When DCI became a tenant on this parcel in 1975, this area was depressed approximately 2 ft below the surrounding ground surface. The Port maintains that this area was raised to the existing grade using dredged sediments from Guemes Channel. This area is called the 1975 earth fill area simply because some fill was required to bring it to grade.

Some petroleum hydrocarbons and PAHs in surface and near-surface soil in the 1975 earth fill area had exceeded preliminary screening levels protective of surface water during the RI; however, they did not exceed the MTCA method C cleanup levels protective of direct contact with soil. Groundwater

samples collected from shoreline groundwater monitoring wells, (see Section 3.0) including one downgradient of the 1975 earth fill area, show that PAHs are either not detected in groundwater, or are detected at concentrations below the cleanup levels for groundwater (a detailed discussion of applicable cleanup levels is presented in Sections 3.0 and 5.0 of the RI/FS). Since the results indicate that the existing concentrations of PAHs in soil are protective of groundwater quality (and hence surface water quality) at the DCI site and that these concentrations are also less than the MTCA method C cleanup levels protective of direct contact with the soil, no excavation or other cleanup action was conducted in this area.

2.4 BACKFILL

Clean backfill material was used to return the completed excavations to the original grade. Clean concrete debris removed during the excavation was placed in the bottom of the excavation in the petroleum area where the excavation bottom extended below or near the groundwater table. Pit run imported from offsite was used to backfill excavations up to the groundwater table elevation. Material from the clean soil stockpile was placed back in the excavations above the groundwater table and below the ground surface. Clean soil and/or crushed rock imported from offsite was used to bring the excavations to final grade. Fill material was placed in 8-inch lifts and compacted to at least 95 percent of maximum dry density.

3.0 GROUNDWATER MONITORING RESULTS

Groundwater samples have been collected from the four onsite groundwater monitoring wells during four separate quarterly monitoring events: third and fourth quarters 2001, and second and third quarters 2002. As described in the RI/FS (Landau Associates 2002a), groundwater at the site discharges directly to Guemes Channel and is unlikely to be used as drinking water. Therefore, MTCA Method B marine surface water cleanup levels were identified as applicable cleanup levels for groundwater. Cleanup levels and rationale are described in detail in Sections 3.0 and 5.0 of the RI/FS. The three shoreline wells (MW-1, MW-2, and MW-3) are considered the points of compliance for groundwater quality at the site.

Groundwater samples were analyzed for petroleum hydrocarbons and metals. Additional analyses in some sampling rounds included volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and herbicides. Analytical results of the four groundwater sampling events are summarized in Table 4 and discussed further below.

3.1 METALS

Dissolved metals were analyzed in the first, second, and third groundwater monitoring events. At Ecology's suggestion in the VCP comfort letter dated May 22, 2002, total metals were analyzed in the third and fourth groundwater monitoring events. A comparison of dissolved and total metals concentrations for the third groundwater monitoring event shows that, for most metals, the dissolved metals concentrations are significantly less than the total metals concentrations. However, the dissolved and total arsenic concentrations are not significantly different. For the purposes of this evaluation, both dissolved and total metals concentrations were compared to the cleanup levels.

The cleanup levels for groundwater were not exceeded in any of the monitoring wells for cadmium, chromium, copper, lead, mercury, and zinc.

The cleanup level for arsenic in groundwater is 0.008 mg/L based on background concentrations in Washington State (PTI 1989). Arsenic concentrations at the shoreline groundwater monitoring wells have been at or below the widely accepted state-wide background level of 0.008 mg/L, except for a single detection of 0.009 mg/L (dissolved) in monitoring well MW-1 during the first monitoring event. Arsenic has been detected in monitoring well MW-4, located at the upgradient end of the site, at concentrations ranging from 0.008 mg/L to 0.017 mg/L. While above the widely used state-wide background levels, the arsenic in groundwater is likely from natural sources. Naturally occurring arsenic is common in western Washington, with many Puget Sound water supply wells reporting arsenic concentrations ranging from 0.01 to 0.05 mg/L. Site activities probably have not impacted arsenic in groundwater.

Nickel has been detected twice at concentrations exceeding the cleanup level of 0.0082 mg/L. Both of the exceedances of total nickel concentrations occurred in monitoring well MW-2 and were very close to the cleanup level (0.0083 mg/L and 0.0099 mg/L). There are no known or suspected sources of nickel at the DCI facility. Nickel is not considered a contaminant of concern at this site, and it is expected that these results reflect background conditions.

3.2 PETROLEUM HYDROCARBONS

Total petroleum hydrocarbons in the groundwater were quantified in three separate ranges: gasoline, diesel, and heavy oil. Based on the observation of significant amounts of naturally occurring organic material (e.g., peat and wood chips) at this site, the silica gel and sulfuric acid cleanup step is appropriate for diesel-range and oil-range hydrocarbons analyses (NWTPG-Dx) as described in Ecology guidance (Ecology 1997). This cleanup step is used to remove from the sample the fraction of hydrocarbons that are related to the presence of non-petroleum organic material in the samples. Laboratory calibrations were conducted to account for potential reductions in concentrations of heavy oils caused by the cleanup step that may, in fact, have been related to petroleum products. The silica gel and sulfuric acid cleanup step was used for groundwater samples collected during the third and fourth sampling rounds.

As shown in Table 4, gasoline-range petroleum hydrocarbons are not present in any of the groundwater monitoring wells. Diesel-range and oil-range hydrocarbons were detected in samples collected during the first three monitoring events when the silica gel and sulfuric acid cleanup step were not used. However, based on a comparison of analytical results from the third groundwater monitoring event, when analyses were run both with and without the silica gel and sulfuric acid cleanup step, it is likely that the previously detected hydrocarbons are attributed to organic material in the subsurface at the site. Total petroleum hydrocarbons have not been detected in any groundwater sample from the third and fourth monitoring events when the silica gel and sulfuric acid cleanup step has been used.

3.3 VOLATILE ORGANIC COMPOUNDS

VOCs were analyzed in groundwater samples collected during the first and third groundwater monitoring events. Acetone was the only VOC detected in any groundwater sample. The only detected acetone concentration was 0.0093 mg/L in monitoring well MW-4 during the first monitoring event. The detected concentration is approximately two orders of magnitude less than the MTCA cleanup level based on the protection of groundwater used as drinking water. Acetone is a common laboratory contaminant

and there are no known sources of acetone at the site. Due to the low level of a single detection and lack of ties to site activities, the acetone result is not considered valid.

3.4 SEMIVOLATILE ORGANIC COMPOUNDS

SVOCs were analyzed in groundwater samples collected during the third and fourth (PAHs only) groundwater monitoring events. No SVOCs were detected during the third monitoring event.

A few specific PAHs were detected at low concentrations in monitoring wells MW-2 and MW-3 during the fourth monitoring event. Four PAHs (acenapthene, fluorene, fluoranthene, and pyrene) were each detected at concentrations less than 1 μg/L. The detected concentrations ranged from values that were two to four orders of magnitude less than the cleanup levels. Detected concentrations of PAHs do not present a concern for human health and the environment at the DCI site.

3.5 PESTICIDES AND HERBICIDES

Pesticides and herbicides were analyzed in groundwater samples collected during the third groundwater monitoring event. No pesticides or herbicides have been detected in any of the groundwater monitoring wells.

4.0 SUMMARY

Approximately 1,600 yd^3 of petroleum contaminated soil from eight excavations was removed and transported offsite for treatment and disposal during the independent cleanup action of the uplands area. Another 1,350 yd^3 of clean soil was removed to expose the petroleum contaminated soil, temporarily stockpiled onsite, and reused as backfill in the completed excavations. Clean pit run soil material and crushed rock were imported to bring the excavations back to original grade.

Confirmation samples collected from the bottom and sidewalls of all excavations were analyzed in an onsite laboratory to verify that soil remaining at the boundaries of the excavation contained concentrations below cleanup levels. As shown in Table 3, all of the confirmation samples characterizing remaining soil had chemical concentrations below cleanup levels.

Based on existing data, site activities have not impacted site groundwater at the level of concern for human health and the environment.

5.0 REFERENCES

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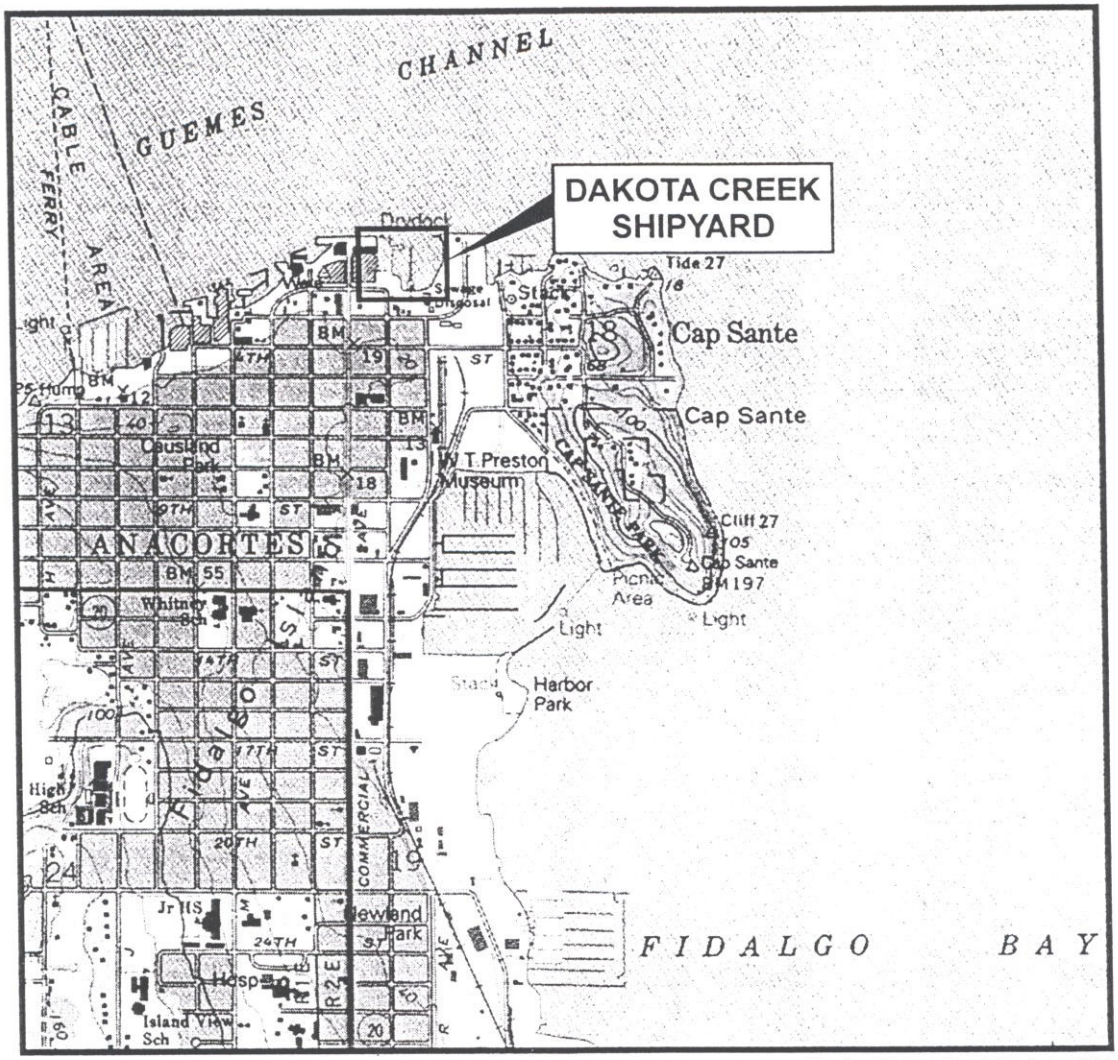

Map from Maptech Terrain Navigator 1998

Dakota Creek Industries/Completion Report | T:\529\006\041\Completion Report\Fig1.cdr (C) 10/29/2002

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Dakota Creek Industries Anacortes, Washington	**Vicinity Map**	Figure 1

PORT OF ANACORTES LOG YARD

PIER 2

CATWALK

MUNICIPAL SANITARY SEWER OUTFALL

GUEMES CHANNEL

Marine Railway Winch

Marine Railway

"EAST" DOCK

Wood Working (1960–1980s)

Paint House (1925–1950s)

Steel Shop and Welding (1960s)

Marine Railway Early 1990s

Municipal Storm Sewer Outfall

Wood Working (Post 1925–1950s)

"L" DOCK

USTs (Removed 1991)

EQUIPMENT MAINTENANCE SHED

Former Scott Paper Outfall (Abandoned 1970s)

Steel Oil Tanks (Post 1925–1960s)

Great Northern RR

Machine Shop

1975 Earth Fill Area

(Post 1925–Pre 1950s)

Welding

"Q" AVE.

3RD STREET

PIER 1

N

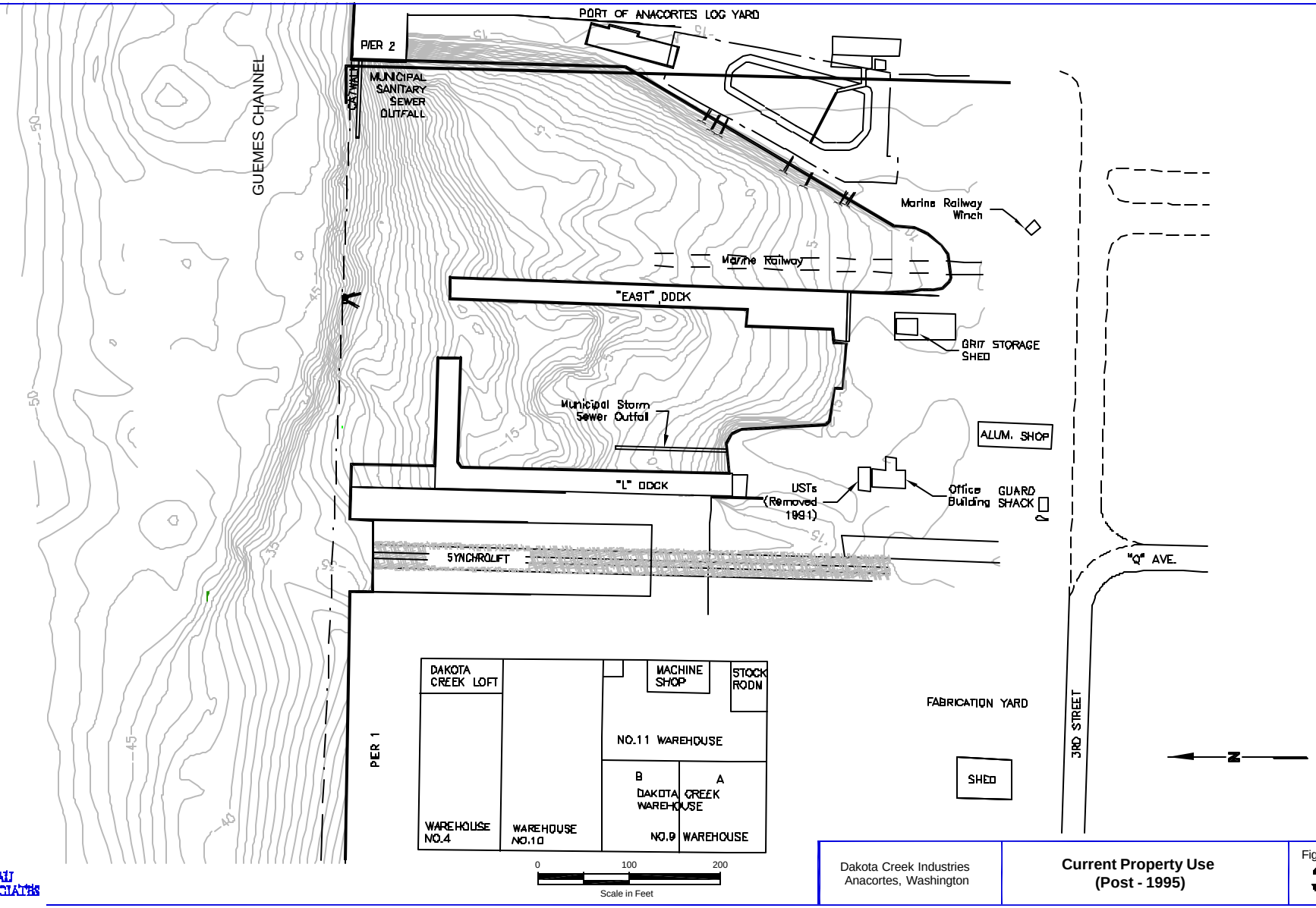
0 100 200

Scale in Feet

LANDAU ASSOCIATES

Dakota Creek Industries Anacortes, Washington	**Historical Property Use (Through 1975)**	Figure **2**

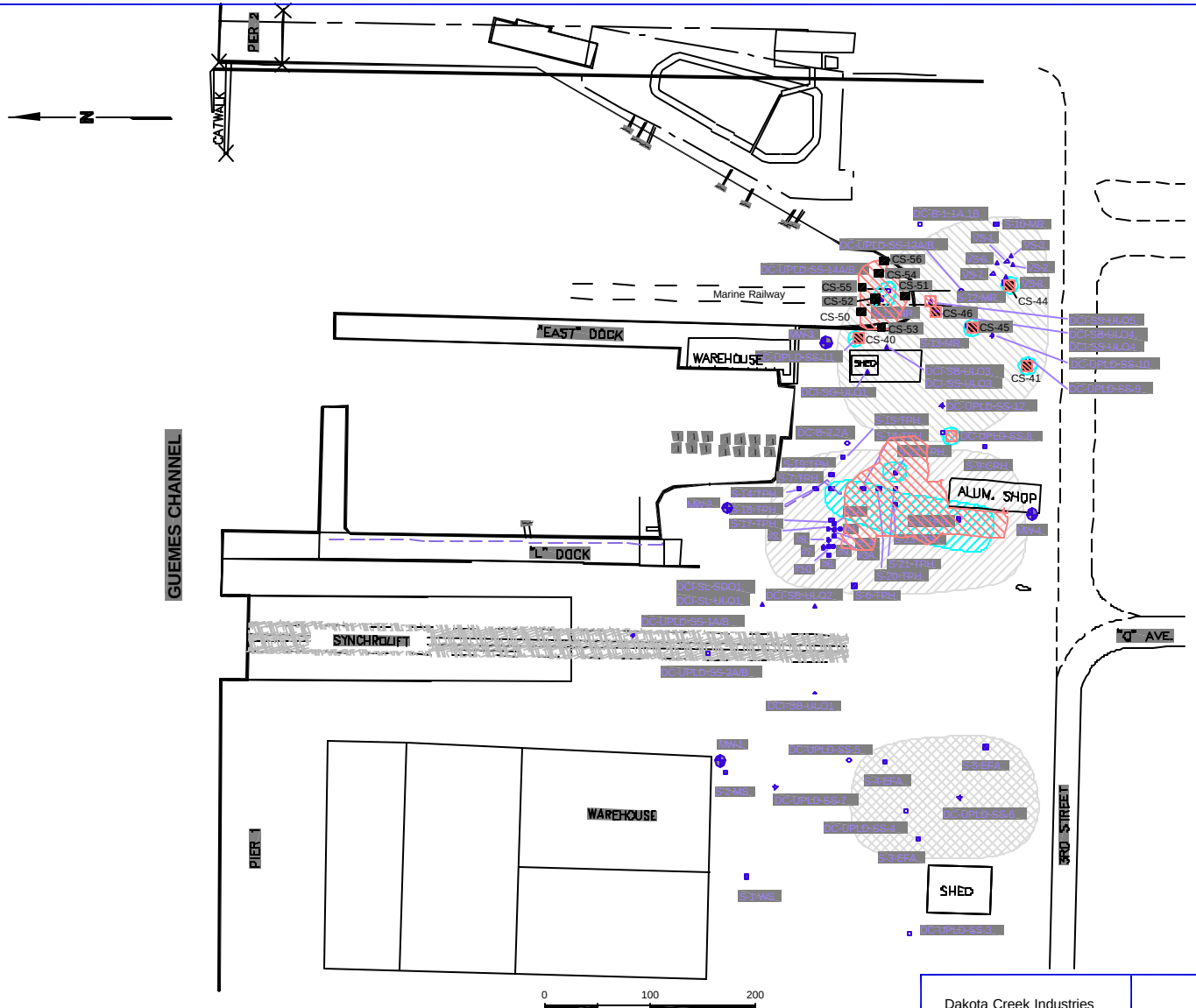
Dakota Creek Industries/Completion Report | T:\529\006\041\Completion Report\Fig2.dwg (A) "Figure 2" 10/29/2002



Dakota Creek Industries/Completion Report | T:\529\006\041\Completion Report\Fig3.dwg (A) "Figure 3" 10/29/2002

LANDAU ASSOCIATES

Dakota Creek Industries Anacortes, Washington	**Current Property Use (Post - 1995)**	Figure **3**



Legend

- MW-1 — Groundwater Monitoring Well Locations
- Fuel Line (abandoned)
- Excavation Confirmation Samples
- Actual Area of Excavation
- Planned Area of Excavation
- TPHs Soil Excavation (A-1 Pump Service 1991)
- Environmental Site Assessment (Otten Engineering 1997)
- Hydraulic Winch Soil Excavation (Landau Associates 2001)
- EPA Site Inspection (Weston 2001)
- Remedial Investigation (Landau Associates 2002)

Notes

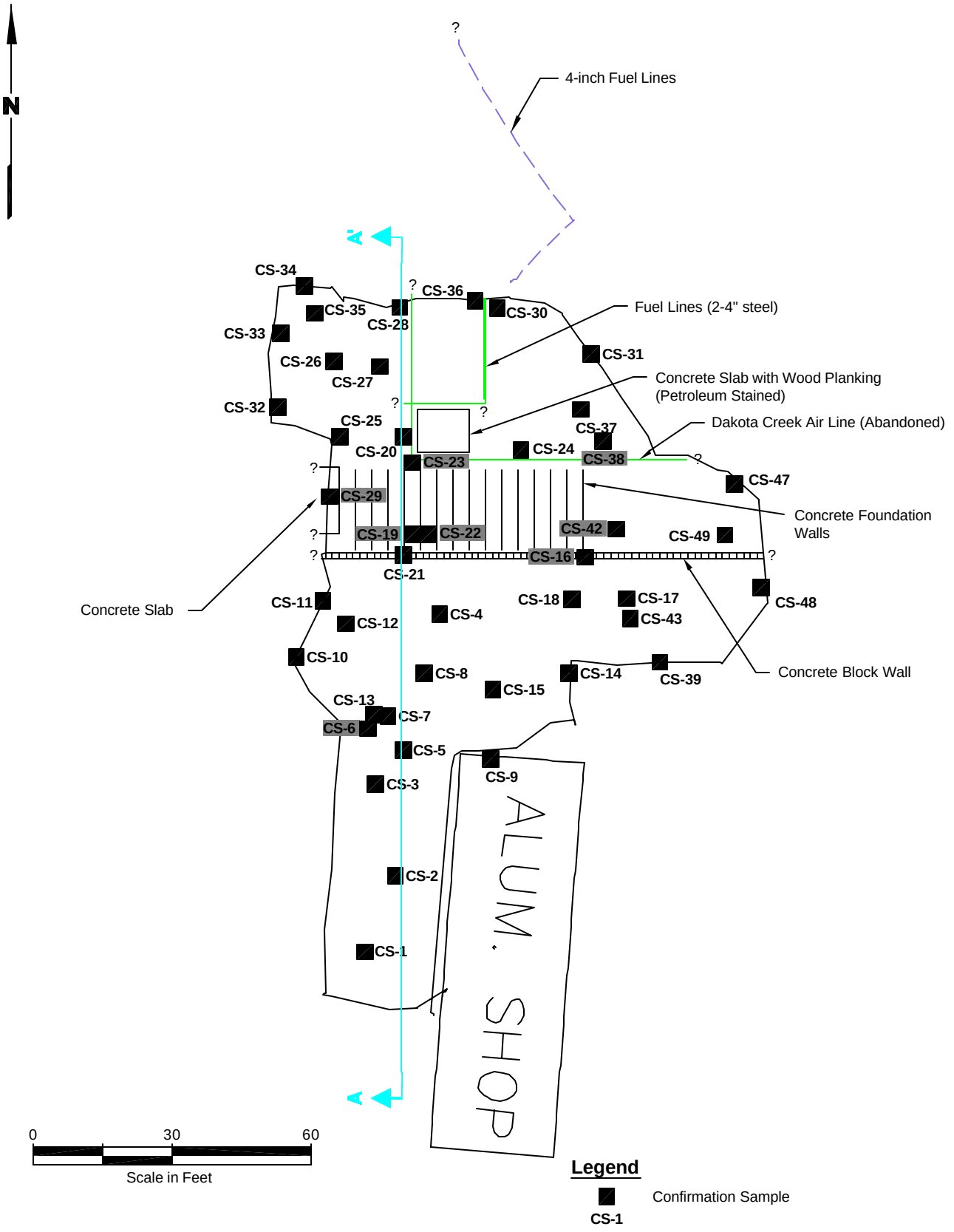
1. This is a color drawing. Reproduction in black and white could result in loss of important information.
2. This Figure Does Not Identify Areas of Contamination.

Dakota Creek Industries
Anacortes, Washington

Cleanup Action Site Plan

Figure **4**

LANDAU ASSOCIATES



Dakota Creek Industries/Completion Report | T:\529\006\041\Completion Report\Fig5.dwg (A) "Figure 5" 10/29/2002

LANDAU ASSOCIATES

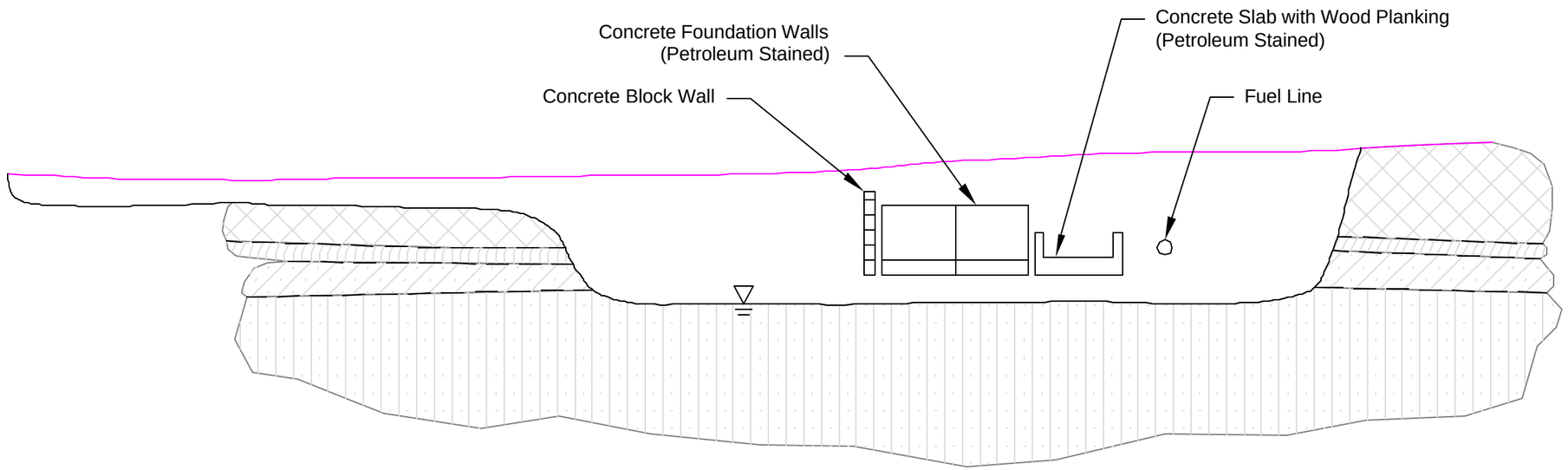
Dakota Creek Industries
Anacortes, Washington

Petroleum Area Exavation Detail

Figure
5

A
South

A'
North



Legend

- Fill (Type Varies)
- Brown Organic Silt/Peat
- Brown to Gray Clayey Silt
- Silty Fine Sand

LANDAU ASSOCIATES

0 20 40
Scale in Feet
Vertical Exaggeration = 0.5

Dakota Creek Industries
Anacortes, Washington

Petroleum Area Excavation Cross-Section

Figure
6

TABLE 1
DISPOSAL CHARACTERIZATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Sample Number:	DS-1	DS-2	DS-3	DS-4	DS-5	DS-6	DS-7	DS-8	DS-9	DS-10	DS-11
HYDROCARBONS (mg/kg)											
NWTPH-Gx,Dx,Dx Extended											
Gasoline	5.0 ND	5.0 ND	10 ND	10 ND	10 ND	10 ND	10 ND	10 ND	10 ND	10 ND	5.0 ND
Diesel	100	20 ND	800	270	46	4000	9600	4400	660	1700	800
Oil	50 ND	50 ND	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	50 ND
Mineral Oil	NA	NA	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	40 ND	NA
Mineral spirits/Stoddard solvent	5.0 ND	5.0 ND	NA	NA	NA	NA	NA	NA	NA	NA	5.0 ND
Kerosene/Jet fuel	20 ND	20 ND	NA	NA	NA	NA	NA	NA	NA	NA	20 ND
HEAVY METALS (mg/kg)											
EPA 7061											
Lead	NA	NA	44	52	57	140	220	180	130	200	360
Cadmium	NA	NA	1 ND	1 ND	1 ND	1 ND	1 ND	1 ND	1 ND	1 ND	1 ND
Chromium	NA	NA	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND
Arsenic	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND	5 ND
Silver	NA	NA	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND
Barium	NA	NA	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND	20 ND
Selenium	NA	NA	50 ND	50 ND	50 ND	50 ND	50 ND	50 ND	50 ND	50 ND	50 ND
Mercury	NA	NA	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.6	1.2	0.5 ND	1.0	3.5
TCLP METALS (mg/L)											
EPA 7000 series											
Arsenic	0.80 ND	0.80 ND	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg)											
EPA 8082											
Aroclor 1016	NA	NA	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	0.20 ND
Aroclor 1221	NA	NA	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	0.20 ND
Aroclor 1232	NA	NA	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	2.00 ND	0.20 ND
Aroclor 1242	NA	NA	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.20 ND
Aroclor 1248	NA	NA	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.20 ND
Aroclor 1254	NA	NA	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.20 ND
Aroclor 1260	NA	NA	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.5 ND	0.20 ND

TABLE 1
DISPOSAL CHARACTERIZATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Sample Number:	DS-1	DS-2	DS-3	DS-4	DS-5	DS-6	DS-7	DS-8	DS-9	DS-10	DS-11
PAHs (mg/kg)											
EPA 8270											
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.17
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.15
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.14
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.18
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.42
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.10 ND
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.38

ND = Indicates not detected at the listed detection limits
NA = Not analyzed.

TABLE 2
CLEAN SOIL STOCKPILE SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	ST-1 #######	ST-2 #######	ST-3 #######	ST-4 #######	ST-5 #######	ST-6 #######	ST-7 (a) #######	ST-8 #######	ST-9 #######	ST-10 #######	ST-11 #######	ST-12 #######	ST-13 #######
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx														
Gasoline	100 (b)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	5.0 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx														
Diesel	2000 (b)	20 U	20 U	20 U	20 U	20 U	**680**	**7400**	**210**	**58**	20 U	**1400**	20 U	**140**
Oil	2000 (b)	40 U	40 U	**210**	**440**	**71**	40 U	40 U	40 U	40 U	40 U	40 U	40 U	50 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	**420**	40 U	40 U	NA

U = Not detected at listed detection limits.
NA = Not analyzed.

(a) Material removed from clean soil stockpile and transported offsite for treatment and disposal due to elevated TPH concentration.
(b) Cleanup level based on MTCA Method A industrial soil cleanup levels.

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-1 8/20/2002	CS-2 8/20/2002	CS-3 8/20/2002	CS-4 8/20/2002	CS-5 8/20/2002	CS-6 8/20/2002	CS-7 8/20/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Oil	2000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-8 8/20/2002	CS-9 8/20/2002	CS-10 8/20/2002	CS-11 8/20/2002	CS-12 8/20/2002	CS-13 8/20/2002	CS-14 8/20/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	20 U	**120**	20 U	20 U	20 U
Oil	2000 (b)	**45**	40 U	40 U	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-15 8/20/2002	CS-16 8/21/2002	CS-17 (a) 8/21/2002	CS-18 8/21/2002	CS-19 (a) 8/21/2002	CS-20 (a) 8/21/2002	CS-21 8/21/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	**4900**	20 U	**29000**	**5100**	20 U
Oil	2000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-22 8/21/2002	CS-23 8/21/2002	CS-24 8/21/2002	CS-25 8/22/2002	CS-26 (a) 8/22/2002	CS-27 8/22/2002	CS-28 8/22/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	10 U	10 U	**810**	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	20 U	20 U	**16000**	20 U	20 U
Oil	2000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-29 8/22/2002	CS-30 8/22/2002	CS-31 8/22/2002	CS-32 8/22/2002	CS-33 8/22/2002	CS-34 8/22/2002	CS-35 8/22/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	10 U	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	20 U	20 U	**770**	**260**	20 U
Oil	2000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	**1200**	**140**	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	**8**	NA	NA	5 U	NA	NA
Cadmium	3500 (c)	NA	1 U	NA	NA	1 U	NA	NA
Chromium	5300000 (c) (d)	NA	5 U	NA	NA	5 U	NA	NA
Arsenic	88 (c)	NA	5 U	NA	NA	5 U	NA	NA
Silver	18000 (c)	NA	20 U	NA	NA	20 U	NA	NA
Barium	245000 (c)	NA	20 U	NA	NA	20 U	NA	NA
Selenium	17500 (c)	NA	50 U	NA	NA	50 U	NA	NA
Mercury	1100 (c)	NA	0.5 U	NA	NA	0.5 U	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Acenaphthylene	--	NA	0.10 U	NA	NA	0.10 U	NA	NA
Anthracene	1050000 (c)	NA	0.10 U	NA	NA	**0.56**	NA	NA
Benzo(a)anthracene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Benzo(a)pyrene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Benzo(g,h,i)perylene	--	NA	0.10 U	NA	NA	0.10 U	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Chrysene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Fluorene	140000 (c)	NA	0.10 U	NA	NA	**0.30**	NA	NA
Fluoranthene	140000 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	0.10 U	NA	NA	0.10 U	NA	NA
Naphthalene	--	NA	0.10 U	NA	NA	0.10 U	NA	NA
Phenanthrene	--	NA	0.10 U	NA	NA	**0.54**	NA	NA
Pyrene	105000 (c)	NA	0.10 U	NA	NA	**0.09**	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	2.00 U	NA	NA	2.00 U	NA	NA
PCB-1221	--	NA	2.00 U	NA	NA	2.00 U	NA	NA
PCB-1232	--	NA	2.00 U	NA	NA	2.00 U	NA	NA
PCB-1242	--	NA	0.50 U	NA	NA	0.50 U	NA	NA
PCB-1248	--	NA	0.50 U	NA	NA	0.50 U	NA	NA
PCB-1254	--	NA	0.50 U	NA	NA	0.50 U	NA	NA
PCB-1260	--	NA	0.50 U	NA	NA	0.50 U	NA	NA
Total	10 (b)	NA	0.50 U	NA	NA	0.50 U	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-36 8/22/2002	CS-37 8/22/2002	CS-38 (a) 8/22/2002	CS-39 8/22/2002	CS-40 8/22/2002	CS-41 8/22/2002	CS-42 8/23/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	**4000**	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	**23000**	20 U	20 U	20 U	20 U
Oil	2000 (b)	40 U	40 U	40 U	40 U	**720**	**320**	40 U
Mineral Oil	4000 (b)	40 U	40 U	40 U	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-43 8/23/2002	CS-44 8/23/2002	CS-45 8/23/2002	CS-46 8/23/2002	CS-47 8/23/2002	CS-48 8/23/2002	CS-49 8/23/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	10 U	10 U	NA	10 U	10 U	10 U	10 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	NA	20 U	20 U	20 U	20 U
Oil	2000 (b)	40 U	40 U	NA	40 U	40 U	40 U	40 U
Mineral Oil	4000 (b)	40 U	40 U	NA	40 U	40 U	40 U	40 U
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	5 U	5 U	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

TABLE 3
CONFIRMATION SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

	Cleanup Level	CS-50 8/26/2002	CS-51 8/26/2002	CS-52 8/26/2002	CS-53 8/26/2002	CS-54 8/26/2002	CS-55 8/26/2002	CS-56 8/26/2002
GASOLINE RANGE HYDROCARBONS (mg/kg) NWTPH-Gx								
Gasoline	100 (b)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
DIESEL RANGE HYDROCARBONS (mg/kg) NWTPH-Dx								
Diesel	2000 (b)	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Oil	2000 (b)	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Mineral Oil	4000 (b)	NA	NA	NA	NA	NA	NA	NA
TOTAL METALS (mg/kg) EPA 7000 series								
Lead	1000 (b)	NA	NA	NA	NA	NA	NA	NA
Cadmium	3500 (c)	NA	NA	NA	NA	NA	NA	NA
Chromium	5300000 (c) (d)	NA	NA	NA	NA	NA	NA	NA
Arsenic	88 (c)	NA	NA	NA	NA	NA	NA	NA
Silver	18000 (c)	NA	NA	NA	NA	NA	NA	NA
Barium	245000 (c)	NA	NA	NA	NA	NA	NA	NA
Selenium	17500 (c)	NA	NA	NA	NA	NA	NA	NA
Mercury	1100 (c)	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg) Method 8270								
Acenaphthene	210000 (c)	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	--	NA	NA	NA	NA	NA	NA	NA
Anthracene	1050000 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Chrysene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Fluorene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	140000 (c)	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	18 (c)	NA	NA	NA	NA	NA	NA	NA
Naphthalene	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	--	NA	NA	NA	NA	NA	NA	NA
Pyrene	105000 (c)	NA	NA	NA	NA	NA	NA	NA
PCBs (mg/kg) Method 8082								
PCB-1016	--	NA	NA	NA	NA	NA	NA	NA
PCB-1221	--	NA	NA	NA	NA	NA	NA	NA
PCB-1232	--	NA	NA	NA	NA	NA	NA	NA
PCB-1242	--	NA	NA	NA	NA	NA	NA	NA
PCB-1248	--	NA	NA	NA	NA	NA	NA	NA
PCB-1254	--	NA	NA	NA	NA	NA	NA	NA
PCB-1260	--	NA	NA	NA	NA	NA	NA	NA
Total	10 (b)	NA	NA	NA	NA	NA	NA	NA

U = Not detected at listed detection limits.
NA = Not analyzed.

(a) Soil in this area was overexcavated due to elevated TPH concentrations
(b) Cleanup level based on MTCA Method A industrial soil cleanup levels.
(c) Cleanup level based on MTCA Method C industrial soil cleanup levels protective of direct contact; surface water criteria are not available or not applicable.
(d) Cleanup level for Cr(III).

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	MW-1 9/4/2001	MW-1 10/24/2001	MW-1 6/5/2002	MW-1 8/19/2002	MW-2 9/4/2001	MW-2 10/24/2001	Dup of MW-2 10/24/2001	MW-2 6/5/2002	Dup of MW-2 6/5/2002	MW-2 8/19/2002
Metals (Total)												
Arsenic	mg/L	0.008 (a)	NA	NA	0.005	0.0006	NA	NA	NA	0.003	0.003	0.004
Cadmium	mg/L	0.0093 (c)	NA	NA	0.002 U	0.002 U	NA	NA	NA	0.002 U	0.002 U	0.002 U
Chromium	mg/L	240 (c) (d)	NA	NA	0.015	0.014	NA	NA	NA	0.005 U	0.005 U	0.005 U
Copper	mg/L	0.02 (a)	NA	NA	0.01	0.012	NA	NA	NA	0.002 U	0.002 U	0.007
Lead	mg/L	0.01 (a)	NA	NA	0.001	0.001 U	NA	NA	NA	0.001	0.001 U	0.001 U
Mercury	mg/L	0.000025 (c)	NA	NA	0.0001 U	0.0001 U	NA	NA	NA	0.0001 U	0.0001 U	0.0001 U
Nickel	mg/L	0.0082 (c)	NA	NA	0.0038	0.0042	NA	NA	NA	0.0075	0.0083	0.0099
Zinc	mg/L	0.16 (a)	NA	NA	0.01	0.0006 U	NA	NA	NA	0.006 U	0.006 U	0.006 U
Metals (Dissolved)												
Arsenic	mg/L	0.008 (a)	0.009	0.006	0.004	NA	0.003	0.005	0.005	0.003	0.004	NA
Cadmium	mg/L	0.0093 (c)	0.002 U	0.002 U	0.002 U	NA	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	NA
Chromium	mg/L	240 (c) (d)	0.012	0.01	0.009	NA	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NA
Copper	mg/L	0.02 (a)	0.007	0.002	0.004	NA	0.002 U	0.002	0.002	0.002 U	0.002 U	NA
Lead	mg/L	0.01 (a)	0.02 U	0.001 U	0.001 U	NA	0.02 U	0.002 U	0.002 U	0.001 U	0.001 U	NA
Mercury	mg/L	0.000025 (c)	0.0001 U	0.0001 U	0.0001 U	NA	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	NA
Nickel	mg/L	0.0082 (c)	0.01 U	0.0023	0.0022	NA	0.01 U	0.007	0.007	0.0075	0.0075	NA
Zinc	mg/L	0.16 (a)	0.008	0.006 U	0.006 U	NA	0.007	0.006 U	0.006 U	0.006 U	0.006 U	NA
Volatile Organic Compounds												
Chloromethane	µg/L	130 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Bromomethane	µg/L	970 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Vinyl Chloride	µg/L	525 (c)	0.020 U	NA	1.0 U	NA	0.020 U	NA	NA	1.0 U	1.0 U	NA
Chloroethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Methylene Chloride	µg/L	1,600 (c)	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA
Acetone	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Carbon Disulfide	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1-Dichloroethene	µg/L	3.2 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1-Dichloroethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
trans-1,2-Dichloroethene	µg/L	33,000 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
cis-1,2-Dichloroethene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Chloroform	µg/L	470 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2-Dichloroethane	µg/L	99 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
2-Butanone	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
1,1,1-Trichloroethane	µg/L	420,000 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Carbon Tetrachloride	µg/L	4.4 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Vinyl Acetate	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Bromodichloromethane	µg/L	28 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2-Dichloropropane	µg/L	23 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
cis-1,3-Dichloropropene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Trichloroethene	µg/L	81 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Dibromochloromethane	µg/L	34 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	µg/L	42 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Benzene	µg/L	71 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
trans-1,3-Dichloropropene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Bromoform	µg/L	360 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
4-Methyl-2-Pentanone	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
2-Hexanone	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Tetrachloroethene	µg/L	8.9 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1,2,2-Tetrachloroethane	µg/L	11 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Toluene	µg/L	200,000 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Chlorobenzene	µg/L	21,000 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	MW-1 9/4/2001	MW-1 10/24/2001	MW-1 6/5/2002	MW-1 8/19/2002	MW-2 9/4/2001	MW-2 10/24/2001	Dup of MW-2 10/24/2001	MW-2 6/5/2002	Dup of MW-2 6/5/2002	MW-2 8/19/2002
Ethylbenzene	µg/L	29,000 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Styrene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Trichlorofluoromethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1,2-Trichlorotrifluoroethane	µg/L	--	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA
m,p-Xylene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
o-Xylene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	µg/L	17,000 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,3-Dichlorobenzene	µg/L	2,600 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,4-Dichlorobenzene	µg/L	4.9 (b)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Acrolein	µg/L	--	50 U	NA	50 U	NA	50 U	NA	NA	50 U	50 U	NA
Methyl Iodide	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Bromoethane	µg/L	--	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	2.0 U	NA
Acrylonitrile	µg/L	0.7 (c)	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1-Dichloropropene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Dibromomethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,1,1,2-Tetrachloroethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2-Dibromo-3-Chloropropane	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
1,2,3-Trichloropropane	µg/L	--	3.0 U	NA	3.0 U	NA	3.0 U	NA	NA	3.0 U	3.0 U	NA
trans-1,4-Dichloro-2-Butene	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
1,3,5-Trimethylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2,4-Trimethylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Hexachlorobutadiene	µg/L	50 (c)	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Ethylene Dibromide	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Bromochloromethane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
2,2-Dichloropropane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,3-Dichloropropane	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Isopropylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
n-Propyl Benzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
Bromobenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
2-Chlorotoluene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
4-Chlorotoluene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
tert-Butylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
sec-Butylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
4-Isopropyltoluene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
n-Butylbenzene	µg/L	--	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U	NA
1,2,4-Trichlorobenzene	µg/L	230 (b)	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Naphthalene	µg/L	4,900 (b)	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
1,2,3-Trichlorobenzene	µg/L	--	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	NA
Petroleum Hydrocarbons												
TPH-G	mg/L	1.0 (e)	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TPH-D	mg/L	0.5 (e)	0.25 UJ	0.25 U	0.25 U	0.25 U	4.1	5	4.8	3.0	2.8	0.25 U
TPH-O	mg/L	0.5 (e)	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.63	0.81	0.5 U	0.50 U	0.50 U
Si/Acid Cleaned TPH-D	mg/L	0.5 (e)	NA	NA	0.25 U	NA	NA	NA	NA	0.25 U	0.25 U	NA
Si/Acid Cleaned TPH-O	mg/L	0.5 (e)	NA	NA	0.50 U	NA	NA	NA	NA	0.50 U	0.50 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	MW-1 9/4/2001	MW-1 10/24/2001	MW-1 6/5/2002	MW-1 8/19/2002	MW-2 9/4/2001	MW-2 10/24/2001	Dup of MW-2 10/24/2001	MW-2 6/5/2002	Dup of MW-2 6/5/2002	MW-2 8/19/2002
Semivolatile Organic Compounds												
Phenol	µg/L	1,100,000 (b)	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
Bis-(2-Chloroethyl) Ether	µg/L	0.85 (b)	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
2-Chlorophenol	µg/L	97 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
1,3-Dichlorobenzene	µg/L	2,600 (c)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
1,4-Dichlorobenzene	µg/L	4.9 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Benzyl Alcohol	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,2-Dichlorobenzene	µg/L	4,200 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2-Methylphenol	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2,2'-Oxybis(1-Chloropropane)	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
4-Methylphenol	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
N-Nitroso-Di-N-Propylamine	µg/L	0.82 (b)	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
Hexachloroethane	µg/L	5.3 (b)	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
Nitrobenzene	µg/L	450 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Isophorone	µg/L	600 (c)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2-Nitrophenol	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2,4-Dimethylphenol	µg/L	550 (b)	NA	NA	3.0 U	NA	NA	NA	NA	3.0 U	3.0 U	NA
Benzoic Acid	µg/L	--	NA	NA	50 U	NA	NA	NA	NA	50 U	50 U	NA
bis(2-Chloroethoxy) Methane	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2,4-Dichlorophenol	µg/L	190 (b)	NA	NA	3.0 U	NA	NA	NA	NA	3.0 U	3.0 U	NA
1,2,4-Trichlorobenzene	µg/L	230 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Naphthalene	µg/L	4,900 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
4-Chloroaniline	µg/L	--	NA	NA	3.0 U	NA	NA	NA	NA	3.0 U	3.0 U	NA
Hexachlorobutadiene	µg/L	30 (b)	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
4-Chloro-3-methylphenol	µg/L	--	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
2-Methylnaphthalene	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Hexachlorocyclopentadiene	µg/L	3,600 (b)	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2,4,6-Trichlorophenol	µg/L	3.9 (b)	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2,4,5-Trichlorophenol	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2-Chloronaphthalene	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2-Nitroaniline	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Dimethylphthalate	µg/L	72,000 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Acenaphthylene	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
3-Nitroaniline	µg/L	--	NA	NA	6.0 U	NA	NA	NA	NA	6.0 U	6.0 U	NA
Acenaphthene	µg/L	640 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2,4-Dinitrophenol	µg/L	3,500 (b)	NA	NA	25 U	NA	NA	NA	NA	25 U	25 U	NA
4-Nitrophenol	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Dibenzofuran	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
2,6-Dinitrotoluene	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2,4-Dinitrotoluene	µg/L	9.1 (c)	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Diethylphthalate	µg/L	28,000 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
4-Chlorophenyl-phenylether	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Fluorene	µg/L	3,500 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
4-Nitroaniline	µg/L	--	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
4,6-Dinitro-2-Methylphenol	µg/L	--	NA	NA	15 U	NA	NA	NA	NA	15 U	15 U	NA
N-Nitrosodiphenylamine	µg/L	9.7 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
4-Bromophenyl-phenylether	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Hexachlorobenzene	µg/L	0.00047 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Pentachlorophenol	µg/L	4.9 (b)	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Phenanthrene	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Carbazole	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	MW-1 9/4/2001	MW-1 10/24/2001	MW-1 6/5/2002	MW-1 8/19/2002	MW-2 9/4/2001	MW-2 10/24/2001	Dup of MW-2 10/24/2001	MW-2 6/5/2002	Dup of MW-2 6/5/2002	MW-2 8/19/2002
Anthracene	µg/L	26,000 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Di-n-Butylphthalate	µg/L	2,900 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Fluoranthene	µg/L	90 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Pyrene	µg/L	2,600 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Butylbenzylphthalate	µg/L	1,300 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
3,3'-Dichlorobenzidine	µg/L	0.046 (b)	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Benzo(a)anthracene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
bis(2-Ethylhexyl)phthalate	µg/L	3.6 (b)	NA	NA	4.0 U	NA	NA	NA	NA	4.0 U	4.0 U	NA
Chrysene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Di-n-Octyl phthalate	µg/L	--	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
Benzo(b)fluoranthene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Benzo(k)fluoranthene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Benzo(a)pyrene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Indeno(1,2,3-cd)pyrene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Dibenz(a,h)anthracene	µg/L	0.030 (b)	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
Benzo(g,h,i)perylene	µg/L	--	NA	NA	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	NA
PAHs												
Naphthalene	µg/L	4,900 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
2-Methylnaphthalene	µg/L	--	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Acenaphthylene	µg/L	--	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Acenaphthene	µg/L	640 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.08 J
Fluorene	µg/L	3,500 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Phenanthrene	µg/L	--	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Anthracene	µg/L	26,000 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Fluoranthene	µg/L	90 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Pyrene	µg/L	2,600 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Benzo(a)anthracene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Chrysene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Benzo(b)fluoranthene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Benzo(k)fluoranthene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Benzo(a)pyrene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Indeno(1,2,3-cd)pyrene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Dibenz(a,h)anthracene	µg/L	0.030 (b)	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Benzo(g,h,i)perylene	µg/L	--	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Dibenzofuran	µg/L	--	NA	NA	NA	0.10 U	NA	NA	NA	NA	NA	0.10 U
Pesticides												
alpha-BHC	µg/L	0.0079 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
beta-BHC	µg/L	0.028 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
delta-BHC	µg/L	--	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
gamma-BHC (Lindane)	µg/L	0.038 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Heptachlor	µg/L	0.00013 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Aldrin	µg/L	0.000082 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Heptachlor Epoxide	µg/L	0.000064 (b)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Endosulfan I	µg/L	2.0 (c)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Dieldrin	µg/L	0.000087 (b)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
4,4'-DDE	µg/L	0.0005 (b)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
Endrin	µg/L	0.2 (b)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
Endosulfan II	µg/L	2.0 (c)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
4,4'-DDD	µg/L	0.00036 (b)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
Endosulfan Sulfate	µg/L	2.0 (c)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
4,4'-DDT	µg/L	0.00036 (b)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	MW-1 9/4/2001	MW-1 10/24/2001	MW-1 6/5/2002	MW-1 8/19/2002	MW-2 9/4/2001	MW-2 10/24/2001	Dup of MW-2 10/24/2001	MW-2 6/5/2002	Dup of MW-2 6/5/2002	MW-2 8/19/2002
Methoxychlor	µg/L	8.4 (b)	NA	NA	0.51 U	NA	NA	NA	NA	0.51 U	0.51 U	NA
Endrin Ketone	µg/L	--	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
Endrin Aldehyde	µg/L	0.81 (c)	NA	NA	0.10 U	NA	NA	NA	NA	0.10 U	0.10 U	NA
gamma Chlordane	µg/L	0.00059 (c)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
alpha Chlordane	µg/L	0.00059 (c)	NA	NA	0.051 U	NA	NA	NA	NA	0.051 U	0.051 U	NA
Toxaphene	µg/L	0.00045 (c)	NA	NA	5.1 U	NA	NA	NA	NA	5.1 U	5.1 U	NA
Herbicides												
2,4,5-TP (Silvex)	µg/L	--	NA	NA	0.28 U	NA	NA	NA	NA	0.28 U	0.29 U	NA
2,4,5-T	µg/L	--	NA	NA	0.60 U	NA	NA	NA	NA	0.61 U	0.61 U	NA
Dinoseb	µg/L	--	NA	NA	0.50 U	NA	NA	NA	NA	0.51 U	0.51 U	NA
Dicamba	µg/L	--	NA	NA	0.70 U	NA	NA	NA	NA	0.71 U	0.71 U	NA
2,4-D	µg/L	--	NA	NA	1.5 U	NA	NA	NA	NA	1.5 U	1.5 U	NA
2,4-DB	µg/L	--	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
Dalapon	µg/L	--	NA	NA	2.0 U	NA	NA	NA	NA	2.0 U	2.0 U	NA
MCPA	µg/L	--	NA	NA	250 U	NA	NA	NA	NA	250 U	260 U	NA
Dichloroprop	µg/L	--	NA	NA	3.1 U	NA	NA	NA	NA	3.1 U	3.2 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	Dup of MW-2 8/19/2002	MW-3 9/4/2001	Dup of MW-3 9/4/2001	MW-3 10/24/2001	MW-3 6/5/2002	MW-3 8/19/2002	MW-4 9/4/2001	MW-4 10/24/2001	MW-4 6/5/2002	MW-4 8/19/2002
Metals (Total)												
Arsenic	mg/L	0.008 (a)	0.002	NA	NA	NA	0.001 U	0.001	NA	NA	0.008	0.012
Cadmium	mg/L	0.0093 (c)	0.002 U	NA	NA	NA	0.002 U	0.002 U	NA	NA	0.002 U	0.002 U
Chromium	mg/L	240 (c) (d)	0.005 U	NA	NA	NA	0.005 U	0.005 U	NA	NA	0.005 U	0.005 U
Copper	mg/L	0.02 (a)	0.004	NA	NA	NA	0.002 U	0.004	NA	NA	0.003	0.002 U
Lead	mg/L	0.01 (a)	0.001 U	NA	NA	NA	0.001	0.001	NA	NA	0.005	0.001 U
Mercury	mg/L	0.000025 (c)	0.0001 U	NA	NA	NA	0.0001 U	0.0001 U	NA	NA	0.0001 U	0.0001 U
Nickel	mg/L	0.0082 (c)	0.0082	NA	NA	NA	0.0034	0.0037	NA	NA	0.0034	0.0033
Zinc	mg/L	0.16 (a)	0.006 U	NA	NA	NA	0.006 U	0.017	NA	NA	0.011	0.006 U
Metals (Dissolved)												
Arsenic	mg/L	0.008 (a)	NA	0.001	0.002	0.001 U	0.001 U	NA	0.017	0.015	0.009	NA
Cadmium	mg/L	0.0093 (c)	NA	0.002 U	0.002 U	0.002 U	0.002 U	NA	0.002 U	0.002 U	0.002 U	NA
Chromium	mg/L	240 (c) (d)	NA	0.005 U	0.005 U	0.005 U	0.005 U	NA	0.005 U	0.005 U	0.005 U	NA
Copper	mg/L	0.02 (a)	NA	0.002 U	0.002 U	0.002 U	0.002 U	NA	0.002 U	0.002	0.002 U	NA
Lead	mg/L	0.01 (a)	NA	0.02 U	0.02 U	0.001 U	0.001 U	NA	0.02 U	0.001 U	0.001 U	NA
Mercury	mg/L	0.000025 (c)	NA	0.0001 U	0.0001 U	0.0001 U	0.0001 U	NA	0.0001 U	0.0001 U	0.0001 U	NA
Nickel	mg/L	0.0082 (c)	NA	0.01 U	0.01 U	0.0027	0.0033	NA	0.01 U	0.0027	0.0011	NA
Zinc	mg/L	0.16 (a)	NA	0.006 U	0.006 U	0.006 U	0.006 U	NA	0.01	0.006 U	0.006 U	NA
Volatile Organic Compounds												
Chloromethane	µg/L	130 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromomethane	µg/L	970 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Vinyl Chloride	µg/L	525 (c)	NA	0.020 U	0.020 U	NA	1.0 U	NA	0.020 U	NA	1.0 U	NA
Chloroethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Methylene Chloride	µg/L	1,600 (c)	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	2.0 U	NA
Acetone	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	9.3	NA	5.0 U	NA
Carbon Disulfide	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1-Dichloroethene	µg/L	3.2 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1-Dichloroethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
trans-1,2-Dichloroethene	µg/L	33,000 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
cis-1,2-Dichloroethene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Chloroform	µg/L	470 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dichloroethane	µg/L	99 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
2-Butanone	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
1,1,1-Trichloroethane	µg/L	420,000 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Carbon Tetrachloride	µg/L	4.4 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Vinyl Acetate	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Bromodichloromethane	µg/L	28 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dichloropropane	µg/L	23 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
cis-1,3-Dichloropropene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Trichloroethene	µg/L	81 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Dibromochloromethane	µg/L	34 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1,2-Trichloroethane	µg/L	42 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Benzene	µg/L	71 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
trans-1,3-Dichloropropene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromoform	µg/L	360 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
4-Methyl-2-Pentanone	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
2-Hexanone	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Tetrachloroethene	µg/L	8.9 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1,2,2-Tetrachloroethane	µg/L	11 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Toluene	µg/L	200,000 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Chlorobenzene	µg/L	21,000 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	Dup of MW-2 8/19/2002	MW-3 9/4/2001	Dup of MW-3 9/4/2001	MW-3 10/24/2001	MW-3 6/5/2002	MW-3 8/19/2002	MW-4 9/4/2001	MW-4 10/24/2001	MW-4 6/5/2002	MW-4 8/19/2002
Ethylbenzene	µg/L	29,000 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Styrene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Trichlorofluoromethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1,2-Trichlorotrifluoroethane	µg/L	--	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	2.0 U	NA
m,p-Xylene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
o-Xylene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dichlorobenzene	µg/L	17,000 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,3-Dichlorobenzene	µg/L	2,600 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,4-Dichlorobenzene	µg/L	4.9 (b)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Acrolein	µg/L	--	NA	50 U	50 U	NA	50 U	NA	50 U	NA	50 U	NA
Methyl Iodide	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromoethane	µg/L	--	NA	2.0 U	2.0 U	NA	2.0 U	NA	2.0 U	NA	2.0 U	NA
Acrylonitrile	µg/L	0.7 (c)	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1-Dichloropropene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Dibromomethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1,1,2-Tetrachloroethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dibromo-3-Chloropropane	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
1,2,3-Trichloropropane	µg/L	--	NA	3.0 U	3.0 U	NA	3.0 U	NA	3.0 U	NA	3.0 U	NA
trans-1,4-Dichloro-2-Butene	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
1,3,5-Trimethylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2,4-Trimethylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Hexachlorobutadiene	µg/L	50 (c)	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Ethylene Dibromide	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromochloromethane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
2,2-Dichloropropane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,3-Dichloropropane	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Isopropylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
n-Propyl Benzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromobenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
2-Chlorotoluene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
4-Chlorotoluene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
tert-Butylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
sec-Butylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
4-Isopropyltoluene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
n-Butylbenzene	µg/L	--	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2,4-Trichlorobenzene	µg/L	230 (b)	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Naphthalene	µg/L	4,900 (b)	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
1,2,3-Trichlorobenzene	µg/L	--	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Petroleum Hydrocarbons												
TPH-G	mg/L	1.0 (e)	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TPH-D	mg/L	0.5 (e)	0.25 U	0.64	0.75	0.64	0.68	0.25 U	1.3	1.1	0.63	0.25 U
TPH-O	mg/L	0.5 (e)	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
Si/Acid Cleaned TPH-D	mg/L	0.5 (e)	NA	NA	NA	NA	0.25 U	NA	NA	NA	0.25 U	NA
Si/Acid Cleaned TPH-O	mg/L	0.5 (e)	NA	NA	NA	NA	0.50 U	NA	NA	NA	0.50 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	Dup of MW-2 8/19/2002	MW-3 9/4/2001	Dup of MW-3 9/4/2001	MW-3 10/24/2001	MW-3 6/5/2002	MW-3 8/19/2002	MW-4 9/4/2001	MW-4 10/24/2001	MW-4 6/5/2002	MW-4 8/19/2002
Semivolatile Organic Compounds												
Phenol	µg/L	1,100,000 (b)	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
Bis-(2-Chloroethyl) Ether	µg/L	0.85 (b)	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
2-Chlorophenol	µg/L	97 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
1,3-Dichlorobenzene	µg/L	2,600 (c)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
1,4-Dichlorobenzene	µg/L	4.9 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Benzyl Alcohol	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
1,2-Dichlorobenzene	µg/L	4,200 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2-Methylphenol	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2,2'-Oxybis(1-Chloropropane)	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
4-Methylphenol	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
N-Nitroso-Di-N-Propylamine	µg/L	0.82 (b)	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
Hexachloroethane	µg/L	5.3 (b)	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
Nitrobenzene	µg/L	450 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Isophorone	µg/L	600 (c)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2-Nitrophenol	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
2,4-Dimethylphenol	µg/L	550 (b)	NA	NA	NA	NA	3.0 U	NA	NA	NA	3.0 U	NA
Benzoic Acid	µg/L	--	NA	NA	NA	NA	50 U	NA	NA	NA	50 U	NA
bis(2-Chloroethoxy) Methane	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2,4-Dichlorophenol	µg/L	190 (b)	NA	NA	NA	NA	3.0 U	NA	NA	NA	3.0 U	NA
1,2,4-Trichlorobenzene	µg/L	230 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Naphthalene	µg/L	4,900 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
4-Chloroaniline	µg/L	--	NA	NA	NA	NA	3.0 U	NA	NA	NA	3.0 U	NA
Hexachlorobutadiene	µg/L	30 (b)	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
4-Chloro-3-methylphenol	µg/L	--	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
2-Methylnaphthalene	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Hexachlorocyclopentadiene	µg/L	3,600 (b)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
2,4,6-Trichlorophenol	µg/L	3.9 (b)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
2,4,5-Trichlorophenol	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
2-Chloronaphthalene	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2-Nitroaniline	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
Dimethylphthalate	µg/L	72,000 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Acenaphthylene	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
3-Nitroaniline	µg/L	--	NA	NA	NA	NA	6.0 U	NA	NA	NA	6.0 U	NA
Acenaphthene	µg/L	640 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2,4-Dinitrophenol	µg/L	3,500 (b)	NA	NA	NA	NA	25 U	NA	NA	NA	25 U	NA
4-Nitrophenol	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
Dibenzofuran	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
2,6-Dinitrotoluene	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
2,4-Dinitrotoluene	µg/L	9.1 (c)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
Diethylphthalate	µg/L	28,000 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
4-Chlorophenyl-phenylether	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Fluorene	µg/L	3,500 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
4-Nitroaniline	µg/L	--	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
4,6-Dinitro-2-Methylphenol	µg/L	--	NA	NA	NA	NA	15 U	NA	NA	NA	15 U	NA
N-Nitrosodiphenylamine	µg/L	9.7 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
4-Bromophenyl-phenylether	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Hexachlorobenzene	µg/L	0.00047 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Pentachlorophenol	µg/L	4.9 (b)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
Phenanthrene	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Carbazole	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA

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Analyte	Units	Cleanup Level	Dup of MW-2 8/19/2002	MW-3 9/4/2001	Dup of MW-3 9/4/2001	MW-3 10/24/2001	MW-3 6/5/2002	MW-3 8/19/2002	MW-4 9/4/2001	MW-4 10/24/2001	MW-4 6/5/2002	MW-4 8/19/2002
Anthracene	µg/L	26,000 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Di-n-Butylphthalate	µg/L	2,900 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Fluoranthene	µg/L	90 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Pyrene	µg/L	2,600 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Butylbenzylphthalate	µg/L	1,300 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
3,3'-Dichlorobenzidine	µg/L	0.046 (b)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.0 U	NA
Benzo(a)anthracene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
bis(2-Ethylhexyl)phthalate	µg/L	3.6 (b)	NA	NA	NA	NA	4.0 U	NA	NA	NA	4.0 U	NA
Chrysene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Di-n-Octyl phthalate	µg/L	--	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
Benzo(b)fluoranthene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Benzo(k)fluoranthene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Benzo(a)pyrene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Indeno(1,2,3-cd)pyrene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Dibenz(a,h)anthracene	µg/L	0.030 (b)	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
Benzo(g,h,i)perylene	µg/L	--	NA	NA	NA	NA	1.0 U	NA	NA	NA	1.0 U	NA
PAHs												
Naphthalene	µg/L	4,900 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
2-Methylnaphthalene	µg/L	--	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Acenaphthylene	µg/L	--	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Acenaphthene	µg/L	640 (b)	0.10	NA	NA	NA	NA	0.23	NA	NA	NA	0.10 U
Fluorene	µg/L	3,500 (b)	0.10 U	NA	NA	NA	NA	0.10	NA	NA	NA	0.10 U
Phenanthrene	µg/L	--	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Anthracene	µg/L	26,000 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Fluoranthene	µg/L	90 (b)	0.10 U	NA	NA	NA	NA	0.17	NA	NA	NA	0.10 U
Pyrene	µg/L	2,600 (b)	0.10 U	NA	NA	NA	NA	0.20	NA	NA	NA	0.10 U
Benzo(a)anthracene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Chrysene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Benzo(b)fluoranthene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Benzo(k)fluoranthene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Benzo(a)pyrene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Indeno(1,2,3-cd)pyrene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Dibenz(a,h)anthracene	µg/L	0.030 (b)	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Benzo(g,h,i)perylene	µg/L	--	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Dibenzofuran	µg/L	--	0.10 U	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U
Pesticides												
alpha-BHC	µg/L	0.0079 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
beta-BHC	µg/L	0.028 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
delta-BHC	µg/L	--	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
gamma-BHC (Lindane)	µg/L	0.038 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Heptachlor	µg/L	0.00013 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Aldrin	µg/L	0.000082 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Heptachlor Epoxide	µg/L	0.000064 (b)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Endosulfan I	µg/L	2.0 (c)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Dieldrin	µg/L	0.000087 (b)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
4,4'-DDE	µg/L	0.0005 (b)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
Endrin	µg/L	0.2 (b)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
Endosulfan II	µg/L	2.0 (c)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
4,4'-DDD	µg/L	0.00036 (b)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
Endosulfan Sulfate	µg/L	2.0 (c)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
4,4'-DDT	µg/L	0.00036 (b)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA

TABLE 4
GROUNDWATER SAMPLING RESULTS
DAKOTA CREEK INDUSTRIES

Analyte	Units	Cleanup Level	Dup of MW-2 8/19/2002	MW-3 9/4/2001	Dup of MW-3 9/4/2001	MW-3 10/24/2001	MW-3 6/5/2002	MW-3 8/19/2002	MW-4 9/4/2001	MW-4 10/24/2001	MW-4 6/5/2002	MW-4 8/19/2002
Methoxychlor	µg/L	8.4 (b)	NA	NA	NA	NA	0.50 U	NA	NA	NA	0.52 U	NA
Endrin Ketone	µg/L	--	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
Endrin Aldehyde	µg/L	0.81 (c)	NA	NA	NA	NA	0.10 U	NA	NA	NA	0.10 U	NA
gamma Chlordane	µg/L	0.00059 (c)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
alpha Chlordane	µg/L	0.00059 (c)	NA	NA	NA	NA	0.050 U	NA	NA	NA	0.052 U	NA
Toxaphene	µg/L	0.00045 (c)	NA	NA	NA	NA	5.0 U	NA	NA	NA	5.2 U	NA
Herbicides												
2,4,5-TP (Silvex)	µg/L	--	NA	NA	NA	NA	0.28 U	NA	NA	NA	0.29 U	NA
2,4,5-T	µg/L	--	NA	NA	NA	NA	0.60 U	NA	NA	NA	0.61 U	NA
Dinoseb	µg/L	--	NA	NA	NA	NA	0.50 U	NA	NA	NA	0.51 U	NA
Dicamba	µg/L	--	NA	NA	NA	NA	0.70 U	NA	NA	NA	0.71 U	NA
2,4-D	µg/L	--	NA	NA	NA	NA	1.5 U	NA	NA	NA	1.5 U	NA
2,4-DB	µg/L	--	NA	NA	NA	NA	10 U	NA	NA	NA	10 U	NA
Dalapon	µg/L	--	NA	NA	NA	NA	2.0 U	NA	NA	NA	2.0 U	NA
MCPA	µg/L	--	NA	NA	NA	NA	250 U	NA	NA	NA	260 U	NA
Dichloroprop	µg/L	--	NA	NA	NA	NA	3.1 U	NA	NA	NA	3.2 U	NA

NA = Not Analyzed.
-- = Cleanup level or statewide background concentration not developed for constituent.
U = Indicates compound was analyzed for, but was not detected at the reported sample detection limit.
UJ = The analyte was not detected in the sample; the reported sample detection limit is an estimate.

(a) Cleanup level based on groundwater background concentrations of Washington State (PTI 1989).
(b) Cleanup level based on MTCA Method B surface water cleanup levels.
(c) Cleanup level based on ambient water quality criteria protective of human health and aquatic life.
(d) Cleanup level for Cr(III).
(e) Groundwater cleanup level for petroleum hydrocarbons used in place of surface water equations as per WAC 173-340-730(3).

✓ MCW reviewed

PHASE 2 ENVIRONMENTAL ASSESSMENT
DAKOTA CREEK INDUSTRIES SITE and
FORMER WASTEWATER TREATMENT PLANT SITE

PORT OF ANACORTES

ANACORTES, WASHINGTON

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October 1, 1997

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1.0 OBJECTIVE AND SCOPE OF WORK

Objective of the Phase 2 Environmental Assessment

Based on the history of boat construction and repair work and type of facilities on the Dakota Creek Industries site, there is potential for contamination of (a) surface and subsurface soils and (b) marine sediments. Our experience with boat construction and repair yards is that sediment contamination tends to occur most often around areas of repair work, especially areas where work was done on the outside of the boat hulls. There is a potential for contamination at the Former Wastewater Treatment Plant due to concentration of contaminants in the former tank locations.

The objective of this Phase 2 Environmental Assessment is to sample the soil and sediment with the highest potential for contamination to document the conditions on the property. The sampling was done in areas that are the most likely to be contaminated, based on past site operations. The scope is based on discussions with the Port of Anacortes (Port) staff, review of ENSR's environmental audit report for the property, and our experience with similar sites. The amount of sampling was not intended to be sufficient to quantify the extent of contamination on the site.

Based on our experience, the highest levels of contamination in marine sediments are usually found in the top few inches of sediment. Therefore, it is not necessary to obtain deeper sediment cores for a site assessment. In areas of high sedimentation rates, it is possible that cleaner sediments have built up over more contaminated sediments. We did not sample with deeper sediment cores at this time.

Scope of Work

For the upland assessment, we obtained surface samples where there are visible stains or piles of waste material or in areas of past boat construction operations. Borings were necessary to sample deeper soil under the former marine railway and in the former City of Anacortes Wastewater Treatment Plant.

Since petroleum hydrocarbons (TPH) and metals are the most common contaminants at boatyards, we analyzed almost all the samples for TPH and metals. Since organic compounds are less common at boatyards and organic analyses are expensive, we selected samples for analysis of organic contaminants (volatiles, semi-volatiles, PCBs). Organic analyses were done on samples from areas that showed signs of organic contamination. For example, samples from areas with visible dark oil staining or where a chemical odor was noticed were analyzed for organics. For a Phase 2 assessment, it is sufficient to analyze a relatively few number of samples for a wide variety of priority.

For the marine sediments, we obtained samples from a boat with a small clamshell type sampler designed to sample the top 10 centimeters of sediment. This approach is consistent with the Washington State Department of Ecology Sediment Quality Standards (SQS) which state that the biologically active zone is the most concern . These samples were taken near the former marine railways, along the existing piers, and below the sanitary and storm drain outfalls.

As with the upland samples, we analyzed almost all the samples for TPH and metals. We selected samples for analysis of organic contaminants (volatiles, semi-volatiles, PCBs).

We understand that the outfall from the City of Anacortes' sewage treatment plan is located on the west edge of Pier 2. Two of the sediment samples collected were offshore from the outfall diffuser.

Otten Engineering performed its services in accordance with generally accepted professional practices, in the same or similar localities, related to the nature of the work accomplished, at the time the services are performed. The services were performed for Port of Anacortes' sole benefit and exclusive use. The Port of Anacortes recognizes that special risks occur and "guarantees" cannot be expected whenever professional consulting services are applied to determine the composition of a site's subsurface or the existence or non-existence of hazardous substances.

2.0 SAMPLING AND ANALYSIS PROGRAM

This section describes the sampling and sample handling procedures and gives the laboratory analyses methods.

2.1 UPLAND SAMPLING

This section of the report documents the procedures used while performing the field investigation described in this report. The discussion includes information on the following subjects:

- Site Safety and Operations Plan;
- Surface and Shallow Soil Sampling Procedures;
- Soil Borings;
- Field Screening for Organic Vapors (including monitoring of breathing zone air quality);
- Sample Jars, Sample Handling, and Chain-of-Custody Protocols;
- Field Equipment Decontamination Procedures

Site Safety and Operations Plan

As part of the field investigation, we followed the site-specific Site Safety and Operations Plan (SSOP) prepared in accordance with Chapter 296-62 of the Washington Administrative Code (WAC) and 20 Code of Federal Regulations (CFR) 1910.120. The SSOP identified potential physical and chemical hazards associated with the investigation, and specified personal protection and safety monitoring requirements. A copy of the SSOP was provided to on-site personnel for review and discussion prior to field activities. On-site personnel associated with the field activities were required to be familiar with and comply with provisions as stated in the SSOP. Site safety meetings were conducted at the beginning of each work day to review aspects of the SSOP, and provided an opportunity for workers to discuss health and safety issues, as appropriate.

Surface and Shallow Soil Sampling Procedures

Soil samples collected during the field investigation were obtained from shallow hand excavations using a clean stainless steel spoon. Soil was excavated using hand tools including a shovel, breaker bar, and a post hole digger. Each discrete sampling location was given a unique location number. All samples collected on the Dakota Creek property were given the prefix "DC-UPLD-", for Dakota Creek Upland. Wyman's Marina samples were designated "WY-UPLD". Then each sample was further designated at "SS-1, SS-2", etc., for each discrete location. Obvious, separate layers of material at a given location, as shown by grain size differences or colors, where generally sampled separately. Each layer was given a letter designation (e.g., A or B).

Each soil sample was split into two approximately equal portions. The first portion was transferred to a laboratory-prepared glass containers. The second portion was transferred to a clean ziplock plastic bag and set aside for field screening. Sample handling and field screening methods are discussed in subsequent sections.

Soil Borings

Soil borings were completed by Boretec Drilling, Inc. using a modified Mobile B-24 drill rig. The borings were advanced using 3 3/8-inch inside diameter hollow-stem auger. All soil boring activities were observed by a qualified geologist. Soil samples were obtained at approximately 2 1/2- to 5-foot-depth intervals using a either a 2-inch outside diameter, or 3-inch outer-diameter split-spoon sampling device and a 140-pound hammer free-falling 30 inches. The number of blows required to drive the sampler the last 12 inches is shown on the boring logs at the respective sampling depth. However, the blows shown on the boring logs in Appendix A DO NOT represent "standard penetration resistance" (SPT) values.

Samples were recovered from the split spoon sampler and described in general accordance with the Unified Soil Classification (USC) system. Boring logs with soil descriptions are presented in Appendix A. Recovered soil samples were transferred to laboratory prepared glass jars and placed in a chilled cooler for transport to the testing laboratory. Field screening methods and sample jars and sample handling are discussed in the following sections.

Field Screening for Organic Vapors

Field tests consisted of PID measurements for the presence of volatile organic vapors in the ziplock bag headspace for each recovered soil sample. The soil samples for field screening were placed in a clean ziplock bag. The bag was then allowed to stand for approximately 10 minutes. The PID probe was then inserted into the bag, and the maximum reading of the headspace recorded. The purpose of the field tests was to determine the relative magnitude of volatile organic vapors, if any, in the explorations and/or samples. An Environmental Instruments Thermo 580B, calibrated daily to a 100 ppm isobutylene standard, was used to obtain these measurements. Field screening with a PID is a subjective analysis affected by, among other influences, climate (e.g., temperature and humidity), soil type and conditions, instrument calibration, and operation. The intent of this analysis is to qualitatively compare samples and assist in sample selection for chemical analysis.

This screening equipment was also used for health and safety air quality monitoring in the breathing zone during drilling and sampling operations. Measurements were obtained periodically and compared to "action levels" specified in the SSOP.

Sample Jars, Sample Handling, and Chain-of-Custody

Each discrete sample was submitted in separate laboratory-prepared glass containers. Sample jars were obtained specifically for use on this project, and consisted of glass jars with Teflon lid inserts. Samples were collected, labeled, and placed immediately into a chilled cooler for transport to the analytical laboratory. Chain-of-custody records were maintained recording sample number, location, depth, type of preservative (if any), and handling procedures.

Field Equipment Decontamination Procedures and Waste Disposal

All hand sampling equipment (e.g., spoons, shovels, etc.), were decontaminated after each use. Decontamination procedures consisted of cleaning with a non-phosphatic soap in a tap water solution and a stiff-bristle brush, followed by a thorough deionized water rinse. All drill tooling and split spoon samplers were cleaned between each boring using a high pressure hot water washer. Rinsate water was collected and stored in a 55-gallon drum on site pending laboratory analysis and disposal arrangements. Drill cuttings were placed on plastic sheeting and covered with plastic until laboratory analysis is completed and appropriate disposal arrangements can be made. Soil removed from all shallow hand excavations was returned to the excavations after samples had been collected.

2.2 MARINE SEDIMENTS

Navigation and Positioning

The sampling vessel was positioned with a Differential Global Position System (DGPS) at the sampling stations as shown in Figure 1. As the sampling grab was lowered, the coordinates of each station were taken. Table 2-1 shows the sample coordinates and mudline elevations.

During sampling, the van Veen grab was positioned at one of the predetermined sampling stations. Elevations were referenced to local mean low water (MLLW) (National Oceanic and Atmospheric Administration). Tide height was predicted by the use of published tide charts. Because tide heights were predicted rather than measured from known upland elevation control points, vertical accuracy may vary. The amount of variation is not a concern for this assessment, but could be significant during design and construction. The sediment depth at each station was measured with a lead-line. Horizontal coordinates were converted and identified as latitude and longitude (NAD 83) to the nearest 0.1 of a second.

Sample Collection

The 0.1m^2 van Veen sampler was attached to a hydro-wire using a ball-bearing swivel. The swivel minimizes the twisting forces of the sampler during deployment and ensures that proper contact will be made with the bottom.

The sampler was deployed and retrieved with minimum swinging when out of the water. Swinging was minimized by heading the survey vessel into the waves when the sampler was out of the water and by attaching handling lines operated by the sampling team, to the cable. To minimize bow waves, which can be caused when lowering the sampler into the water column too quickly, the lowering speed at sediment entry was kept to less than or equal to 1 foot per second.

After the sampler contacted the bottom, it was retrieved slowly to permit the device to close properly. Once the jaws closed, a constant retrieval speed was maintained to avoid jerking the sampler. This reduced the possibility of disturbing the samples. The sampler was raised slowly when it reached the surface of the water and handled gently to minimize swinging. The sampler was secured as rapidly as possible after being brought on board.

Sample Acceptability Criteria

After the sampler was secured, the sediment was carefully inspected before being accepted. The following acceptability criteria were used:

- To ensure that the sediment surface was not pressed against the top of the sampler, the sampler was not overfilled;
- Water was overlying the sediment, indicating minimal leakage;
- The overlying water was not excessively turbid, indicating minimal disturbance or winnowing; and
- The penetration depth was at least 5 centimeters (cm).

If the sample did not meet the above criteria, it was rejected.

Sample Documentation

The chain of custody (COC) procedures developed by Pentec Environmental, Inc. were employed for all samples collected and were maintained throughout sampling and analysis. Each sample was identified by a unique number. Sample numbers were assigned by Pentec's database manager and provided on preprinted labels. COC and Qualitative Sample Characteristics (QSC) forms were used to document sample collection and sample transfer through the final sample disposition.

After the samples were accepted a field identification number was assigned to each sample by using the next available number from the preprinted sample labels and placing the label on the COC form. Additional fields to be completed on the COC forms included:

- The initials of the person completing the form;
- The sample collection date and time;
- The number of containers collected for each type of analysis; and
- The total number of containers in which the sample was placed.

After the COC form was completed, the QSC form was filled out. The sample was photographed and the film roll number and frame number were recorded on the QSC form. After the QSC form had been completed, water overlying the sediment was removed. The water was slowly siphoned off near one side of the sample, with a minimum of sample disturbance. Once the overlying water was removed, the surficial sediment was removed.

Sample Containers for Analysis

All sample containers received by the North Creek Analytical (NCA) of Bothell, Washington were pre-cleaned. A total of 6 containers were required for each chemical analysis: two 8-oz. glass jars for dioxin/furans, one 4-oz. glass jar for volatile organic compounds, two 1-liter glass jars for aqueous phase tributyl tin, and one 1-liter glass jar for metals, semivolatile compounds, total organic carbons, and total solids.

General Sample Handling Practices

All equipment and instruments used to remove sediment from the sampler were made of glass, stainless steel, or PTFE (Teflon) and were cleaned prior to each day's use and between sampling. Prior to collecting a sample, the sampling grab and all parts of sampler that came in contact with the sample were decontaminated following Puget Sound Estuary Program (PSEP) protocols. The decontamination procedures deviated from PSEP by not using acid solvent rinses; the rinse was distilled water. The decontamination procedure was as follows:

- Pre-wash rinse with tap water;
- First wash with solution of tap water and Alconox soap (brush);

- Second rinse with tap water;
- Second wash with solution of tap water and Alconox soap (brush);
- First rinse with distilled water;
- Second rinse with distilled water; and
- Decontaminated items immediately contained or covered with aluminum foil.

Disposable gloves were discarded after each sampling event and replaced with a new gloves prior to handling decontaminated instruments or touching work surfaces. Sample containers were kept in packages as received from the analytical NCA.

Sample Procedures

The date and time of sample collections were written on the label of each sample container. This information was taken from the QSC form and transferred to the sample container label prior to filling the container with sediment.

Unused sediment from the grab was returned to the same area from which it was collected.

The procedure for processing samples was as follows:

1. Inspect the grab sampler for acceptability and complete COC form and the first portion of the QSC form.
2. Carefully siphon off water from the top of the sediment.
3. Photograph the sample and record the film roll number and frame number.
4. Using a stainless steel spoon, collect near surface sediment and transfer the sediment to one 4-oz. glass jar for volatile organic analysis.
5. Fill the jars completely and place screw cap on the sample container and tighten.
6. Transfer the remaining sediment to a stainless steel bowl and homogenize the sediment with a stainless steel spoon.
7. Using a stainless steel spoon, collect sediment from the bowl and transfer the sediment to two 1-liter glass jars for aqueous phase tributyl tin, and a one 1-liter glass jar for metals, semivolatile compounds, total organic carbons, and total solids analyses.
8. Fill the jars completely and place screw cap on the sample container and tighten.

Sediment samples were stored at 4 degrees C in an iced-chest while on board and during transfer to the NCA.

Sample Analysis

All sediment samples were analyzed for metals, total organic carbon (TOC), and total solids. In addition, select sediment samples were analyzed for polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), dioxins, volatile organics, semivolatile organic compounds (SVOAs), and aqueous phase tributyl tin (TBT). Table 2-2 shows the analyses performed for each sample. Sediment samples were assayed for the contaminants of concern using the following metrologies:

- Metals - arsenic, antimony, cadmium, copper, chromium, lead, mercury (inorganic) nickel, silver, and zinc - EPA Test Method 6010A, 7421A, and 7421 - PSEP Recommended Guidelines;
- PAHs - EPA Test Method 8270A - PSEP Recommend Guidelines;
- PCBs - EPA Test Method 8081- PSEP Recommend Guidelines;
- Dioxin - EPA Test Method 8290;
- Tributyl Tin - Selected Ion Monitoring GC/MS;
- Volatile Organics - EPA Test Method 8260A - PSEP Recommended Guidelines;
- TOC - EPA Test Method 9060 - PSEP Recommended Guidelines; and
- Total Solids - EPA Test Method 160 mod. - PSEP Recommended Guidelines.

3.0 UPLAND SOIL RESULTS

Otten Engineering collected surface samples from 14 locations on July 3, and July 30, 1997 (designated DC-UPLD-SS 1 to -14). Borings were drilled at two locations on July 14, 1997. Boring B-2 was on the DCI Site and Boring B-1 was in the location of the former City of Anacortes Wastewater treatment facility.

The concentration of chemicals detected are listed on Table 3-1, along with the MTCA residential and industrial cleanup levels for soil. The cleanup levels for residential are the lowest of Method A or B and the industrial are the lowest of Method B or C for industrial sites.

At the former waste water treatment facility, no chemicals were measured above residential cleanup levels.

Petroleum hydrocarbons were the most frequent compound that exceeded the cleanup levels. The cleanup level of 200 mg/Kg for diesel-range and heavy oil range is the same for residential and industrial sites. The residential and industrial cleanup levels are the same because they are based on levels needed to protect groundwater Soil samples from locations SS-2A, -4, -8, -9, -11, -13A, -14A, and -14B contain diesel-range hydrocarbons from 203 to 16,300 mg/Kg and contained heavy oil range hydrocarbons from 676 to 18,500 mg/Kg.

The concentration of copper is 7,780, 6,150 and 7,520 mg/Kg in samples SS-2A, 13A and -14A, compared to the residential cleanup level of 2,960 mg/Kg. The copper concentrations are below the industrial cleanup level of 130,000 mg/Kg.

The concentration of lead is 560 mg/Kg in sample SS-114B. This exceeds the residential cleanup level of 250 mg/Kg, but is below the industrial cleanup level of 1,000 mg/Kg.

The concentration of arsenic is 32 and 27 mg/Kg in samples SS-1A and 14A. This is above the residential cleanup level of 20, but below the industrial cleanup level of 200 mg/Kg.

Overall, the concentration of priority pollutants are lower than we have seen on other ship repair and construction sites. It appears that DCI has done a very good job of minimizing the release of hazardous substances during their operations. During this Phase 2 assessment, we sampled soil in areas most likely to contain contamination, or where there was visible staining. However, based on our visual observations, the stained areas represent relatively small isolated areas of the property.

4.0 SEDIMENT RESULTS

Otten Engineering, and Pentec Environmental, Inc. (PEI), collected sediment samples at 7 stations on the Dakota Creek Industries (DCI) site on August 6, 1997 (DC-SED-04 to -11). Samples from 3 nearshore stations were collected with a hand auger at low tide on July 3,1997 (DC-SED-01 to -03). Sediment was not recovered at two stations at the Dakota Creek Shipyard (DC-SED-04 & 07) because coarse gravel, vegetation, or anthropogenic material prevented the grab sampler from penetrating the sediment. Station locations are presented in Figure 2 and station coordinates and sediment elevations are presented in Table 2-1. Sediment Qualitative Sample Characteristic forms for each sampling station are presented in Appendix B.

All sediment samples were analyzed for metals, total organic carbon (TOC), and total solids. In addition, select sediment samples were analyzed for polynuclear aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCBs), dioxins, volatile organics compounds (VOCs), and aqueous phase tributyl tin (TBT). Analytical methods for the contaminants of concern are presented in Section 2.2 of this report.

4.1 Site and Sediment Conditions

In general sediment adjacent to docks and near shore at Dakota Creek Industries were composed of soft, dark-gray, fine sandy silt with less than 10 percent shell fragments and anthropogenic material. The grab sampler occasionally intercepted eel grass and kelp beds at Dakota Creek and Wyman sites. A thin veneer of diatoms was commonly seen on the surface of the sediment and the sediment often emitted a mild hydrogen sulfide (H_2S) odor. An oil sheen was commonly seen on the surface of the water at in the inlet west of Pier II.

Sediment samples collected near Pier II were generally composed of loose, light-gray to dark-gray, slightly silt, coarse gravely, fine to coarse sand with up to 50 percent shell fragments at some locations.

4.2 Sediment Quality

Contaminants of concern (COC) were detected at all sediment sample stations. A summary of positive sample results is presented in Table 4-1 along with applicable Washington State Department of Ecology Marine Sediment Quality Standards (SQSs; WAC 173-204-320). Laboratory data certificates are transmitted to the Port separately. The locations of each sampling station are presented in Figures 2.

With the exception of sediment samples collected at stations DC-SED-03 and DC-SED-08, concentrations of all contaminants of concern were less than the Sediment Quality Standards. At stations DC-SED-03 and DC-SED-08 sediment concentrations of PCBs and PAHs exceeded SQSs. The concentrations of copper and zinc at station DC-SED-03 exceeded SQSs.

The concentration of TOC in the sediment at stations DC-SED-02 and DC-SED-03 were reported at 26.2 percent and 0.372 percent, respectively. These TOC values are outside the typical range of TOC concentrations (0.5 to 3 percent) found in the Puget Sound (WDOE, 1991). Therefore, TOC normalized PCB and PAH results for stations DC-SED-02 and -03 may be anomalous and may not represent the potential for adverse biological effects. In this situation, is appropriate to compare non-normalized PCB and PAH results for stations DC-SED-02 and -03 to Apparent Effects Threshold (AET) values to assess if biological effects are likely (PTI 1989).

Tributyl Tin (TBT) was detected in several sediment porewater samples analyzed. The TBT concentrations exceeded the Puget Sound Disposal Authority sediment TBT screen level at station DC-SED-03 only (PSDDA, 1996). There is no published SQS for TBT.

5.0 SUMMARY

Marine Sediment

In the marine sediment, concentrations of PAHs, PCBs or metals in two locations were above the Sediment Management Standards. Both of the locations are in the southern portion of the inlet between Piers I and II. Location -08 is north of a former marine railway. Location -03 is north of former marine railways, and is west of storm drain outfalls on Pier II. One of the outfalls is owned by the City of Anacortes and the others are owned by the Port.

The concentrations are contaminants of concern are below the SQS levels in the samples from the north portion of the inlet and from north of Pier II. The two location north of Pier II are also near the outfall from the City Wastewater Treatment Plant.

The sampling in this Phase 2 Environmental Assessment has confirmed the presence of contaminants of concern in the sediments, but there is not sufficient data to determine the extent of the contamination. If dredging is planned, then deeper core sampling would be required to determine the depth of contamination.

Upland Soils

In the upland soils, petroleum hydrocarbons exceeded MTCA cleanup levels in 8 samples taken at 7 locations. Except for SS-2A and SS-4, the petroleum hydrocarbon exceedences are located in the southeast portion of the property north of 3rd Street.

Copper, arsenic, or lead was above residential levels, but below industrial cleanup levels in samples from 4 locations. Two of the samples were along the former marine railway in the southeast portion of the property, and two of the samples were along the rails south of the Syncrolift.

The sampling in this Phase 2 Environmental Assessment has confirmed the presence of petroleum hydrocarbons in the surface soils, but there is not sufficient data to determine the extent of contamination. The concentrations of metals are below industrial cleanup levels.

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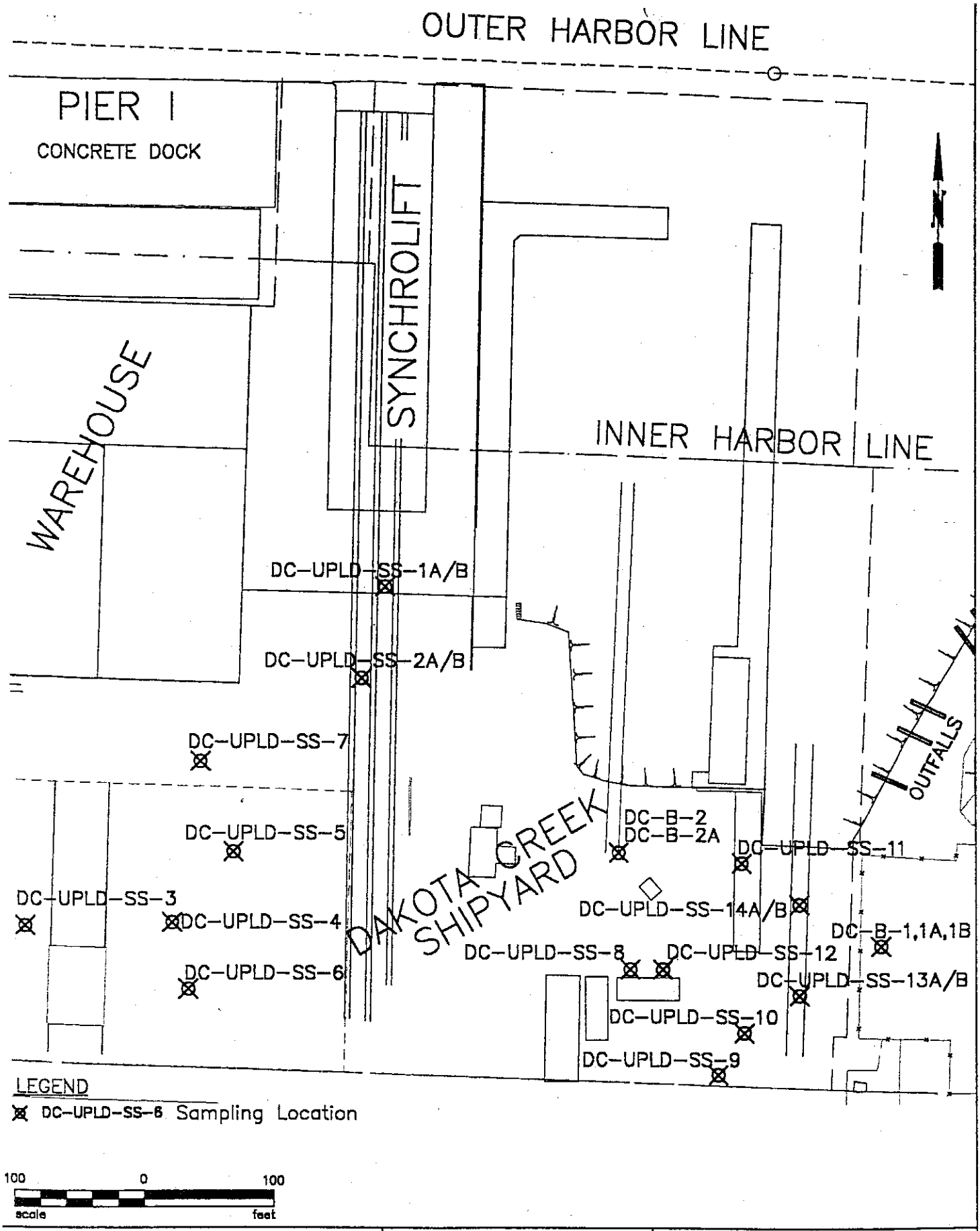
Washington State Department of Ecology. 1995. Sediment Management Standards. Chapter 173-204 WAC. Publication No. 96-252.

Washington State Department of Ecology. 1991. Sediment Cleanup Standards User Manual. Appendix G - Organic Carbon Normalization of Sediment Data. Technical Information Memorandum 1992.



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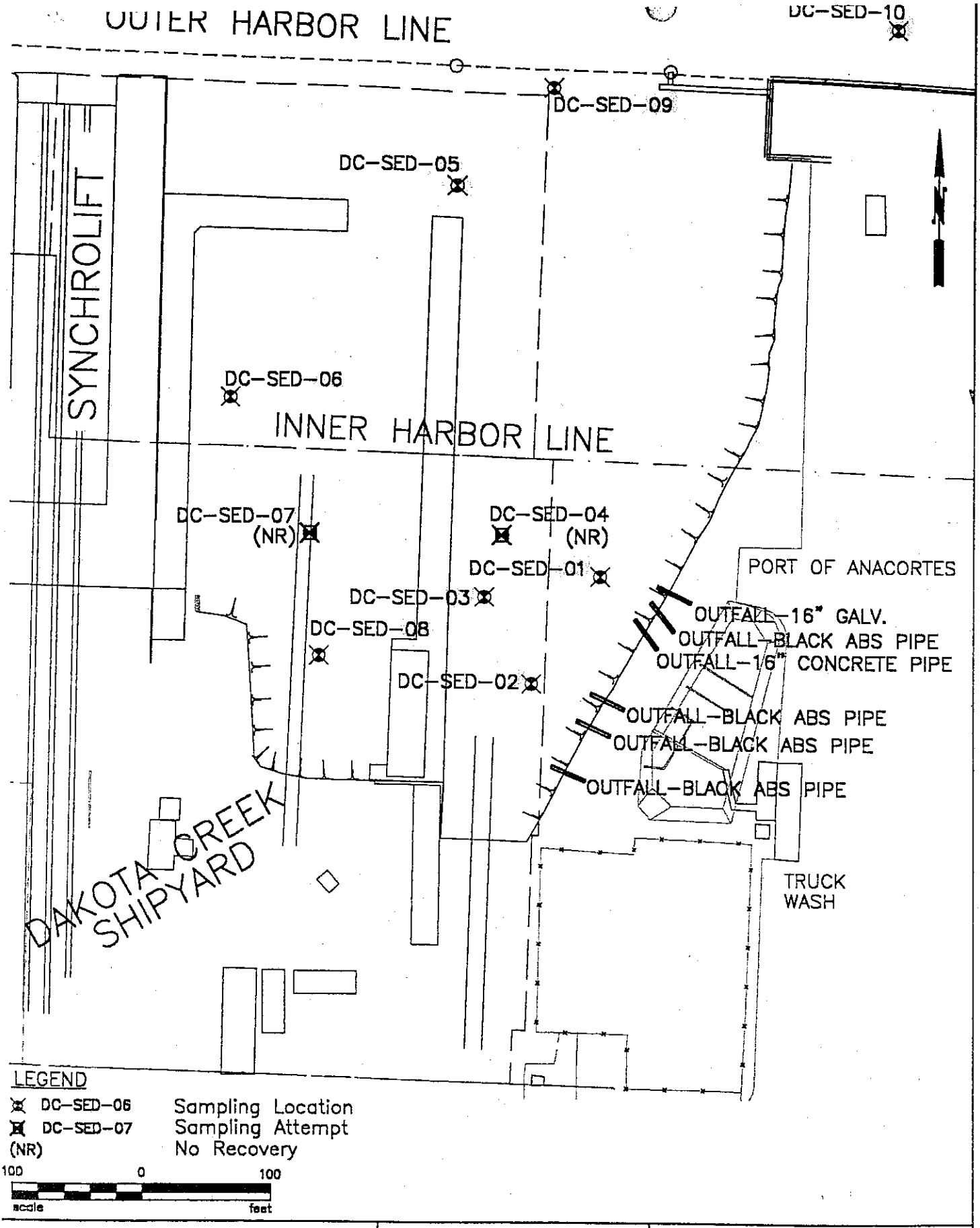
Seattle, WA. 98155

Figure 1 – Upland Sampling
Dakota Creek Industries
Port of Anacortes
Anacortes, WA



Pentec Environmental Edmonds, WA 98020 (206) 775-4682	OTTEN ENGINEERING 3029 NE 182nd Street Seattle, WA. 98155	Figure 2 – Sediment Sampling Dakota Creek Industries Port of Anacortes Anacortes, WA

Table 2-1 Marine Sediment Locations and Elevations.

Sample Station	Sample Number	Coordinates: State Plane NAD 83 Northing	State Plane NAD 83 Easting	Geographic Coordinates NAD 83 Latitude	Geographic Coordinates NAD 83 Longitude	Water Depth	Tide	Elevation	Sample date	Sample Time
DC-SED-04										
DC-SED-05	78004007	560118	1209947	48°31'18.772" N	122°36'35.107" E	23.0	1.7	-21.3	8/6/97	14:58
DC-SED-06	78004008	559954	1209772	48°31'17.113" N	122°36'37.648" E	7.3	2.1	-5.2	8/6/97	15:20
DC-SED-07										
DC-SED-08	78004009	559755	1209842	48°31'15.170" N	122°36'36.545" E	2.2	3.8	1.6	8/6/97	16:35
DC-SED-09	78004010	560193	1210021	48°31'19.536" N	122°36'34.036" E	37.7	5	-32.7	8/6/97	17:25
DC-SED-10	78004011	560241	1210288	48°31'20.071" N	122°36'30.086" E	52.0	5.7	-46.3	8/6/97	17:49

Note: Tide elevations from predicted tide charts and are approximate.

Table 2-2 Samples Analyzed

Sediment Samples

Sample ID	Field Sample ID	Date	TOC	SOLIDS	METALS	PAH	VOA	PCBs	TBT	DIOXIN
DC-SED-01		7/3/97	X	X	X					
DC-SED-02		7/3/97	X	X	X	X	X	X		
DC-SED-03		7/3/97	X	X	X	X	X	X	X	
DC-SED-05	78004007	8/6/97	X	X	X					
DC-SED-06	78004008	8/6/97	X	X	X				X	
DC-SED-08	78004009	8/6/97	X	X	X	X	X	X	X	
DC-SED-09	78004010	8/6/97	X	X	X					
DC-SED-10	78004011	8/6/97	X	X	X		X	X		

Upland Samples

Sample ID	Date	HCID	TPH-G	TPH-Dx	418.1	Metals	SVOA	VOA	PCBs
DC-UPLD-SS-1A	7/3/97	X			X	X			
DC-UPLD-SS-1B	7/3/97	X				X			
DC-UPLD-SS-2A	7/3/97	X		X	X	X			
DC-UPLD-SS-2B	7/3/97	X				X			
DC-UPLD-SS-3	7/30/97		X	X		X			
DC-UPLD-SS-4	7/30/97		X	X		X			
DC-UPLD-SS-8	7/30/97		X	X					
DC-UPLD-SS-9	7/30/97		X	X			X	X	X
DC-UPLD-SS-11	7/30/97		X	X			X	X	X
DC-UPLD-SS-13A	7/30/97		X	X		X			
DC-UPLD-SS-14A	7/30/97		X	X		X	X	X	X
DC-UPLD-SS-14B	7/30/97		X	X		X	X	X	X
DC-B-1, S-1	7/14/97					X			X
DC-B-1B, S-1	7/14/97					X			X
DC-B-2, S-2	7/14/97	X				X			
DC-B-2A, S-1	7/14/97	X				X	X	X	X

HCID = Hydrocarbon Identification.
TPH-G = Total Petroleum Hydrocarbons in Gasoline Range.
TPH-Dx = Total Petroleum Hydrocarbons in Diesel and Oil Ranges.
SVOA = Semi-Volatile Organic compounds Analyses.
VOA = Volatile Organic compounds Analyses.
PCBs = Poly-chlorinated Biphenyl's.
TOC = Total Organic Carbon.
PAH = Polynuclear Aromatic Hydrocarbons.
TBT = Tri-butyl Tin.

Table 3-1 Dakota Creek Industries Summary of Chemicals Detected

Sample Name	Matrix	Analyte	Sample Results (mg/Kg)	MTCA (mg/Kg) Residential	MTCA (mg/Kg) Industrial
DC-B-1,S-1	Soil	Arsenic	5.24	20	200
DC-B-1,S-1	Soil	Chromium	17.3 J	100	500
DC-B-1,S-1	Soil	Copper	102	2,960	130,000
DC-B-1,S-1	Soil	Mercury	0.279	1.0	1.0
DC-B-1,S-1	Soil	Nickel	32.7	1,600	70,000
DC-B-1,S-1	Soil	Lead	22.6 J	250	1,000
DC-B-1,S-1	Soil	Zinc	103	24,000	1,000,000
DC-B-1B,S-1	Soil	Silver	0.134	400	17,500
DC-B-1B,S-1	Soil	Arsenic	8.85	20	200
DC-B-1B,S-1	Soil	Chromium	20.0 J	100	500
DC-B-1B,S-1	Soil	Copper	183	2,960	130,000
DC-B-1B,S-1	Soil	Mercury	0.577	1.0	1.0
DC-B-1B,S-1	Soil	Nickel	25.6	1,600	70,000
DC-B-1B,S-1	Soil	Lead	56.0 J	250	1,000
DC-B-1B,S-1	Soil	Zinc	186	24,000	1,000,000
DC-B-2,S-2	Soil	Silver	0.157 J	400	17,500
DC-B-2,S-2	Soil	Arsenic	2.11	20	200
DC-B-2,S-2	Soil	Chromium	15.2 J	100	500
DC-B-2,S-2	Soil	Copper	98.4	2,960	130,000
DC-B-2,S-2	Soil	Mercury	0.380	1.0	1.0
DC-B-2,S-2	Soil	Nickel	22.9	1,600	70,000
DC-B-2,S-2	Soil	Lead	28.4 J	250	1,000
DC-B-2,S-2	Soil	Zinc	58.5	24,000	1,000,000
DC-B-2A,S-1	Soil	Endrin aldehyde	0.113	NC	NC
DC-B-2A,S-1	Soil	Arsenic	1.00	20	200
DC-B-2A,S-1	Soil	Chromium	10.3 J	100	500
DC-B-2A,S-1	Soil	Copper	7.26	2,960	130,000
DC-B-2A,S-1	Soil	Mercury	0.113	1.0	1.0
DC-B-2A,S-1	Soil	Nickel	5.75	1,600	70,000
DC-B-2A,S-1	Soil	Lead	29.8 J	250	1,000
DC-B-2A,S-1	Soil	Diesel Range Hydrocarbons	DET	200	200
DC-B-2A,S-1	Soil	Gasoline Range Hydrocarbons	DET	100	100
DC-B-2A,S-1	Soil	Heavy Oil Range Hydrocarbons	DET	200	200

Table 3-1 DCI Upland Continued

Sample Name	Matrix	Analyte	Sample Results (mg/Kg)	MTCA (mg/Kg) Residential	MTCA (mg/Kg) Industrial
DC-UPLD-SS-11	Soil	Aroclor 1254	0.073	1	10
DC-UPLD-SS-11	Soil	Anthracene	11.0	24,000	1,000,000
DC-UPLD-SS-11	Soil	Bis(2-ethylhexyl)phthalate	5.50	2,400	105,000
DC-UPLD-SS-11	Soil	2-Methylnaphthalene	5.10	NC	NC
DC-UPLD-SS-11	Soil	Pyrene	2.7	2,400	105,000
DC-UPLD-SS-11	Soil	n-Butylbenzene	0.294	NC	NC
DC-UPLD-SS-11	Soil	p-Isopropyltoluene	0.274	NC	NC
DC-UPLD-SS-11	Soil	Diesel Range Hydrocarbons	**16300**	200	200
DC-UPLD-SS-11	Soil	Heavy Oil Range Hydrocarbons	**1980**	200	200
DC-UPLD-SS-11	Soil	Gasoline Range Hydrocarbons	**126**	100	100
DC-UPLD-SS-13A	Soil	Cadmium	0.252 J	2	10
DC-UPLD-SS-13A	Soil	Arsenic	**22.6**	20	200
DC-UPLD-SS-13A	Soil	Silver	2.76 J	400	17,500
DC-UPLD-SS-13A	Soil	Lead	52.4 J	250	1,000
DC-UPLD-SS-13A	Soil	Chromium	27.9 J	100	500
DC-UPLD-SS-13A	Soil	Copper	**6150**	2,960	130,000
DC-UPLD-SS-13A	Soil	Nickel	15.1J	1,600	70,000
DC-UPLD-SS-13A	Soil	Zinc	1220	24,000	1,000,000
DC-UPLD-SS-13A	Soil	Diesel Range Hydrocarbons	**421**	200	200
DC-UPLD-SS-13A	Soil	Heavy Oil Range Hydrocarbons	**843**	200	200
DC-UPLD-SS-13A	Soil	Ethylbenzene	0.292	20	20
DC-UPLD-SS-13A	Soil	Gasoline Range Hydrocarbons	26.7	100	100
DC-UPLD-SS-13A	Soil	Xylenes (total)	2.08	20	20
DC-UPLD-SS-14A	Soil	Total PCBs	0.067	1	10
DC-UPLD-SS-14A	Soil	1,2,4-Trimethylbenzene	1.31	NC	NC
DC-UPLD-SS-14A	Soil	1,3,5-Trimethylbenzene	1.03	NC	NC
DC-UPLD-SS-14A	Soil	2-Chlorotoluene	0.214	NC	NC
DC-UPLD-SS-14A	Soil	Ethylbenzene	0.371	20	20
DC-UPLD-SS-14A	Soil	m,p-Xylene	1.55	20	20
DC-UPLD-SS-14A	Soil	o-Xylene	1.60	20	20
DC-UPLD-SS-14A	Soil	Arsenic	27.0	20	200
DC-UPLD-SS-14A	Soil	Silver	2.69 J	400	17,500
DC-UPLD-SS-14A	Soil	Lead	92.6 J	250	1,000

Table 3-1 DCI Upland Continued

Sample Name	Matrix	Analyte	Sample Results (mg/Kg)	MTCA (mg/Kg) Residential	MTCA (mg/Kg) Industrial
DC-UPLD-SS-14A	Soil	Cadmium	0.866 J	2	10
DC-UPLD-SS-14A	Soil	Chromium	31.9 J	100	500
DC-UPLD-SS-14A	Soil	Copper	**7520**	2,960	130,000
DC-UPLD-SS-14A	Soil	Mercury	0.287	1.0	1.0
DC-UPLD-SS-14A	Soil	Nickel	16.5 J	1,600	70,000
DC-UPLD-SS-14A	Soil	Zinc	1600	24,000	1,000,000
DC-UPLD-SS-14A	Soil	Diesel Range Hydrocarbons	**1590**	200	200
DC-UPLD-SS-14A	Soil	Heavy Oil Range Hydrocarbons	**18500**	200	200
DC-UPLD-SS-14A	Soil	Ethylbenzene	0.174	20	20
DC-UPLD-SS-14A	Soil	Gasoline Range Hydrocarbons	22.9	100	100
DC-UPLD-SS-14A	Soil	Toluene	0.0559	40	40
DC-UPLD-SS-14A	Soil	Xylenes (total)	1.53	20	20
DC-UPLD-SS-14B	Soil	beta-BHC	0.017	NC	NC
DC-UPLD-SS-14B	Soil	Pyrene	5.10 J	2,400	105,000
DC-UPLD-SS-14B	Soil	Arsenic	1.97	20	200
DC-UPLD-SS-14B	Soil	Silver	0.812 J	400	17,500
DC-UPLD-SS-14B	Soil	Lead	**559 J**	250	1,000
DC-UPLD-SS-14B	Soil	Cadmium	0.444 J	2	10
DC-UPLD-SS-14B	Soil	Chromium	52.2	100	500
DC-UPLD-SS-14B	Soil	Copper	2240	2,960	130,000
DC-UPLD-SS-14B	Soil	Mercury	30.9 J	1.0	1.0
DC-UPLD-SS-14B	Soil	Nickel	23.3 J	1,600	70,000
DC-UPLD-SS-14B	Soil	Antimony	2.88	NC	NC
DC-UPLD-SS-14B	Soil	Zinc	643	24,000	1,000,000
DC-UPLD-SS-14B	Soil	Diesel Range Hydrocarbons	**2900**	200	200
DC-UPLD-SS-14B	Soil	Heavy Oil Range Hydrocarbons	**2820**	200	200
DC-UPLD-SS-14B	Soil	Gasoline Range Hydrocarbons	23.1	100	100
DC-UPLD-SS-14B	Soil	Xylenes (total)	0.106	20	20
DC-UPLD-SS-1A	Soil	Silver	0.574	400	17,500
DC-UPLD-SS-1A	Soil	Arsenic	**32.1 J**	20	200
DC-UPLD-SS-1A	Soil	Chromium	49.9 J	100	500
DC-UPLD-SS-1A	Soil	Copper	1740 J	2,960	130,000
DC-UPLD-SS-1A	Soil	Nickel	20.9 J	1,600	70,000

Table 3-1 DCI Upland Continued

Sample Name	Matrix	Analyte	Sample Results (mg/Kg)	MTCA (mg/Kg) Residential	MTCA (mg/Kg) Industrial
DC-UPLD-SS-1A	Soil	Lead	24.4 J	250	1,000
DC-UPLD-SS-1A	Soil	Petroleum Oil Hydrocarbons	72.4	200	200
DC-UPLD-SS-1A	Soil	Heavy Oil Range Hydrocarbons	DET	200	200
DC-UPLD-SS-1A	Soil	Zinc	828 J	24,000	1,000,000
DC-UPLD-SS-1B	Soil	Arsenic	1.74 J	20	200
DC-UPLD-SS-1B	Soil	Chromium	19.2 J	100	500
DC-UPLD-SS-1B	Soil	Copper	14.8 J	2,960	130,000
DC-UPLD-SS-1B	Soil	Nickel	45.7 J	1,600	70,000
DC-UPLD-SS-1B	Soil	Lead	2.59 J	250	1,000
DC-UPLD-SS-1B	Soil	Zinc	27.4 J	24,000	1,000,000
DC-UPLD-SS-2A	Soil	Silver	0.534	400	17,500
DC-UPLD-SS-2A	Soil	Arsenic	15.0 J	20	200
DC-UPLD-SS-2A	Soil	Chromium	45.5 J	100	500
DC-UPLD-SS-2A	Soil	Copper	**7780 J**	2,960	130,000
DC-UPLD-SS-2A	Soil	Nickel	27.9 J	1,600	70,000
DC-UPLD-SS-2A	Soil	Lead	23.6 J	250	1,000
DC-UPLD-SS-2A	Soil	Diesel Range Hydrocarbons	**374**	200	200
DC-UPLD-SS-2A	Soil	Heavy Oil Range Hydrocarbons	**676**	200	200
DC-UPLD-SS-2A	Soil	Diesel Range Hydrocarbons	DET	200	200
DC-UPLD-SS-2A	Soil	Heavy Oil Range Hydrocarbons	DET	200	200
DC-UPLD-SS-2A	Soil	Zinc	1150 J	24,000	200
DC-UPLD-SS-2B	Soil	Arsenic	1.44 J	20	200
DC-UPLD-SS-2B	Soil	Chromium	22.8 J	100	500
DC-UPLD-SS-2B	Soil	Copper	14.4 J	2,960	130,000
DC-UPLD-SS-2B	Soil	Nickel	52.6 J	1,600	70,000
DC-UPLD-SS-2B	Soil	Lead	2.19 J	250	1,000
DC-UPLD-SS-2B	Soil	Zinc	30.7 J	24,000	1,000,000
DC-UPLD-SS-3	Soil	Cadmium	0.152 J	2	10
DC-UPLD-SS-3	Soil	Arsenic	2.98	20	200
DC-UPLD-SS-3	Soil	Silver	0.611 J	400	17,500
DC-UPLD-SS-3	Soil	Lead	2.04 J	250	1,000
DC-UPLD-SS-3	Soil	Chromium	26.8 J	100	500
DC-UPLD-SS-3	Soil	Copper	147	2,960	130,000

Table 3-1 DCI Upland Continued

Sample Name	Matrix	Analyte	Sample Results (mg/Kg)	MTCA (mg/Kg) Residential	MTCA (mg/Kg) Industrial
DC-UPLD-SS-3	Soil	Nickel	35.7 J	1,600	70,000
DC-UPLD-SS-3	Soil	Zinc	1110	24,000	1,000,000
DC-UPLD-SS-3	Soil	Diesel Range Hydrocarbons	10.9	200	200
DC-UPLD-SS-3	Soil	Heavy Oil Range Hydrocarbons	63.9	200	200
DC-UPLD-SS-4	Soil	Cadmium	0.322 J	2	10
DC-UPLD-SS-4	Soil	Arsenic	7.26	20	200
DC-UPLD-SS-4	Soil	Lead	57.5 J	250	1,000
DC-UPLD-SS-4	Soil	Silver	1.36 J	400	17,500
DC-UPLD-SS-4	Soil	Chromium	25.7 J	100	500
DC-UPLD-SS-4	Soil	Copper	416	2,960	130,000
DC-UPLD-SS-4	Soil	Nickel	21.7 J	1,600	70,000
DC-UPLD-SS-4	Soil	Diesel Range Hydrocarbons	**203**	200	200
DC-UPLD-SS-4	Soil	Heavy Oil Range Hydrocarbons	**2220**	200	200
DC-UPLD-SS-4	Soil	Gasoline Range Hydrocarbons	8.20	100	100
DC-UPLD-SS-4	Soil	Xylenes (total)	1.78	20	20
DC-UPLD-SS-4	Soil	Zinc	802	24,000	1,000,000
DC-UPLD-SS-8	Soil	Diesel Range Hydrocarbons	492	200	200
DC-UPLD-SS-8	Soil	Heavy Oil Range Hydrocarbons	**2100**	200	200
DC-UPLD-SS-9	Soil	Endrin	0.015	24	1,050
DC-UPLD-SS-9	Soil	Total PCBs	0.107	1.0	10
DC-UPLD-SS-9	Soil	Phenanthrene	6.9 J	NC	NC
DC-UPLD-SS-9	Soil	1,2,4-Trimethylbenzene	0.233	NC	NC
DC-UPLD-SS-9	Soil	1,3,5-Trimethylbenzene	0.208	NC	NC
DC-UPLD-SS-9	Soil	2-Chlorotoluene	0.731	NC	NC
DC-UPLD-SS-9	Soil	Ethylbenzene	0.310	20	20
DC-UPLD-SS-9	Soil	m,p-Xylene	0.722	20	20
DC-UPLD-SS-9	Soil	o-Xylene	1.73	20	20
DC-UPLD-SS-9	Soil	Diesel Range Hydrocarbons	**8360**	200	200
DC-UPLD-SS-9	Soil	Heavy Oil Range Hydrocarbons	**4470**	200	200
DC-UPLD-SS-9	Soil	Gasoline Range Hydrocarbons	**233**	100	100
DC-UPLD-SS-9	Soil	Xylenes (total)	4.12	20	20

NC = No Criteria published by Department of Ecology

Table 4-1 Dakota Creek Industries Sediment Summary of Chemicals Detected

Sample Name	Station Number	Matrix	Analyte	Sample [1] Results (mg/Kg)	Sample Results (mg/Kg TOC)	SQS (mg/Kg)
	DC-SED-01	Sediment	Chromium	21.4 J		260
	DC-SED-01	Sediment	Copper	55.4		390
	DC-SED-01	Sediment	Nickel	25.2 J		NC
	DC-SED-01	Sediment	Zinc	52.3		410
	DC-SED-01	Sediment	Lead	9.87		450
	DC-SED-01	Sediment	Silver	0.0720		6.1
	DC-SED-01	Sediment	Total Organic Carbon	0.658%		NC
	DC-SED-02	Sediment	Silver	0.0699 J		6.1
	DC-SED-02	Sediment	Arsenic	6.94		57
	DC-SED-02	Sediment	Chromium	6.98 J		260
	DC-SED-02	Sediment	Copper	42.8		390
	DC-SED-02	Sediment	Nickel	17.0 J		NC
	DC-SED-02	Sediment	Heptachlor epoxide	0.009		NC
	DC-SED-02	Sediment	Xylenes (total)	1.22		NC
	DC-SED-02	Sediment	2-Methylnaphthalene	4.10	15.6	38
	DC-SED-02	Sediment	LPAH	10.29	39.3	370
	DC-SED-02	Sediment	HPAH	30.13	115	960
	DC-SED-02	Sediment	Anthracene	1.42	5.4	220
	DC-SED-02	Sediment	Benzo (a) anthracene	3.54	13.5	110
	DC-SED-02	Sediment	Benzo (a) pyrene	4.10	15.6	99
	DC-SED-02	Sediment	Total Benzofluoranthenes	2.99	11.4	230
	DC-SED-02	Sediment	Benzo (ghi) perylene	4.85	18.5	31
	DC-SED-02	Sediment	Chrysene	4.15	15.8	110
	DC-SED-02	Sediment	Dibenzo (a,h) anthracene	3.06	11.7	12
	DC-SED-02	Sediment	Fluoranthene	2.10	8.0	160
	DC-SED-02	Sediment	Fluorene	0.742	2.8	23
	DC-SED-02	Sediment	Indeno (1,2,3-cd) pyrene	2.05	7.8	34
	DC-SED-02	Sediment	Naphthalene	3.06	11.7	99
	DC-SED-02	Sediment	Phenanthrene	5.07	19.4	100
	DC-SED-02	Sediment	Pyrene	3.30	12.6	1000

(1) = All results in mg/Kg unless otherwise noted (e.g., Tributyl Tin)

(2) = TBT SQS from PSDDA Issue Paper "Testing, Reporting, and Evaluation of TBT in PSDDA and SMS Programs

(3) = SQS for 3 & 4-Methylphenol based on SQS for 4-Methylphenol

Table 4-1 DCI Sediment- Continued

Sample Name	Station Number	Matrix	Analyte	Sample [1] Results (mg/Kg)	Sample Results (mg/Kg TOC)	SQS (mg/Kg)
	DC-SED-02	Sediment	Zinc	48.9		410
	DC-SED-02	Sediment	Lead	94.6		450
	DC-SED-02	Sediment	Total Organic Carbon	26.2%		NC
	DC-SED-03	Sediment	Silver	0.421 J		6.1
	DC-SED-03	Sediment	Arsenic	37.6		57
	DC-SED-03	Sediment	Chromium	32.8 J		260
	DC-SED-03	Sediment	Copper	**1240**		390
	DC-SED-03	Sediment	Nickel	15.3 J		NC
	DC-SED-03	Sediment	Total PCBs	0.075	**20.2**	12
	DC-SED-03	Sediment	LPAH	1.94	**523**	370
	DC-SED-03	Sediment	HPAH	6.92	**1860**	960
	DC-SED-03	Sediment	Anthracene	0.386	**104**	220
	DC-SED-03	Sediment	Benzo (a) anthracene	0.695	**187**	110
	DC-SED-03	Sediment	Benzo (a) pyrene	0.512	**138**	99
	DC-SED-03	Sediment	Total Benzofluoranthenes	0.913	**245**	230
	DC-SED-03	Sediment	Benzo (ghi) perylene	0.362	**97.3**	31
	DC-SED-03	Sediment	Chrysene	0.821	**221**	110
	DC-SED-03	Sediment	Fluoranthene	1.71	**460**	160
	DC-SED-03	Sediment	Fluorene	0.208	**55.9**	23
	DC-SED-03	Sediment	Indeno (1,2,3-cd) pyrene	0.362	**97.3**	34
	DC-SED-03	Sediment	Phenanthrene	1.35	**363**	100
	DC-SED-03	Sediment	Pyrene	1.54	**414**	1000
	DC-SED-03	Sediment	Zinc	**528**		410
	DC-SED-03	Sediment	Lead	63.8		450
	DC-SED-03	Porewater	Tributyl Tin	0.45 µg/L		0.15 µg/L [2]
	DC-SED-03	Sediment	Total Organic Carbon	0.372%		NC
78004007	DC-SED-05	Sediment	Cadmium	0.315		5.1
78004007	DC-SED-05	Sediment	Chromium	23.7		260
78004007	DC-SED-05	Sediment	Copper	42.7		390
78004007	DC-SED-05	Sediment	Nickel	27.5		NC

(1) = All results in mg/Kg unless otherwise noted (e.g., Tributyl Tin)

(2) = TBT SQS from PSDDA Issue Paper "Testing, Reporting, and Evaluation of TBT in PSDDA and SMS Programs

(3) = SQS for 3 & 4-Methylphenol based on SQS for 4-Methylphenol

Table 4-1 DCI Sediment - Continued

Sample Name	Station Number	Matrix	Analyte	Sample [1] Results (mg/Kg)	Sample Results (mg/Kg TOC)	SQS (mg/Kg)
78004007	DC-SED-05	Sediment	Lead	12.6 J		450
78004007	DC-SED-05	Sediment	Zinc	78.1		410
78004007	DC-SED-05	Sediment	Arsenic	5.88 J		57
78004007	DC-SED-05	Sediment	Silver	0.0772		6.1
78004007	DC-SED-05	Sediment	Total Organic Carbon	1.52 %		NC
78004008	DC-SED-06	Sediment	Cadmium	0.300		5.1
78004008	DC-SED-06	Sediment	Chromium	26.2		260
78004008	DC-SED-06	Sediment	Copper	50.1		390
78004008	DC-SED-06	Sediment	Nickel	27.3		NC
78004008	DC-SED-06	Sediment	Lead	15.5 J		450
78004008	DC-SED-06	Sediment	Zinc	80.0		410
78004008	DC-SED-06	Sediment	Arsenic	5.86 J		57
78004008	DC-SED-06	Sediment	Silver	0.0962		6.1
78004008	DC-SED-06	Porewater	Tributyl Tin	0.08 µg/L		NC
78004008	DC-SED-06	Sediment	Total Organic Carbon	1.87 %		NC
78004009	DC-SED-08	Sediment	Cadmium	0.195		5.1
78004009	DC-SED-08	Sediment	Chromium	21.9		260
78004009	DC-SED-08	Sediment	Copper	374		390
78004009	DC-SED-08	Sediment	Nickel	21.6		NC
78004009	DC-SED-08	Sediment	Lead	75.0 J		450
78004009	DC-SED-08	Sediment	Total PCBs	0.285	**31.9**	12
78004009	DC-SED-08	Sediment	Antimony	1.85 J		NC
78004009	DC-SED-08	Sediment	Zinc	171		410
78004009	DC-SED-08	Sediment	Arsenic	22.1 J		57
78004009	DC-SED-08	Sediment	Silver	0.0984		6.1
78004009	DC-SED-08	Sediment	LPAH	2.35	263	370
78004009	DC-SED-08	Sediment	HPAH	8.51	953	960
78004009	DC-SED-08	Sediment	Acenaphthene	0.104	11.6	16
78004009	DC-SED-08	Sediment	Acenaphthylene	0.0631	7.1	66
78004009	DC-SED-08	Sediment	Anthracene	0.268	30.0	220

Table 4-1 DCI Sediment - Continued

Sample Name	Station Number	Matrix	Analyte	Sample [1] Results (mg/Kg)	Sample Results (mg/Kg TOC)	SQS (mg/Kg)
78004009	DC-SED-08	Sediment	Benzo (a) anthracene	0.855	95.7	110
78004009	DC-SED-08	Sediment	Benzo (a) pyrene	0.687	76.9	99
78004009	DC-SED-08	Sediment	Total Benzofluoranthenes	1.41	158	230
78004009	DC-SED-08	Sediment	Benzo (ghi) perylene	0.457	51.2	31
78004009	DC-SED-08	Sediment	Chrysene	1.08	**121**	110
78004009	DC-SED-08	Sediment	Dibenzo (a,h) anthracene	0.123	13.8	12
78004009	DC-SED-08	Sediment	Fluoranthene	2.01	**225**	160
78004009	DC-SED-08	Sediment	Fluorene	0.104	**11.6**	23
78004009	DC-SED-08	Sediment	Indeno (1,2,3-cd) pyrene	0.394	**44.1**	34
78004009	DC-SED-08	Sediment	2-Methylnaphthalene	0.0568	6.4	38
78004009	DC-SED-08	Sediment	Naphthalene	0.0978	11.0	99
78004009	DC-SED-08	Sediment	Phenanthrene	1.09	**122**	100
78004009	DC-SED-08	Sediment	Pyrene	2.33	261	1000
78004009	DC-SED-08	Sediment	Phenol	0.150		0.42
78004009	DC-SED-08	Sediment	3 & 4-Methylphenol	0.164		0.67 [3]
78004009	DC-SED-08	Sediment	Dimethyl phthalate	0.143		53
78004009	DC-SED-08	Porewater	Tributyltin	0.09 µg/L		0.15µg/L [2]
78004009	DC-SED-08	Sediment	Total Organic Carbon	0.893 %		NC
78004010	DC-SED-09	Sediment	Chromium	13.4		260
78004010	DC-SED-09	Sediment	Copper	15.3		390
78004010	DC-SED-09	Sediment	Nickel	13.6		NC
78004010	DC-SED-09	Sediment	Lead	6.32 J		450
78004010	DC-SED-09	Sediment	Zinc	21.3		410
78004010	DC-SED-09	Sediment	Arsenic	2.10 J		57
78004010	DC-SED-09	Sediment	Silver	0.0562		6.1
78004010	DC-SED-09	Sediment	Total Organic Carbon	0.167 %		NC
78004011	DC-SED-10	Sediment	Chromium	12.6		260
78004011	DC-SED-10	Sediment	Copper	16.2		390
78004011	DC-SED-10	Sediment	Nickel	14.7		NC
78004011	DC-SED-10	Sediment	Lead	5.23 J		450

Table 4-1 DCI Sediment - Continued

Sample Name	Station Number	Matrix	Analyte	Sample [1] Results (mg/Kg)	Sample Results (mg/Kg TOC)	SQS (mg/Kg)
78004011	DC-SED-10	Sediment	LPAH	0.475	181	370
78004011	DC-SED-10	Sediment	HPAH	1.59	607	960
78004011	DC-SED-10	Sediment	Acenaphthene	0.0142	5.4	16
78004011	DC-SED-10	Sediment	Anthracene	0.0491	18.7	220
78004011	DC-SED-10	Sediment	Benzo (a) anthracene	0.140	53.4	110
78004011	DC-SED-10	Sediment	Benzo (a) pyrene	0.0960	36.6	99
78004011	DC-SED-10	Sediment	Total Benzofluoranthenes	0.132	50.4	230
78004011	DC-SED-10	Sediment	Benzo (ghi) perylene	0.0895	34.2	31
78004011	DC-SED-10	Sediment	Chrysene	0.206	78.6	110
78004011	DC-SED-10	Sediment	Dibenzo (a,h) anthracene	0.0415	15.8	12
78004011	DC-SED-10	Sediment	Fluoranthene	0.497	190	160
78004011	DC-SED-10	Sediment	Fluorene	0.0213	8.1	23
78004011	DC-SED-10	Sediment	Indeno (1,2,3-cd) pyrene	0.0404	15.4	34
78004011	DC-SED-10	Sediment	2-Methylnaphthalene	0.128	48.9	38
78004011	DC-SED-10	Sediment	Naphthalene	0.0933	35.6	99
78004011	DC-SED-10	Sediment	Phenanthrene	0.170	64.9	100
78004011	DC-SED-10	Sediment	Pyrene	0.344	131	1000
78004011	DC-SED-10	Sediment	Phenol	0.0982		0.420
78004011	DC-SED-10	Sediment	Total Organic Carbon	0.262 %		

APPENDIX A
FIELD EXPLORATIONS

Surface and Shallow Soil Sample Descriptions
Dakota Creek Shipyard Property

Sample Designation	Sample Location	Matrix	Date Sampled	Interval Sampled	Depth (feet)	Sample Description
		Wood			0.0 - 0.43	Railroad timber
DC-UPLD-SS-1A	Old railroad haul-out near synchrolift	Soil	7/3/97	0.43 - 0.89	0.43 - 0.68	Damp, black, SAND (blast grit);
					0.68 - 0.89	Damp, dark gray, crushed rock;
DC-UPLD-SS-1B	Old railroad haul-out near synchrolift	Soil	7/3/97	0.89 - 1.65	0.89 - 1.65	Damp, gray to brown, trace gravely, slightly silty SAND
DC-UPLD-SS-2A	Old railroad haul-out near synchrolift	Soil	7/3/97	0.0 - 0.13	0.0 - 0.13	Damp, black and pink SAND (blast grit);
				and	0.13 - 0.55	Railroad timber
				0.55 - 0.63	0.55 - 0.63	Damp, dark gray, crushed rock, scattered paint (?) flakes and metal scraps
					0.63 - 1.15	Damp, gray crushed rock
					1.15 - 1.32	Damp, black crushed rock
DC-UPLD-SS-2B	Old railroad haul-out near synchrolift	Soil	7/3/97	1.32 - 2.15	1.32 - 2.15	Damp, gray and brown, trace gravely, medium to fine SAND
DC-UPLD-SS-3	Northwest of moveable shed	Soil	7/30/97	0.0 - 0.6	0.0 - 0.3	Damp, gray, brown and black, silty, sandy GRAVEL (crushed rock), with blast grit
					0.3 - 0.6	Damp, gray, brown and black, slightly silty, sandy GRAVEL (crushed rock)
DC-UPLD-SS-4	Equipment storage and welding area	Soil	7/30/97	0.0 - 0.8	0.0 - 0.8	Damp, gray, black, brown white and orange brown, silty SAND, with blast grit, metal scraps and old welding rods
					0.8 - 1.0	Damp, dark gray, gravely SAND
DC-UPLD-SS-5	Equipment storage area	Soil	7/30/97	0.0 - 0.5	0.0 - 0.5	Damp, brown, black and gray, gravely SAND (crushed rock), with dark surface staining and oil-like odor
DC-UPLD-SS-6	Equipment storage and welding area.	Soil	7/30/97	0.0 - 0.8	0.0 - 0.8	Damp, gray, black, brown white and orange brown, silty SAND, with blast grit, metal scraps and old welding rods
					0.8 - 1.0	Damp, dark gray, gravely SAND
DC-UPLD-SS-7	Asphalted area southwest of synchrolift.	Soil	7/2/97		0.0 - 0.3	Asphalt
					0.3 - 0.4	Damp, gray, crushed rock
				0.7 - 1.3	0.4 - 1.5	Wet, mottled brown and gray, clayey SILT, with scattered organic matter, roots
DC-UPLD-SS-8	Near drum storage area.	Soil	7/30/97	0.0 - 0.5	0.0 - 0.5	Damp, black, brown and gray, gravely SAND, with wood debris
					0.5 - 0.7	Wood
DC-UPLD-SS-9	Near empty drum storage area.	Soil	7/30/97	0.0 - 0.6	0.0 - 0.6	Moist, black, gray, red and blue, silty, gravely, SAND, with paint (?) flakes and oil-like odor
DC-UPLD-SS-10	Area of apparent paint flakes.	Soil	7/30/97	0.0 - 0.6	0.0 - 0.6	Damp, red, black, gray, white, brown and blue, gravely, silty SAND, with small colored flakes of paint (?)
DC-UPLD-SS-11	Northeast corner of blast grit storage she	Soil	7/30/97	0.0 - 0.6	0.0 - 0.6	Moist, dark gray and brown, slightly gravely, SAND, with dark surface staining and diesel-like odor.
DC-UPLD-SS-12	Near drum storage area.	Soil	7/30/97	0.0 - 0.5	0.0 - 0.3	Damp, black, brown and gray, gravely, silty SAND
					0.3 - 0.5	Damp, black, crushed rock
DC-UPLD-SS-13A	Old boat haul-out between tracks.	Soil	7/30/97	0.0 - 0.3	0.0 - 0.3	Damp, black SAND (blast grit), with scattered paint (?) flakes
DC-UPLD-SS-13B	Old boat haul-out between tracks.	Soil	7/30/97	0.3 - 1.0	0.3 - 1.0	Damp, mottled brown and orange-brown, slightly silty, gravely, SAND, with scattered debris including wood, metal scraps, and glass
DC-UPLD-SS-14A	Old boat haul-out between tracks.	Soil	7/30/97	0.0 - 0.5	0.0 - 0.5	Damp, black SAND (blast grit), with scattered paint (?) flakes
DC-UPLD-SS-14B	Old boat haul-out between tracks.	Soil	7/30/97	0.3 - 1.4	0.3 - 1.4	Damp, mottled brown and orange-brown, slightly silty, gravely, SAND, with scattered debris including wood, metal scraps, and glass, diesel-like odor

GeoScience Management, Inc.
18608 89th Avenue NE
Bothell, WA 98011

Project Name: *Dakota Creek Upland Assessment*
Location: *Port of Anacortes - Dakota Creek Shipyards*
Geologist/Engineer: *Howard W. Small*
Drilling Contractor: *Boretec*
Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*

Boring No: *DC - B - 1*
Date Began: *7/14/97*
Date Completed: *7/14/97*
Total Depth: *6.5 feet bgs.*
Sheet: *1 of 1*

Construction Details	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	Lithologic Description
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments
							0.0 to 6.5 feet: **SAND WITH GRAVEL** (SM) - (Medium dense), damp, dark brown and dark gray, gravely SAND, with concrete rubble (**FILL**).
Hydrated Bentonite Chips					ATD		Note: Collected grab sample of cuttings from approximately 0 to 6.5 foot depth interval. Sample labeled B-1, GRAB.
	SB	S-1	12		4.5		
			12				
			16				
			35		6.5		Refusal on hard, flat surface at 6.5 feet.
			100/1"				

Bottom of boring at 6.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

Note: Moved south approximately 3 feet from DC-B-1 location, and attempted second boring, designated DC-B-1A. No samples were collected. Hit refusal at 6.5 feet belwo ground surface on hard, flat surface. Moved another 3 feet farther south and drilled boring DC-B-1B (see next boring log).

MARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessmel.* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 1B* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *6.5 feet bgs.* Sheet: *1 of 1*	

Construction Details	Sampling Data						Lithologic Description
PID Meter	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments
							0.0 to 6.5 feet: **SAND WITH GRAVEL (SM)** - (Medium dense), damp, dark brown and dark gray, gravely SAND, with concrete rubble (**FILL**).
Hydrated Bentonite Chips					ATD		
<1	SB	S-1	10		4.5		
			8				
			14				
			13		6.5		Refusal on hard, flat surface at 6.5 feet.

Bottom of boring at 6.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

EMARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessment* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 2* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *11.5 feet bgs.* Sheet: *1 of 1*

Construction Details	Sampling Data						Lithologic Description
	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments)
	SB	S1A	10				0.0 to 1.0 foot: **SILTY SAND (SM)** - (Medium dense), damp, gray and
			9		1.0		dark brown, slightly gravely, silty, medium to fine SAND **(FILL)**.
		S1B	11				1.0 to 3.0 feet: **SILTY SAND (SM)** - (Medium dense), damp, gray, dark
			12		2.0		brown, and black, gravely, silty, SAND. Glass, metal frags. **(FILL)**.
							3.0 to 11.5 feet: **SAND (SM)** - (Loose to medium dense), damp, black,
Hydrated Bentonite Chips							fine sand with scattered shell fragments.
					4.5		
	SB	S2	5				
			3				
			2				
			2		6.5		
					ATD		
					9.5		
	SB	S3	5				
			6				
			6				10.6 to 10.9 feet: dark brown, wet, sandy silt
			6		11.5		

Bottom of boring at 11.5 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

MARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

GeoScience Management, Inc. 18608 89th Avenue NE Bothell, WA 98011	Project Name: *Dakota Creek Upland Assessmen* Location: *Port of Anacortes - Dakota Creek Shipyards* Geologist/Engineer: *Howard W. Small* Drilling Contractor: *Boretec* Drilling Method: *Modified B-24, 4 1/4-inch ID HSA*	Boring No: *DC - B - 2A* Date Began: *7/14/97* Date Completed: *7/14/97* Total Depth: *4.0 feet bgs.* Sheet: *1 of 1*

Construction Details	Sampling Data						Lithologic Description
PID Meter	Sampling Method	Sample Number	Blows per 6 inches	Depth Sampled	Depth In Feet	Graphic Log and Soil Group Symbol (USCS)	
Ground Surface							(USCS Designation, density, moisture, color, soil type and comments)
							Drilled approximately 2 feet south of boring B-2 location. 0.0 to 2.5 interval not logged. See boring log for location DC-B-2.
Hydrated Bentonite Chips					2.5		(Driving gravel at beginning of sampling interval).
21	SB	S1	120				2.5 to 4.0 feet: **SAND (SM)** - (Medium dense), damp, black, to dark brown, fine SAND with scattered shell fragments.
			15				
			12		4.0		

Bottom of boring at 4.0 feet. Grouted from bottom of hole to ground surface with hydrated bentonite chips.

EMARKS:

Descriptive Modifiers: Trace - < 5%; Slightly - 5 to 12 %; Silty, Gravely, etc. - 12 to 30 %; Very - 30 to 50 %.

SB means 3-inch O.D. split barrel sampler driven with 140 lb. hammer. Blow counts DO NOT represent SPT values.

ATD means estimated depth to water At Time of Drilling.

LAST ATTEMPT LC-SED-04

Sediment Qualitative Sample Characteristics

Chemistry Label

Date (mm/dd/yy)	Location	Station
8/6/97	NNAC>T	DCSEDD4

State Plane Coordinates		Water Depth		Elevation				
North	East	Depth	Unit	+/-	Elev.	Unit	Time	Weath.
								PC

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA

Surficial sediment characteristics: (circle most descriptive)

Texture Smooth Fine Coarse / Clay Silt Sand Gravel Cobble

Color Light Dark / Gray Brown Black Other _____

Odor Normal Sewage Petroleum Chemical H2S None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures			
Debris			
Oily sheen			

Vertical profile characteristics:	Describe
Changes in sediment characteristics	
Presence and depth of redox potential discontinuity layer (rpd)	

Sample quality comments:	Describe
Leakage	
Winnowing	
Disturbance	

Comments: NO SAMPLE ELE GRASS AND Debris

QUALFRM4.DS4
REVISED 5-16-97

Sediment Qualitative Sample Characteristics

DC-SED-05

Pentec Environmental, Inc.
78004007
QSC Form

Date: 8-6-97 Time: 1458

Date (mm/dd/yy)	Location	Station
080697	NACOT	DCSED05

State Plane Coordinates		Water Depth		Elevation				
North	East	Depth	Unit	+/-	Elev.	Unit	Time	Weath.
560118.	1209747.	23.	FT	-	21.3	FT	1458	R

T.C

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA
	OIVV	SED	10	CM	.		7		GSH		

Surficial sediment characteristics: (circle most descriptive)

Texture: Smooth (Fine) Coarse / Clay (Silt) (Sand) Gravel Cobble

Color: (Light) Dark / (Gray) Brown (Black) Other _____

Odor: Normal Sewage Petroleum Chemical H2S None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures	N		
Debris	Y	<5.	metal fragments ≤ 1" across
Oily sheen	N		

Vertical profile characteristics: Describe

soft, wet black to light gray sand
Slightly gravelly Silt or very Silty Sand

firm

Changes in sediment characteristics	sad homogenious
Presence and depth of redox potential discontinuity layer (rpd)	Black matrix - mottles gray ~~brk matrix~~ Sand light gray ~~brk~~

T.C

Sample quality comments: Describe

Leakage	NO
Winnowing	NO
Disturbance	NO

Comments: _____

Sediment Qualitative Sample Characteristics

DC-SED-06

Pentec Environmental, Inc.
78004008
QSC Form

Date: 8-6-97 Time: 1520

Date (mm/dd/yy)	Location	Station
080697	NNACNT	DCSEDO6

State Plane Coordinates		Water Depth		Elevation			Time	Weath.
North	East	Depth	Unit	+/-	Elev.	Unit		
559954	1209772	7.3	ft	-	5.2	ft	1520	C

KU

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA
	VV	SED	17	cm			8		GSM		

Surficial sediment characteristics: (circle most descriptive)

Texture: (Smooth) (Fine) Coarse / Clay (Silt) (Sand) Gravel Cobble

Color: Light (Dark) / (Gray) Brown (Black) Other _____

Odor: Normal Sewage Petroleum Chemical (H2S) None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures	No		
Debris	No		
Oily sheen	No		

wet, soft, black-gray slightly Sandy Silt

Vertical profile characteristics: Describe

Changes in sediment characteristics	homogeneous - ~~mottle black mottles~~ gray spots
Presence and depth of redox potential discontinuity layer (rpd)	black matrix - gray mottles

TC

Sample quality comments: Describe

Leakage	NO
Winnowing	NO
Disturbance	slight

Comments: _____

DC-SED-07

Sediment Qualitative Sample Characteristics

Chemistry Label

Date (mm/dd/yy)	Location	Station
8/26/97		PKSED08

State Plane Coordinates		Water Depth		Elevation				
North	East	Depth	Unit	+/-	Elev.	Unit	Time	Weath.

Rep	Gear	Sample Type	Penetration		Recovery		Photograph #	Grain Vol.	Initials	Sulfide	VOA
			Depth	Unit	Length	Unit					

Surficial sediment characteristics: (circle most descriptive)

Texture Smooth Fine Coarse / Clay Silt Sand Gravel Cobble

Color Light Dark / Gray Brown Black Other _____

Odor Normal Sewage Petroleum Chemical H2S None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures			
Debris			
Oily sheen			

Vertical profile characteristics:	Describe
Changes in sediment characteristics	
Presence and depth of redox potential discontinuity layer (rpd)	

Sample quality comments:	Describe
Leakage	
Winnowing	
Disturbance	

Comments: NO SAMPLE - EEL GRASS

DC-SED-058

Sediment Qualitative Sample Characteristics

Pentec Environmental, Inc.
78004009
QSC Form

Date: 8-6-97 Time: 1635

Date (mm/dd/yy)	Location	Station
080697	ANACHOT	DCSED08

State Plane Coordinates		Water Depth		Elevation			Time	Weath.
North	East	Depth	Unit	+/-	Elev.	Unit		
559755.	1209842.	22	~~FT~~	+	116	FT	1635	C

(RC)

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA
	0 1 VV	SED	10.	CM	.		9		GSM		

Surficial sediment characteristics: (circle most descriptive)

Texture: Smooth (Fine) (Coarse) / Clay (Silt) (Sand) (Gravel) Cobble

Color: Light (Dark) / (Gray) Brown (Black) Other _____

Odor: Normal Sewage Petroleum Chemical H2S None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures	Yes	<1%	shell fragments
Debris	N		
Oily sheen	Yes		sheen on water

Dry gray/tan/black, wet, loose, very SPlty fine to crs Sand,

Vertical profile characteristics: Describe

Changes in sediment characteristics	NO Changes homogenious
Presence and depth of redox potential discontinuity layer (rpd)	

Sample quality comments: Describe

Leakage	NO
Winnowing	NO
Disturbance	Slight

Comments: _____

DC-SED-09

Sediment Qualitative Sample Characteristics

Pentec Environmental, Inc.
78004010
QSC Form

Date: 8-6-97 Time: 1725

Date (mm/dd/yy)	Location	Station
080697	NNAC01	PCSED09

State Plane Coordinates		Water Depth		Elevation			Time	Weath.
North	East	Depth	Unit	+/-	Elev.	Unit		
560193.	1210021.	37.7	~~FT~~	-	32.7	FT	1725	PC

TC

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA
	GRAV	SED	5.	CM	.		10		GSM		

Surficial sediment characteristics: (circle most descriptive)

Texture Smooth Fine Coarse / Clay Silt Sand Gravel Cobble

Color Light Dark / Gray Brown Black Other _____

Odor Normal Sewage Petroleum Chemical H2S None Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures	Y	5%	numerous shell frag mm to cm scale
Debris	N		
Oily sheen	Y		

wet, gray, loose, silty, fine to coarse Sand - 50% shell frags (TC)

Vertical profile characteristics:	Describe
Changes in sediment characteristics	homogenious
Presence and depth of redox potential discontinuity layer (rpd)	NO

Sample quality comments: Describe

Leakage	NO
Winnowing	Yes some fine lost
Disturbance	NO

Comments: only 5cm of recovery 50% shell
priority metals, VOA, Semivol.

(DC-SED-10

Sediment Qualitative Sample Characteristics

Pentec Environmental, Inc.
78004011
QSC Form

Date: 8-6-97 Time: 1749

Date (mm/dd/yy)	Location	Station
8 0 6 9 7	Anacha	DC SED 10

State Plane Coordinates		Water Depth		Elevation			Time	Weath.
North	East	Depth	Unit	+/-	Elev.	Unit		
756 024 1.	1210288.	52.	FA	-	46.3	F	1749	PC

FC

Rep	Gear	Sample Type	Penetration Depth	Penetration Unit	Recovery Length	Recovery Unit	Photograph #	Grain Vol.	Initials	Sulfide	VOA
	OIVV	SED	5.	cm	.		11		GSM		

Surficial sediment characteristics: (circle most descriptive)

Texture: Smooth (Fine) (Coarse) / Clay (Silt) (Sand) (Gravel) Cobble

Color: (Light) Dark / (Gray) Brown Black Other _____

Odor: Normal Sewage Petroleum Chemical H2S (None) Other _____

Presence of:	Yes/No	Percent	Describe Type
Biological structures	Y	25	shell frag cm to mm scale
Debris	N		
Oily sheen	N		

Vertical profile characteristics: Describe

wet, light gray, loose, slightly grvl, silty fine to crs. Sand FC

Changes in sediment characteristics	homogeneous
Presence and depth of redox potential discontinuity layer (rpd)	NONE

Sample quality comments: Describe

Leakage	NONE
Winnowing	NONE
Disturbance	NO

Comments: _____

APPENDIX B

QUALITY CONTROL

QUALITY ASSURANCE REVIEW

North Creek Analytical (NCA) of Bothell, Washington, and its subcontractors, analyzed soil and sediment samples for a suite of inorganic, organic, and conventional analytes. The Port of Anacortes collected the samples in an effort to characterize upland soil and offshore sediment quality at the Wyman's Marina, Dakota Creek Industries, Cap Sante Marina, and the South Basin properties. NCA provided six analytical data packages for project. The Quality Assurance (QA) reviewer judged quality of each data package using the following criteria:

- Holding Times;
- Blank Concentration;
- Surrogate Spike Recovery (organic analytes only)
- Laboratory Control Sample (LCS) Spike Recovery;
- Certified Reference Material Spike Recovery (CRM - sediment only)
- Matrix Spike/Matrix Spike Duplicate Recovery;
- Laboratory Matrix Duplicate Relative Percent Difference (RPD);and
- Completeness.

NCA analyzed soil and sediment samples using United States Environmental Protection Agency (EPA) and Washington State Test Methods. For sediments, NCA used Puget Sound Estuary Program (PSEP) protocols where applicable.

Holding times for the analytes of interest were acceptable with one exception; gasoline range total petroleum hydrocarbons (TPHs) for data package B707396 (Samples WY-SS-12, -14, and -15 taken July 17, 1997). Because holding times were exceeded, TPH results were qualified as estimates. Therefore, all positive results for samples associated with package B707396 are J-flagged, while non-detected results are UJ-flagged.

NCA did not detected analytes of concern in method blanks at concentrations that exceeded the practical quantification limits (PQLs).

In general, NCA's accuracy and precision results were outside Quality Control (QC) limits because of high native analyte concentrations in the soil and sediment samples (e.g, greater than four times the spike concentration). These high concentrations interfered with the recovery of spikes and surrogates. In addition, NCA did not report surrogate recoveries for some samples because unknown compound(s) coeluted with the surrogate. As a result of anomalous surrogate and spike recoveries, the QA reviewer sometimes qualified positive and non-detect results for the affected samples as estimates. Some sample results were also qualified as estimates because the laboratory failed to recovery the analytes from the LCS or the RPD for the matrix duplicate was outside QC limits. For the affected samples, the QA reviewer qualified positive results with a J-flag and non-detect results with a UJ-flag.

Method detection limits were elevated for some samples because of matrix interferences and dilutions. Completeness for all the data packages was 100 percent; no sample results were rejected. Quality Assurance reports are included with the Laboratory Certificates, which are transmitted to the Port separately.

Dakota Creek Industries
Shipyard Facility

Groundwater Sampling Results

Prepared for

Port of Anacortes
P.O. Box 297
Anacortes, WA 98221-0297

Prepared by

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December 13, 2006

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Introduction

This report has been prepared on behalf of the Port of Anacortes (Port) to present the results of recent groundwater quality sampling and analysis at the Dakota Creek Industries Shipyard Facility (DCI) in Anacortes, Washington (Figure 1). In accordance with Washington State Department of Ecology (Ecology) approvals, groundwater samples were collected and chemically analyzed to evaluate the post-construction condition of groundwater at the site following the cleanup actions completed in 2002. This groundwater quality evaluation supplements the existing data collected subsequent to the cleanup action.

Groundwater samples were collected on November 17, 2006 in general accordance with the Ecology approved memorandum "Groundwater Evaluation at Dakota Creek Industries Shipyard Facility, Port of Anacortes" dated June 22, 2006, which presents the sampling and analysis approach. (Floyd|Snider 2006).

Results of this supplemental groundwater data show that total petroleum hydrocarbon (TPH), the contaminant of concern for the completed cleanup action, is not detected in groundwater samples collected from all four of the monitoring wells at the DCI Shipyard. This result indicates that the objectives of the cleanup action have been met. Arsenic was detected at a concentration (0.0116 mg/L) greater than the groundwater background concentration for Washington State (0.008 mg/L; PTI 1989) in MW-04. This monitoring well was installed as an upgradient well for the cleanup action. This marginal exceedance is likely due to offsite sources.

Project Background

As part of a Voluntary Cleanup Program cleanup action completed by the Port at the DCI site, groundwater samples were collected from four monitoring wells during four monitoring events in 2001 and 2002. The results of the groundwater monitoring were presented in an Independent Cleanup Action Report prepared for Ecology (Landau 2002). Based on their review, Ecology determined that the existing data may not be adequate to determine if the completed cleanup action was sufficient. In response to the Ecology comments, several meetings were held with Ecology to re-evaluate the groundwater results at DCI. The appropriate suite of analytes were derived, applicable cleanup levels were identified and the appropriate analytical detection limits were confirmed (Floyd|Snider 2006). Based on these meetings, Ecology determined that acquisition of an additional round of groundwater monitoring results would be necessary.

Groundwater Sampling and Analysis

The four groundwater monitoring wells shown on Figure 1 were sampled to evaluate the current groundwater quality.

Groundwater samples were collected using methods that are consistent with those described in the Independent Cleanup Action Work Plan (Landau 2002). An effort was made to optimize groundwater sample collection in coordination with predicted tidal cycles. The wells were all found to be secured and in good condition. Existing dedicated polyethylene half-inch tubing

was removed from the wells and, prior to sample collection, depth to water measurements were determined at all four wells using an electronic water level indicator. Prior to the collection of groundwater samples, each monitoring well was purged using low-flow techniques until field parameters were stabilized to within 10 percent. During purging, field parameters including temperature, pH, conductivity, dissolved oxygen concentration, and turbidity in the purge water were monitored at 5-minute intervals using a flow-through cell. The time and parameter values were recorded on the groundwater sampling collection forms presented in Appendix A.

Unfiltered groundwater samples were obtained using a peristaltic pump with dedicated polyethylene and silicone tubing. Samples were stored in an iced cooler and submitted to ARI Laboratory under a chain-of-custody for the following analyses:

- Total Metals (by USEPA Method 6020 and 7470)
- VOCs (by USEPA Method 8260)
- TPH-G (by NWTPH-G)
- TPH-Dx (by NWTPH-Dx)
- SVOCs (by USEPA 8270)
- PAHs (by USEPA 8270 SIM)
- Pesticides (by USEPA 8081A)
- Herbicides (by USEPA 8151A)

Copies of the chain-of-custody records are included as part of the laboratory reports provided in Appendix B.

Analytical Results

A total of four groundwater samples and a field duplicate were submitted to ARI Laboratory. The groundwater data were compared to applicable surface water criteria and Washington State Groundwater Background Concentration (PTI 1989). The most protective comparative criteria, achievable by the Ecology approved analytical methodology, were selected using the CLARC database for all analytes except metals. Metals concentrations were compared to Washington State background groundwater concentrations (PTI 1989). Surface water criteria are not available for TPH, therefore, MTCA Method A cleanup levels for groundwater were used to evaluate TPH groundwater concentrations.

All data packages were verified at a Level 1 review (also known as a Tier II, or basic review). Analytical data was validated in accordance with:

- EPA CLP National Functional Guidelines for Inorganic Data Review (1994)
- EPA CLP National Functional Guidelines for Organic Data Review (1999)

No qualifiers were added to the analytical results based on the results of the data validation, as all data and parameters were within the laboratory quality control limits and EPA data guidelines as described in the above documents. Data was determined to be of acceptable quality for use as qualified.

To achieve reporting limits below the surface water criteria for polycyclic aromatic hydrocarbons (PAHs), USEPA Method 8270 was modified using selected ion monitoring (SIM). Running SIM lowers PAH detection limits below those that are typically achieved by the normal full scan GCMS used by USEPA Method 8270. Additionally, a lower reporting limit was achieved for lead, allowing for lead detection at concentrations less than the groundwater background concentration for Washington State. The applicable cleanup criteria and groundwater results are presented in Table 1.

The groundwater data indicate that the completed cleanup action was sufficient in removing TPH related source materials. There were no exceedances of TPH or PAHs. There were also no exceedances of semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), pesticides, or herbicides. The only metal exceedance was an arsenic concentration of 0.0116 mg/L, which is greater than the groundwater background concentration of 0.008 mg/L for Washington State, in upgradient well MW-04. Groundwater arsenic concentrations for each well are shown in Figure 1.

Evaluation of Sediment Contamination Potential for Groundwater

The single exceedance of groundwater cleanup criteria was evaluated to determine if the groundwater discharging beyond the shoreline point of compliance at the DCI site would pose a threat to the adjacent sediments. Equilibrium partitioning was performed using the detected arsenic in MW-4. Equilibrium partitioning assumes instantaneous chemical equilibrium between the analyte in the groundwater and the sediment. However, this approach does not include any transport of the analyte through soil or sediment media and is therefore conservative, as it does not address analyte retardation or attenuation. Attenuation is confirmed by the lower arsenic concentrations detected in the wells located down-gradient of MW-4.

Following the equilibrium partitioning calculation, the resulting arsenic sediment concentration was compared to Washington State Sediment Quality Standards (SQS; WAC 173-204). The equilibrium partitioning evaluation predicts that the detected arsenic concentration at MW-4 is not likely to cause sediment arsenic concentrations to exceed the SQS criteria over-time. The results of the partitioning evaluation are presented in Table 2.

References

Floyd|Snider. 2006. *Groundwater Evaluation at Dakota Creek Industries Shipyard Facility, Port of Anacortes*. Prepared for Port of Anacortes. 22 June.

Landau Associates (Landau). 2002. *Completion Report Independent Cleanup Action, Dakota Creek Industries Shipyard Facility, Anacortes, Washington*. Prepared for Port of Anacortes. 20 December.

PTI. 1989. *Background Concentrations of Selected Chemicals in Water, Soil, Sediments, and Air of Washington State*. Prepared for Washington State Department of Ecology. April.

Dakota Creek Industries
Shipyard Facility

Groundwater Sampling Results

Tables

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Table 1
Summary of Groundwater Sampling Results

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Metals (Total)								
Arsenic	mg/L	0.008	B	0.0033	0.004	0.0038	0.0009	**0.0116**
Cadmium	mg/L	0.002	B	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Chromium	mg/L	0.01	B	0.01	0.004	0.004	0.002	0.003
Copper	mg/L	0.02	B	0.0054	0.0031	0.0033	0.0013	0.0011
Lead	mg/L	0.01	B	0.001 U	0.002	0.002	0.003	0.001
Mercury	mg/L	0.00015	C	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U
Nickel	mg/L	1.1	A	0.0021	0.0039	0.0039	0.0015	0.002
Zinc	mg/L	0.16	B	0.004 U	0.004	0.005	0.004 U	0.004 U
Volatile Organic Compounds								
1,1,1,2-Tetrachloroethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,1-Trichloroethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2,2-Tetrachloroethane	µg/L	4	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichloroethane	µg/L	16	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1,2-Trichlorotrifluoroethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloropropene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2,3-Trichlorobenzene	µg/L	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	µg/L	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	µg/L	70	D	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dibromo-3-Chloropropane	µg/L	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	µg/L	1300	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloroethane	µg/L	37	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,2-Dichloropropane	µg/L	15	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3,5-Trimethylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichlorobenzene	µg/L	960	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,3-Dichloropropane	µg/L	19	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
1,4-Dichlorobenzene	µg/L	4.9	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2,2-Dichloropropane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Butanone	µg/L	--	--	1 U	1 U	1 U	4	1 U
2-Chloroethylvinylether	µg/L	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Volatile Organic Compounds (cont'd)								
2-Chlorotoluene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
2-Hexanone	µg/L	--	--	3 U	3 U	3 U	3 U	3 U
4-Chlorotoluene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Isopropyltoluene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
4-Methyl-2-Pentanone	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Acetone	µg/L	--	--	3 U	3.8	3 U	3 U	3 U
Acrolein	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	µg/L	0.66	C	1 U	1 U	1 U	1 U	1 U
Benzene	µg/L	23	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromobenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromochloromethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromodichloromethane	µg/L	17	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromoethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromoform	µg/L	140	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	µg/L	970	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Carbon Disulfide	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2
Carbon Tetrachloride	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chlorobenzene	µg/L	1600	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroform	µg/L		A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloromethane	µg/L	130	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,2-Dichloroethene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	µg/L	19	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloromethane	µg/L	13	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromomethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylbenzene	µg/L	2100	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Ethylene Dibromide	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Hexachlorobutadiene	µg/L	18	D	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
m,p-Xylene	µg/L	--	--	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Methyl Iodide	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Methylene Chloride	µg/L	590	D	0.3	0.3 U	0.3 U	0.3 U	0.3 U
Naphthalene	µg/L	4900	A	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
n-Propyl Benzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
o-Xylene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Volatile Organic Compounds (cont'd)								
sec-Butylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Styrene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
tert-Butylbenzene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Tetrachloroethene	µg/L	3.3	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Toluene	µg/L	15000	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,2-Dichloroethene	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,3-Dichloropropene	µg/L	19	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
trans-1,4-Dichloro-2-Butene	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Trichloroethene	µg/L	1.5	A	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl Acetate	µg/L	--	--	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl Chloride	µg/L	2.4	D	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Petroleum Hydrocarbons								
TPH-Diesel Range	mg/L	0.5	E	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
TPH-Motor Oil Range	mg/L	0.5	E	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TPH-Gasoline Range	mg/L	1.0	E	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Semivolatile Organic Compounds								
1,2,4-Trichlorobenzene	µg/L	70	D	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	µg/L	1300	D	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	µg/L	960	D	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	µg/L	4.9	A	1 U	1 U	1 U	1 U	1 U
2,2'-Oxybis(1-Chloropropane)	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
2,4,5-Trichlorophenol	µg/L	3600	D	5 U	5 U	5 U	5 U	5 U
2,4,6-Trichlorophenol	µg/L	6.5	C	5 U	5 U	5 U	5 U	5 U
2,4-Dichlorophenol	µg/L	190	A	5 U	5 U	5 U	5 U	5 U
2,4-Dimethylphenol	µg/L	550	A	1 U	1 U	1 U	1 U	1 U
2,4-Dinitrophenol	µg/L	3500	A	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene	µg/L	9.1	C	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
2-Chlorophenol	µg/L	97	A	1 U	1 U	1 U	1 U	1 U
2-Methylphenol	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
2-Nitroaniline	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
2-Nitrophenol	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	µg/L	0.077	C	5 U	5 U	5 U	5 U	5 U
3-Nitroaniline	µg/L	--	--	5 U	5 U	5 U	5 U	5 U

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Semivolatile Organic Compounds (cont'd)								
4,6-Dinitro-2-Methylphenol	µg/L	--	--	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
4-Chloroaniline	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
4-Chlorophenyl-phenylether	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
4-Methylphenol	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
4-Nitroaniline	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
4-Nitrophenol	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
Benzoic Acid	µg/L	--	--	10 U	10 U	10 U	10 U	10 U
Benzyl Alcohol	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
bis(2-Chloroethoxy) Methane	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Bis-(2-Chloroethyl) Ether	µg/L	1.4	C	1 U	1 U	1 U	1 U	1 U
bis(2-Ethylhexyl)phthalate	µg/L	5.9	C	1 U	1 U	1 U	1 U	1 U
Butylbenzylphthalate	µg/L	1300	A	1 U	1 U	1 U	1 U	1 U
Carbazole	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Diethylphthalate	µg/L	28000	A	1 U	1 U	1 U	1 U	1 U
Dimethylphthalate	µg/L	72000	A	1 U	1 U	1 U	1 U	1 U
Di-n-Butylphthalate	µg/L	2900	A	1 U	1 U	1 U	1 U	1 U
Di-n-Octyl phthalate	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Hexachlorobenzene	µg/L	0.24	A	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	µg/L	18	D	1 U	1 U	1 U	1 U	1 U
Hexachlorocyclopentadiene	µg/L	1100	D	5 U	5 U	5 U	5 U	5 U
Hexachloroethane	µg/L	3.3	D	1 U	1 U	1 U	1 U	1 U
Isophorone	µg/L	600	C	1 U	1 U	1 U	1 U	1 U
Nitrobenzene	µg/L	450	A	1 U	1 U	1 U	1 U	1 U
N-Nitroso-Di-N-Propylamine	µg/L	0.82	A	5 U	5 U	5 U	5 U	5 U
N-Nitrosodiphenylamine	µg/L	6	D	1 U	1 U	1 U	1 U	1 U
Pentachlorophenol	µg/L	7.9	E	5 U	5 U	5 U	5 U	5 U
Phenol	µg/L	1100000	A	1 U	1 U	1 U	1 U	1 U
Polycyclic Aromatic Hydrocarbons[2]								
2-Methylnaphthalene	µg/L	--	--	0.01 U	0.0062 J	0.0069 J	0.01 U	0.01 U
Acenaphthene	µg/L	640	A	0.01 U	0.01 U	0.0059 J	0.22	0.039
Acenaphthylene	µg/L	--	--	0.01 U	0.0052 J	0.0058 J	0.01 U	0.012
Anthracene	µg/L	26000	A	0.01 U	0.0051 J	0.01 U	0.0056 J	0.0088 J
Benzo(a)anthracene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.0052 J	0.01 U
Benzo(a)pyrene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Polycyclic Aromatic Hydrocarbons (cont'd)								
Benzo(b)fluoranthene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(g,h,i)perylene	µg/L	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Benzo(k)fluoranthene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chrysene	µg/L	0.031	C	0.01 U	0.0069 J	0.01 U	0.0065 J	0.01 U
Dibenz(a,h)anthracene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Dibenzofuran	µg/L	--	--	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Fluoranthene	µg/L	90	A	0.01 U	0.03	0.019	0.13	0.012
Fluorene	µg/L	3500	A	0.01 U	0.01 U	0.01 U	0.054	0.043
Indeno(1,2,3-cd)pyrene	µg/L	0.031	C	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Naphthalene	µg/L	4900	A	0.01 U	0.021 B	0.027 B	0.01 U	0.011 B
Phenanthrene	µg/L	--	--	0.01 U	0.0074 J	0.0054 J	0.01 U	0.024
Pyrene	µg/L	2600	A	0.01 U	0.028	0.015	0.13	0.0092 J
Pesticides								
4,4'-DDD	µg/L	0.001	A	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	µg/L	0.001	C	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	µg/L	0.024	A	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	µg/L	0.017	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha Chlordane	µg/L	0.092	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC	µg/L	0.013	C	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
beta-BHC	µg/L	0.046	C	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC	µg/L	0.041	D	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	µg/L	0.028	A	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	µg/L	58	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	µg/L	58	A	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	µg/L	58	A	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	µg/L	0.81	C	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	µg/L	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	µg/L	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
gamma Chlordane	µg/L	0.092	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	µg/L	0.063	C	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	µg/L	0.12	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	µg/L	0.0036	A	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	µg/L	8.4	A	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	µg/L	0.00075	C	5 U	5 U	5 U	5 U	5 U

Analytes	Units	Applicable Cleanup Level	Cleanup Level Reference[1]	MW01 11/17/2006	MW02 11/17/2006	MW02D 11/17/2006	MW03 11/17/2006	MW04 11/17/2006
Herbicides								
2,4,5-T	µg/L	--	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4,5-TP (Silvex)	µg/L	--	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,4-D	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
2,4-DB	µg/L	--	--	5 U	5 U	5 U	5 U	5 U
Dalapon	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Dicamba	µg/L	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichloroprop	µg/L	--	--	1 U	1 U	1 U	1 U	1 U
Dinoseb	µg/L	--	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
MCPA	µg/L	--	--	250 U	250 U	250 U	250 U	250 U

Notes:

-- Criteria not developed for specific analyte.

1 Cleanup level references:

A) MTCA Method B Criteria—Protective of Surface Water, standard formula value (CLARC Database)

B) Washington State Groundwater Background Concentration (PTI 1989)

C) Surface Water ARAR—Marine National Toxics Rule (40 CFR 131) Protective of Human Health (CLARC Database)

D) Surface Water ARAR—Marine Clean Water Act (304) Protective of Human Health (CLARC Database)

E) MTCA Method A Cleanup Levels for Groundwater

2 PAH compounds were analyzed using EPA method 8270*SIM* to achieve reporting limits below cleanup criteria.

Bold concentrations indicate cleanup level exceedance.

Table 2
Equilibrium Partitioning Evaluation of Groundwater
Arsenic Exceeding Background Criteria

Analyte	Maximum Groundwater Concentration[1] (C_w) (µg/L)	Total or Dissolved	Date	Well Number	Partition Coefficient (Kd) (L/kg)[2]	Resulting Sediment Concentration (C_{sed}) (mg/kg-	State SQS (mg/kg-DW)
Arsenic	11.6	Total	11/17/2006	MW-4	19	0.22	57

Notes:

1 Maximum arsenic concentration detected in DCI monitoring wells sampled 11/17/2006.

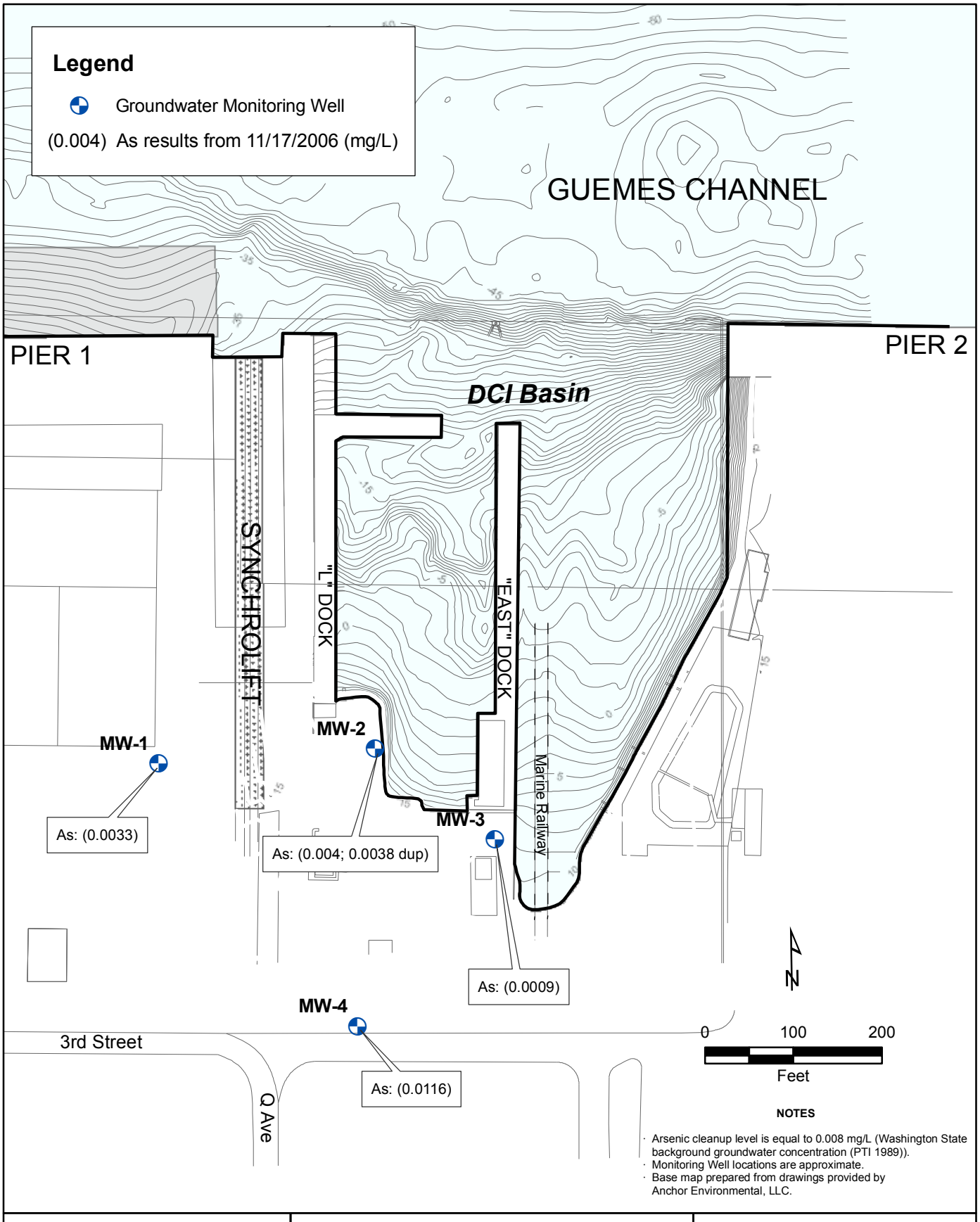
2 Partitioning coefficient for arsenic was obtained from Strenge and Peterson (1989) and is representative of a moderate Kd values for sediments/soils with pH of 5 to 9 and 10% to 30% fines (clay/organics/oxide content).

Dakota Creek Industries
Shipyard Facility

Groundwater Sampling Results

Figures

FINAL



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Results of Groundwater Sampling
Dakota Creek Shipyard Facility
Port of Anacortes, Washington

Figure 1
Well Locations and Arsenic Groundwater Concentrations

DATE: 12/11/2006 11:41:27 AM
MXD NAME: F:\projects\STOEL-DCI\GIS\DCI Groundwater Results Report\Figure 1. Well Locations and Arsenic Concentrations.mxd

Dakota Creek Industries
Shipyard Facility

Groundwater Sampling Results

Appendix A
Groundwater Sample Collection Forms

FINAL

GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION FORM

MW-1 (closet to gate) West Date of Collection: 11/17/06

Field Personnel: JSM & MMK

Purge Data (Not required for surface water collection, however, surface water field parameters must be recorded)

Well Condition: good Secure: ☒ Yes ☐ No Well Damage Description: NA

Total DTB 16.13' Screened from 6'-16'

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☒ No One Casing Volume (gal): 1 2/3 gal.

Depth of water (from top of well casing): 6.21' @ 8.26 Well Casing Type/Diameter: 2" PVC

After 5 minutes of purging (from top of casing): _____

Begin purge (time): 12:30 DTW = 6.21'

End purge (time): 13:00 DTW = 6.25'

Gallons purged: 2.1 gal

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	Comments
1235	1/3 g.	6.75	1.36	.0408	~7.8	16.38	DTW = 6.23' inc. pump rat
1240	2/3 g.	6.65	2.42	.412	20.9	16.48	DTW = 6.23'
1245	1.0 g.	6.63	2.35	~~.418~~ .416	9.9	16.48	DTW = 6.25'

Sampling Data

Sample No: MW01-111706 Location and Depth: MW-01, tubing set mid screen @ ~11 ft bgs.

Date Collected (mo/dy/yr): 11/17/06 Time Collected: 1300 ☐ AM ☐ PM Weather: Part. cloudy, windy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Made of: ☐ Stainless Steel ☐ PVC ☐ Teflon Other: peristaltic

Sample Decon Procedure: Disposable/dedicated equip. + Alconox/DI wash

Sample Description (Color, Turbidity, Odor, Other): clear, no odor, slight yellow coloring

Sample Analyses

	Analytes			Sample Containers		Preservatives	
TOC	☐	Metals	☒ Filtered: ☐	Other:	PAHs	Metals (filtered):	☒ HNO_3
Salinity	☐	Pesticides	☒ Filtered: ☐	Other:	TPH-D	Hg (total):	☐ HNO_3
TSS	☐	Herbicides	☒ Filtered: ☐	Other:	TPH-G	Conventionals:	☐ H_2SO_4
SVOCs	☒	VOCs	☒ Filtered: ☐	Other:		Other:	TPH-G & VOCs HCl

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL Amber		NA	
500 mL Poly			
40 mL VOAs			

Signature: _____ Date: 11/17/06

TIME	VOL. PUR.	pH	DO	COND	TURB	TEMP	COMMENTS
1250	1.3g.	6.59	2.28	.427	31.1	16.51	DTW = 6.25'
1255	1.8g.	6.57	.48	.433	38.5	16.49	
1300	2.1g	6.53	0.23	.436	36.1	16.52	DTW = 6.25

purged.

Back of MW-1 Collection form

GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION FORM

MW-2 (across E Dock) Date of Collection: 11/17/06

DCI Field Personnel: MK & JSM

Purge Data (Not required for surface water collection, however, surface water field parameters must be recorded)

Well Condition: _____ Secure: ☑ Yes ☐ No Well Damage Description: None

brown biofilm/sed over dedicated tubing DTB 18.0'

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): 1.8 gal. 5.5/3

Depth of water (from top of well casing): 7.05' 8.56 Well Casing Type/Diameter: PVC 2" dia

After 5 minutes of purging (from top of casing): DTW=6.94 @ 10:15

Begin purge (time): DTW=6.81 @ ~~09:58~~ 10:10

End purge (time): 10:45

Gallons purged: 1.5 gal.

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	Comments
10:12	1L.	6.54	6.91	3.99	577.0	13.13	H2O clear, tubing @ 7.1' bto
10:17	1/3 gal.	6.82	1.21	3.95	528	13.34	DTW = 6.95'
10:25	1/2 gal.	6.92	0.71	3.94	426	13.48	DTW = 6.98'
~~10:35~~	~~1 gal.~~	~~6.96~~	0.42	3.97	355	13.57	DTW = 7.01'

Sampling Data

Sample No: MW02-111706 Location and Depth: MW-02

Date Collected (mo/dy/yr): 11/17/06 Time Collected: 10:45 ☒ AM ☐ PM Weather: Cloudy, windy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: ? Made of: ☐ Stainless Steel ☐ PVC ☐ Teflon Other: peristaltic

Sample Decon Procedure: Disposable equip.; Alconox DI rinse

Sample Description (Color, Turbidity, Odor, Other): no visible solids, yellow tint to H2O

Sample Analyses

	Analytes			Sample Containers		Preservatives	
TOC	☐	Metals	☒ Filtered: ☐	Other:	PAHs	Metals (filtered):	☒ HNO_3
Salinity	☐	Pesticides	☒ Filtered: ☐	Other:	TPH-D	Hg (total):	☐ HNO_3
TSS	☐	Herbicides	☒ Filtered: ☐	Other:	TPH-G	Conventionals:	☐ H_2SO_4
SVOCs	☒	VOCs	☒ Filtered: ☐	Other:		Other:	HCl - 40mL VOAs

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:
500mL Ambers	10	10
500mL Poly	1	1
40mL VOA	5	5

Comments: Horiba calibrated to pH: 3.81/4.0 cond: 4.51/4.49 ms/cm turb: 0.1/0.0 NTU

Duplicate Sample MW2D-111706 collected @ 1115 DO: 9.38 sat.

Signature: _____ Date: 11/17/06

TIME	VOL. PURGED	PH	DO	COND	TURB	TEMP	COMMENTS
10:40	1.3 gal.	6.99	.26	4.15	203	13.56	
10:45	1.5 gal	6.99	.25	4.17	209	13.55	DTW = 7.02'

Back of MW-2 Collection form

GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION FORM

MW-3 (near E dock) Date of Collection: 11/17/06

Field Personnel: MK & SSM

Purge Data (Not required for surface water collection, however, surface water field parameters must be recorded)

Well Condition: _____ Secure: ☒ Yes ☐ No Well Damage Description: none

TD = 13.18', brown biofilm on dedicated tubing, black biofilm on tubing today

Depth Sounder decontaminated Prior to Placement in Well: ☐ Yes ☐ No One Casing Volume (gal): 1.5 gal.

Depth of water (from top of well casing): 4.51' 9:13 Well Casing Type/Diameter: 2" PVC

After 5 minutes of purging (from top of casing): 4.31'

Begin purge (time): 1522 DTW = 4.10'

End purge (time): 1550 DTW = 4.45'

Gallons purged: 1.3 gallons

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	Comments
1527	.25 gal.	6.98	0.86	1.39	19.2	13.48	DTW = 4.31' falling fast
1532	.4 gal.	7.05	0.44	1.41	17.6	13.47	DTW = 4.36'
1537	.8 gal	7.09	0.31	1.43	21	13.51	DTW = 4.39'

Sampling Data

Sample No: MW03-111706 Location and Depth: MW-03 9' btoc

Date Collected (mo/dy/yr): 11/17/06 Time Collected: 1600 ☐ AM ☒ PM Weather: part. cloudy, windy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Made of: ☐ Stainless Steel ☐ PVC ☐ Teflon Other: Peristaltic

Sample Decon Procedure: dedicated tubing, Alconox/DI wash

Sample Description (Color, Turbidity, Odor, Other): _____

Sample Analyses

Analytes				Sample Containers		Preservatives	
TOC	☐	Metals	☒	Filtered: ☐	Other: TPH-G	Metals (~~filtered~~):	☒ HNO_3
Salinity	☐	Pesticides	☒	Filtered: ☐	Other: TPH-D	Hg (total):	☐ HNO_3
TSS	☐	Herbicides	☒	Filtered: ☐	Other: PAH	Conventionals:	☐ H_2SO_4
SVOCs	☒	VOCs	☒	Filtered: ☐	Other: _____	Other:	VOCs TPH-G: HCl

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL Ambers	10		
500 mL Polys	1		
40 mL VOAs	5		

Signature: _____ Date: 11/17/06

TIME	VOL.	pH	DO	COND	TURB.	TEMP	COMM.
1542	1.1 gal	7.11	.24	1.44	12.3	13.55	DTW = 4.45
1547	1.25 gal.	7.13	.28	1.44	11.1	13.66	DTW = 4.45'

purged.

Back of MW-3 Collection form

GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION FORM

MW - 4 (SE well cathouse) Date of Collection: 11/17/06

Field Personnel: MK & JSH

Purge Data (Not required for surface water collection, however, surface water field parameters must be recorded)

Well Condition: surface standing water Secure: ☑ Yes ☐ No (Loft) Well Damage Description: None

total DTB 10.13' well screened fm ~ 5-10'

Depth Sounder decontaminated Prior to Placement in Well: ☑ Yes ☐ No One Casing Volume (gal): 1 1/3 gal.

Depth of water (from top of well casing): 2.84' 8:33 Well Casing Type/Diameter: 2" PVC

After 5 minutes of purging (from top of casing): _____

Begin purge (time): DTW = 2.55' @ 14:10

End purge (time): 14:33

Gallons purged: 1.75 gal.

Purge water disposal method: _____

Volume of Schedule 40 PVC Pipe

Diameter	O.D.	I.D.	Volume (Gal/Linear Ft.)	Weight of Water (Lbs/Lineal Ft.)
1 ¼"	1.660"	1.380"	0.08	0.64
2"	2.375"	2.067"	0.17	1.45
3"	3.500"	3.068"	0.38	3.2
4"	4.500"	4.026"	0.66	5.51
6"	6.625"	6.065"	1.5	12.5

Time	Vol. Purged	pH	DO	Conductivity	Turbidity	Temp	Comments
1410	500 mL	7.07	9.26	.573	51.9	13.24	initial reading DTW=2.55'
1415	1/2 g.	5.99	0.70	.573	139	13.27	DTW=3.50', reduced purge rate
1420	.8 g.	6.06	.59	.578	127	13.48	DTW=3.55' reduced purge rate

Sampling Data

Sample No: MW04-111706 Location and Depth: MW04, tubing @ ~7' btoc

Date Collected (mo/dy/yr): 11/17/06 Time Collected: 1445 ☐ AM ☒ PM Weather: cloudy, windy

Type: ☒ Ground Water ☐ Surface Water Other: _____ Sample: ☐ Filtered ☒ Unfiltered Other: _____

Sample Collected with: ☐ Bailer ☒ Pump Other: _____ Made of: ☐ Stainless Steel ☐ PVC ☐ Teflon Other: peristaltic

Sample Decon Procedure: dedicated tubing. Alconox/DI wash

Sample Description (Color, Turbidity, Odor, Other): slight yellow color, slight sulfur odor, slight sheen on purge H2O

Sample Analyses

	Analytes			Sample Containers	Preservatives
TOC ☐	Metals	☒	Filtered: ☐	Other: TPH-G	Metals (filtered): ☒ HNO_3
Salinity ☐	Pesticides	☒	Filtered: ☐	Other: TPH-D	Hg (total): ☐ HNO_3
TSS ☐	Herbicides	☒	Filtered: ☐	Other: PAHs	Conventionals: ☐ H_2SO_4
SVOCs ☒	VOCs	☒	Filtered: ☐	Other: _____	Other: VOCs TPH-G - HCl

Additional Information

Types of Sample Containers:	Quantity:	Duplicate Sample Numbers:	Comments:
500 mL Ambers	10		
500 mL Poly	1		
40 mL VOAs	5		

Signature: _____ Date: 11/17/06

TIME	VOL.P.	pH	DO	COND	TURB	TEMP	COMMENTS
1425	1.25 J	6.18	0.40	.621	145	13.57	DTW = 3.62'
1430	1.5 J.	6.24	.36	.665	139	13.61	DTW = 3.65'

purged.

Back of MW-4 Collection form

Dakota Creek Industries
Shipyard Facility

Groundwater Sampling Results

Appendix B
Laboratory Analytical Report for Groundwater

FINAL

Analytical Resources, Incorporated
Analytical Chemists and Consultants

December 12, 2006

Jessi Massingale
Floyd Snider
Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101-2341

RE: Project: DCI Uplands
ARI Job No: KG05

Dear Jessi:

Please find enclosed the original chain of custody documentation (COC) and the final results for the samples from the project referenced above.

Five water samples and a trip blank were received November 18, 2006 under ARI Job KG05. The cooler temperatures measure by IR thermometer following ARI SOP were 2.2-6.0° C. Samples were received in good condition with no discrepancies in paperwork.

Samples were analyzed for Volatiles, Semivolatiles, SIM-PAH, Gasoline Range Hydrocarbons, Diesel Extended Hydrocarbons, Pesticides, Herbicides and Metals as requested. All laboratory QC met requirements.

An electronic copy of this report as well as all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo
Client Services Manager
206-695-6207
sue@arilabs.com

Enclosures

cc: Efile KG05

SD/sdrd

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:
ARI Client Company: FLOYD|SNIDER	Phone: (206) 292-2078
Client Contact: Jessi Massingale	
Client Project Name: DCI Uplands	
Client Project #: DCI - Uplands	Samplers: Megan King

Page: 1 of 1

Date: 11/17/06 | Ice Present? Y

No. of Coolers: 3 | Cooler Temps: 3.2, 6.0, 4.8 6.2

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Hexavalent Cr SW7196A	Perchlorate 6850	SVOCs/SIM 8270	VOCs 8260B	Metals-As(a), Cr(a), Pb, Hg, Ni, Zn (Cu) 6020	TPH-Dx NWTPH-Dx	TPH-G NWTPH-G		Notes/Comments
MW01-111706	11/17/06	1300	W	16	✓	✓	✓	✓	✓	✓	✓		
MW02-111706	11/17/06	1045	W	16	✓	✓	✓	✓	✓	✓	✓		
MW02D-111706	11/17/06	1115	W	16	✓	✓	✓	✓	✓	✓	✓		
MW03-111706	11/17/06	1600	W	16	✓	✓	✓	✓	✓	✓	✓		
MW04-111706	11/17/06	1445	W	16	✓	✓	✓	✓	✓	✓	✓		

Comments/Special Instructions	Relinquished by: (Signature) Jessi Massingale	Received by: (Signature) Sue Dunning	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: JESSI MASSINGALE	Printed Name: Sue Dunning	Printed Name:	Printed Name:
	Company: F|S	Company: ARI	Company:	Company:
	Date & Time: 11/18/06 9:40	Date & Time: 11/17/06 9:40	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

ANALYTICAL RESOURCES INCORPORATED

SW8151A/HERBICIDE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

Client ID	DCPA	TOT OUT
MW01-111706	76.2%	0
MB-112406	82.5%	0
LCS-112406	86.2%	0
MW02-111706	73.2%	0
MW02-111706 MS	72.1%	0
MW02-111706 MSD	85.4%	0
MW02D-111706	76.3%	0
MW03-111706	80.7%	0
MW04-111706	75.6%	0

	LCS/MB LIMITS	QC LIMITS
(DCPA) = 2,4-Dichlorophenylacetic Acid	(47-119)	(44-128)

Log Number Range: 06-23511 to 06-23515

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD
Page 1 of 1

Sample ID: MW01-111706
SAMPLE

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 18:54
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery	
2,4-Dichlorophenylacetic Acid	76.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: MW02-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 19:26
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid	73.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: MW02D-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 21:01
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery	
2,4-Dichlorophenylacetic Acid	76.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD
Page 1 of 1

Sample ID: MW03-111706
SAMPLE

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 21:32
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery	
2,4-Dichlorophenylacetic Acid	80.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: MW04-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 22:04
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery	
2,4-Dichlorophenylacetic Acid	75.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: MW02-111706**
Page 1 of 1 **MS/MSD**

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted MS/MSD: 11/24/06

Date Analyzed MS: 11/29/06 19:57
MSD: 11/29/06 20:29
Instrument/Analyst MS: ECD1/YZ
MSD: ECD1/YZ

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 50 mL
MSD: 50 mL
Dilution Factor MS: 1.00
MSD: 1.00

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
2,4,5-TP (Silvex)	< 0.250	1.81	2.50	72.4%	2.06	2.50	82.4%	12.9%
Dicamba	< 0.500	4.23	5.00	84.6%	4.93	5.00	98.6%	15.3%
2,4-D	< 1.00	6.22	10.0	62.2%	7.03	10.0	70.3%	12.2%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: MW02-111706**
Page 1 of 1 **MATRIX SPIKE**

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 19:57
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	---
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	---
94-75-7	2,4-D	1.0	---
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid	72.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD
Page 1 of 1

Sample ID: MW02-111706
MATRIX SPIKE DUP

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 20:29
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	---
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	---
94-75-7	2,4-D	1.0	---
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic Acid	85.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD
Page 1 of 1

Sample ID: MB-112406
METHOD BLANK

Lab Sample ID: MB-112406
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 17:51
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
93-72-1	2,4,5-TP (Silvex)	0.25	< 0.25 U
93-76-5	2,4,5-T	0.25	< 0.25 U
88-85-7	Dinoseb	0.25	< 0.25 U
1918-00-9	Dicamba	0.50	< 0.50 U
94-75-7	2,4-D	1.0	< 1.0 U
94-82-6	2,4-DB	5.0	< 5.0 U
75-99-0	Dalapon	1.0	< 1.0 U
94-74-6	MCPA	250	< 250 U
120-36-5	Dichloroprop	1.0	< 1.0 U

Reported in µg/L (ppb)

Herbicide Surrogate Recovery	
2,4-Dichlorophenylacetic Acid	82.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Herbicides by SW8151A GC/ECD **Sample ID: LCS-112406**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-112406
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 18:23
Instrument/Analyst: ECD1/YZ

Sample Amount: 500 mL
Final Extract Volume: 50 mL
Dilution Factor: 1.00

Analyte	Lab Control	Spike Added	Recovery
2,4,5-TP (Silvex)	2.53	2.50	101%
2,4,5-T	2.30	2.50	92.0%
Dinoseb	2.79	5.00	55.8%
Dicamba	4.79	5.00	95.8%
2,4-D	7.10	10.0	71.0%
2,4-DB	42.3	50.0	84.6%
Dalapon	4.63	10.0	46.3%
MCPA	1910	2500	76.4%
Dichloroprop	6.93	10.0	69.3%

Herbicide Surrogate Recovery

2,4-Dichlorophenylacetic	86.2%

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: MW01-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	**7440-38-2**	**Arsenic**	0.2	**3.3**	
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/07/06	**7440-47-3**	**Chromium**	1	**10**	
200.8	11/27/06	200.8	12/04/06	**7440-50-8**	**Copper**	0.5	**5.4**	
200.8	11/27/06	200.8	12/04/06	7439-92-1	Lead	1	1	U
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	**7440-02-0**	**Nickel**	0.5	**2.1**	
200.8	11/27/06	200.8	12/04/06	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW02-111706
SAMPLE

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	**7440-38-2**	**Arsenic**	0.5	**4.0**	
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/07/06	**7440-47-3**	**Chromium**	1	**4**	
200.8	11/27/06	200.8	12/04/06	**7440-50-8**	**Copper**	0.5	**3.1**	
200.8	11/27/06	200.8	12/04/06	**7439-92-1**	**Lead**	1	**2**	
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	**7440-02-0**	**Nickel**	0.5	**3.9**	
200.8	11/27/06	200.8	12/04/06	**7440-66-6**	**Zinc**	4	**4**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MW02D-111706
SAMPLE

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	**7440-38-2**	**Arsenic**	0.5	**3.8**	
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/07/06	**7440-47-3**	**Chromium**	1	**4**	
200.8	11/27/06	200.8	12/04/06	**7440-50-8**	**Copper**	0.5	**3.3**	
200.8	11/27/06	200.8	12/04/06	**7439-92-1**	**Lead**	1	**2**	
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	**7440-02-0**	**Nickel**	0.5	**3.9**	
200.8	11/27/06	200.8	12/04/06	**7440-66-6**	**Zinc**	4	**5**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: MW03-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	**7440-38-2**	**Arsenic**	0.2	**0.9**	
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/07/06	**7440-47-3**	**Chromium**	1	**2**	
200.8	11/27/06	200.8	12/04/06	**7440-50-8**	**Copper**	0.5	**1.3**	
200.8	11/27/06	200.8	12/04/06	**7439-92-1**	**Lead**	1	**3**	
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	**7440-02-0**	**Nickel**	0.5	**1.5**	
200.8	11/27/06	200.8	12/04/06	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: MW04-111706
SAMPLE

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	**7440-38-2**	**Arsenic**	0.5	**11.6**	
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/07/06	**7440-47-3**	**Chromium**	1	**3**	
200.8	11/27/06	200.8	12/04/06	**7440-50-8**	**Copper**	0.5	**1.1**	
200.8	11/27/06	200.8	12/04/06	**7439-92-1**	**Lead**	1	**1**	
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	**7440-02-0**	**Nickel**	0.5	**2.0**	
200.8	11/27/06	200.8	12/04/06	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: KG05MB
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	µg/L	Q
200.8	11/27/06	200.8	12/04/06	7440-38-2	Arsenic	0.2	0.2	U
200.8	11/27/06	200.8	12/04/06	7440-43-9	Cadmium	0.2	0.2	U
200.8	11/27/06	200.8	12/04/06	7440-47-3	Chromium	0.5	0.5	U
200.8	11/27/06	200.8	12/04/06	7440-50-8	Copper	0.5	0.5	U
200.8	11/27/06	200.8	12/04/06	7439-92-1	Lead	1	1	U
7470	11/27/06	7470A	11/30/06	7439-97-6	Mercury	0.1	0.1	U
200.8	11/27/06	200.8	12/04/06	7440-02-0	Nickel	0.5	0.5	U
200.8	11/27/06	200.8	12/04/06	7440-66-6	Zinc	4	4	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: LAB CONTROL**

Lab Sample ID: KG05LCS
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/08/06

QC Report No: KG05-Floyd Snider
Project: DCI-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Arsenic	200.8	26.4	25.0	106%	
Cadmium	200.8	25.2	25.0	101%	
Chromium	200.8	26.7	25.0	107%	
Copper	200.8	27.4	25.0	110%	
Lead	200.8	25.6	25.0	102%	
Mercury	7470A	2.20	2.00	110%	
Nickel	200.8	26.4	25.0	106%	
Zinc	200.8	84.3	80.0	105%	

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

Client ID	OTER	TOT OUT
MB-112406	88.2%	0
LCS-112406	90.2%	0
MW01-111706	69.1%	0
MW01-111706 MS	75.3%	0
MW01-111706 MSD	82.2%	0
MW02-111706	84.4%	0
MW02D-111706	101%	0
MW03-111706	91.3%	0
MW04-111706	89.3%	0

	LCS/MB LIMITS	QC LIMITS
(OTER) = o-Terphenyl	(60-116)	(52-124)

Prep Method: SW3510C
Log Number Range: 06-23511 to 06-23515

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID
Page 1 of 1
Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Received: 11/18/06

Data Release Authorized:
Reported: 12/05/06

ARI ID	Sample ID	Extraction Date	Analysis Date	EFV DL	Range	Result
MB-112406	Method Blank	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23511	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	88.2%
KG05A	MW01-111706	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23511	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	69.1%
KG05B	MW02-111706	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23512	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	84.4%
KG05C	MW02D-111706	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23513	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	101%
KG05D	MW03-111706	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23514	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	91.3%
KG05E	MW04-111706	11/24/06	12/04/06	1.00	Diesel	< 0.25 U
06-23515	HC ID: ---		FID3A	1.0	Motor Oil	< 0.50 U
					o-Terphenyl	89.3%

Reported in mg/L (ppm)

EFV-Effective Final Volume in mL.
DL-Dilution of extract prior to analysis.

Diesel quantitation on total peaks in the range from C12 to C24.
Motor Oil quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicates results of organics or additional hydrocarbons in ranges are not identifiable.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID **Sample ID: MW01-111706**
Page 1 of 1 **MS/MSD**

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/05/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted MS/MSD: 11/24/06

Sample Amount MS: 500 mL
MSD: 500 mL

Date Analyzed MS: 12/04/06 17:25
MSD: 12/04/06 17:41

Final Extract Volume MS: 1.0 mL
MSD: 1.0 mL

Instrument/Analyst MS: FID3A/JGR
MSD: FID3A/JGR

Dilution Factor MS: 1.00
MSD: 1.00

Range	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Diesel	< 0.25 U	1.85	3.00	61.7%	1.96	3.00	65.3%	5.8%

TPHD Surrogate Recovery

	MS	MSD
o-Terphenyl	75.3%	82.2%

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID **Sample ID: LCS-112406**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-112406 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23511 Project: DC1-UPLANDS
Matrix: Water DC1
Data Release Authorized: Date Sampled: NA
Reported: 12/05/06 Date Received: NA

Date Extracted: 11/24/06 Sample Amount: 500 mL
Date Analyzed: 12/04/06 16:55 Final Extract Volume: 1.0 mL
Instrument/Analyst: FID3A/JGR Dilution Factor: 1.00

Range	Lab Control	Spike Added	Recovery
Diesel	2.29	3.00	76.3%

TPHD Surrogate Recovery

o-Terphenyl	90.2%

Results reported in mg/L

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: KG05
Matrix: Water — Project: DC1-UPLANDS
Date Received: 11/18/06 — DC1

ARI ID	Client ID	Samp Amt	Final Vol	Prep Date
06-23511-112406MB1	Method Blank	500 mL	1.00 mL	11/24/06
06-23511-112406LCS1	Lab Control	500 mL	1.00 mL	11/24/06
06-23511-KG05A	MW01-111706	500 mL	1.00 mL	11/24/06
06-23511-KG05AMS	MW01-111706	500 mL	1.00 mL	11/24/06
06-23511-KG05AMSD	MW01-111706	500 mL	1.00 mL	11/24/06
06-23512-KG05B	MW02-111706	500 mL	1.00 mL	11/24/06
06-23513-KG05C	MW02D-111706	500 mL	1.00 mL	11/24/06
06-23514-KG05D	MW03-111706	500 mL	1.00 mL	11/24/06
06-23515-KG05E	MW04-111706	500 mL	1.00 mL	11/24/06

ANALYTICAL RESOURCES INCORPORATED

TPHG WATER SURROGATE RECOVERY SUMMARY

ARI Job: KG05
Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
Event: DC1

Client ID	TFT	BBZ	TOT OUT
MB-112706	94.5%	99.1%	0
LCS-112706	101%	98.1%	0
LCSD-112706	101%	99.1%	0
MW01-111706	95.1%	101%	0
MW02-111706	97.9%	104%	0
MW02D-111706	98.3%	108%	0
MW03-111706	96.4%	102%	0
MW04-111706	95.6%	101%	0
TRIP BLANK	99.2%	103%	0

	LCS/MB LIMITS	QC LIMITS
(TFT) = Trifluorotoluene	(82-121)	(75-127)
(BBZ) = Bromobenzene	(76-122)	(76-126)

Log Number Range: 06-23511 to 06-23516

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Matrix: Water

Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
Event: DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

ARI ID	Client ID	Analysis Date	DL	Range	Result
MB-112706	Method Blank	11/27/06	1.0	Gasoline	< 0.25 U
06-23511		PID1		HC ID	---
				Trifluorotoluene	94.5%
				Bromobenzene	99.1%
KG05A	MW01-111706	11/28/06	1.0	Gasoline	< 0.25 U
06-23511		PID1		HC ID	---
				Trifluorotoluene	95.1%
				Bromobenzene	101%
KG05B	MW02-111706	11/28/06	1.0	Gasoline	< 0.25 U
06-23512		PID1		HC ID	---
				Trifluorotoluene	97.9%
				Bromobenzene	104%
KG05C	MW02D-111706	11/28/06	1.0	Gasoline	< 0.25 U
06-23513		PID1		HC ID	---
				Trifluorotoluene	98.3%
				Bromobenzene	108%
KG05D	MW03-111706	11/28/06	1.0	Gasoline	< 0.25 U
06-23514		PID1		HC ID	---
				Trifluorotoluene	96.4%
				Bromobenzene	102%
KG05E	MW04-111706	11/28/06	1.0	Gasoline	< 0.25 U
06-23515		PID1		HC ID	---
				Trifluorotoluene	95.6%
				Bromobenzene	101%
KG05F	TRIP BLANK	11/27/06	1.0	Gasoline	< 0.25 U
06-23516		PID1		HC ID	---
				Trifluorotoluene	99.2%
				Bromobenzene	103%

Gasoline values reported in mg/L (ppm)

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TPHG by Method NWTPHG
Page 1 of 1

Sample ID: LCS-112706
LAB CONTROL SAMPLE

Lab Sample ID: LCS-112706
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
Event: DC1
Date Sampled: NA
Date Received: NA

Date Analyzed LCS: 11/27/06 11:58
LCSD: 11/27/06 12:26
Instrument/Analyst LCS: PID1/PKC
LCSD: PID1/PKC

Purge Volume: 5.0 mL

Dilution Factor LCS: 1.0 mL
LCSD: 1.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Gasoline Range Hydrocarbons	1.05	1.00	105%	0.98	1.00	98.0%	6.9%

Reported in mg/L (ppm)

RPD calculated using sample concentrations per SW846.

TPHG Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	101%	101%
Bromobenzene	98.1%	99.1%

ANALYTICAL RESOURCES INCORPORATED

SW8081/PESTICIDE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

Client ID	DCBP	TCMX	TOT OUT
MW01-111706	86.2%	75.0%	0
MW02-111706	91.5%	69.8%	0
MB-112406	100%	84.2%	0
LCS-112406	88.8%	81.5%	0
MW02D-111706	91.2%	70.2%	0
MW02D-111706 MS	99.8%	71.2%	0
MW02D-111706 MSD	95.5%	76.5%	0
MW03-111706	89.2%	79.2%	0
MW04-111706	92.5%	75.0%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(43-121)	(12-142)
(TCMX) = Tetrachlorometaxylene	(50-96)	(40-107)

Prep Method: SW3510C
Log Number Range: 06-23511 to 06-23515

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW01-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 15:45
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	86.2%
Tetrachlorometaxylene	75.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW02-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 16:13
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	91.5%
Tetrachlorometaxylene	69.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW02D-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 16:42
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	91.2%
Tetrachlorometaxylene	70.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW03-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 18:07
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	89.2%
Tetrachlorometaxylene	79.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW04-111706**
Page 1 of 1 **SAMPLE**

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 18:36
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	92.5%
Tetrachlorometaxylene	75.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method SW8081A **Sample ID: MW02D-111706**
Page 1 of 1 **MS/MSD**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted MS/MSD: 11/24/06

Date Analyzed MS: 11/29/06 17:10
MSD: 11/29/06 17:39
Instrument/Analyst MS: ECD3/YZ
MSD: ECD3/YZ
GPC Cleanup: No
Florisil Cleanup: No

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 5.0 mL
MSD: 5.0 mL
Dilution Factor MS: 1.00
MSD: 1.00
Sulfur Cleanup: No
Silica Gel: No

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
gamma-BHC (Lindane)	< 0.0500	0.271	0.500	54.2%	0.290	0.500	58.0%	6.8%
Heptachlor	< 0.0500	0.349	0.500	69.8%	0.375	0.500	75.0%	7.2%
Aldrin	< 0.0500	0.346	0.500	69.2%	0.370	0.500	74.0%	6.7%
Dieldrin	< 0.100	0.839	1.00	83.9%	0.892	1.00	89.2%	6.1%
Endrin	< 0.100	0.987	1.00	98.7%	0.999	1.00	99.9%	1.2%
4,4'-DDT	< 0.100	0.886	1.00	88.6%	0.880	1.00	88.0%	0.7%

Results reported in µg/L (ppb)
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW02D-111706**
Page 1 of 1 **MATRIX SPIKE**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 17:10
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	---
76-44-8	Heptachlor	0.050	---
309-00-2	Aldrin	0.050	---
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	---
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	---
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	---
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	99.8%
Tetrachlorometaxylene	71.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MW02D-111706**
Page 1 of 1 **MATRIX SPIKE DUP**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 17:39
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	---
76-44-8	Heptachlor	0.050	---
309-00-2	Aldrin	0.050	---
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	---
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	---
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	---
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	95.5%
Tetrachlorometaxylene	76.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides by GC/ECD Method SW8081A **Sample ID: MB-112406**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-112406
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 14:48
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

CAS Number	Analyte	RL	Result
319-84-6	alpha-BHC	0.050	< 0.050 U
319-85-7	beta-BHC	0.050	< 0.050 U
319-86-8	delta-BHC	0.050	< 0.050 U
58-89-9	gamma-BHC (Lindane)	0.050	< 0.050 U
76-44-8	Heptachlor	0.050	< 0.050 U
309-00-2	Aldrin	0.050	< 0.050 U
1024-57-3	Heptachlor Epoxide	0.050	< 0.050 U
959-98-8	Endosulfan I	0.050	< 0.050 U
60-57-1	Dieldrin	0.10	< 0.10 U
72-55-9	4,4'-DDE	0.10	< 0.10 U
72-20-8	Endrin	0.10	< 0.10 U
33213-65-9	Endosulfan II	0.10	< 0.10 U
72-54-8	4,4'-DDD	0.10	< 0.10 U
1031-07-8	Endosulfan Sulfate	0.10	< 0.10 U
50-29-3	4,4'-DDT	0.10	< 0.10 U
72-43-5	Methoxychlor	0.50	< 0.50 U
53494-70-5	Endrin Ketone	0.10	< 0.10 U
7421-93-4	Endrin Aldehyde	0.10	< 0.10 U
5103-74-2	gamma Chlordane	0.050	< 0.050 U
5103-71-9	alpha Chlordane	0.050	< 0.050 U
8001-35-2	Toxaphene	5.0	< 5.0 U

Reported in µg/L (ppb)

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	100%
Tetrachlorometaxylene	84.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method SW8081A **Sample ID: LCS-112406**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-112406
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/01/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 11/29/06 15:16
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Florisil Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Sulfur Cleanup: No
Silica Gel: No

Analyte	Lab Control	Spike Added	Recovery
alpha-BHC	0.170	0.200	85.0%
beta-BHC	0.188	0.200	94.0%
delta-BHC	0.168	0.200	84.0%
gamma-BHC (Lindane)	0.178	0.200	89.0%
Heptachlor	0.168	0.200	84.0%
Aldrin	0.156	0.200	78.0%
Heptachlor Epoxide	0.187	0.200	93.5%
Endosulfan I	0.202	0.200	101%
Dieldrin	0.374	0.400	93.5%
4,4'-DDE	0.375	0.400	93.8%
Endrin	0.384	0.400	96.0%
Endosulfan II	0.401	0.400	100%
4,4'-DDD	0.395	0.400	98.8%
Endosulfan Sulfate	0.392	0.400	98.0%
4,4'-DDT	0.420	0.400	105%
Methoxychlor	1.76	2.00	88.0%
Endrin Ketone	0.400	0.400	100%
Endrin Aldehyde	0.413	0.400	103%
gamma Chlordane	0.188	0.200	94.0%
alpha Chlordane	0.191	0.200	95.5%

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	88.8%
Tetrachlorometaxylene	81.5%

Results reported in µg/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MW01-111706	71.2%	70.0%	70.4%	74.8%	58.4%	61.1%	68.0%	68.3%	0
MW02-111706	78.8%	77.2%	58.0%	78.4%	71.2%	67.5%	88.0%	75.5%	0
MW02D-111706	69.6%	69.6%	67.6%	67.2%	60.3%	59.2%	73.6%	65.3%	0
MW03-111706	77.6%	78.0%	78.8%	79.6%	70.9%	68.0%	85.6%	74.7%	0
MB-112406	87.6%	81.2%	91.2%	78.8%	82.4%	78.9%	93.3%	86.7%	0
LCS-112406	86.8%	89.2%	98.4%	79.2%	80.5%	77.6%	95.2%	83.2%	0
LCSD-112406	87.6%	89.2%	99.6%	77.6%	80.8%	77.6%	96.5%	83.7%	0
MW04-111706	70.8%	75.6%	74.0%	70.0%	58.1%	60.0%	72.8%	67.7%	0
MW04-111706 MS	74.4%	74.8%	59.2%	76.4%	67.2%	65.3%	80.3%	72.0%	0
MW04-111706 MSD	77.2%	78.0%	66.0%	78.8%	73.1%	68.5%	86.9%	75.7%	0

		LCS/MB LIMITS	QC LIMITS
(NBZ)	= d5-Nitrobenzene	(53-112)	(51-103)
(FBP)	= 2-Fluorobiphenyl	(52-99)	(39-95)
(TPH)	= d14-p-Terphenyl	(55-116)	(28-114)
(DCB)	= d4-1,2-Dichlorobenzene	(39-90)	(36-81)
(PHL)	= d5-Phenol	(40-110)	(42-98)
(2FP)	= 2-Fluorophenol	(27-131)	(27-113)
(TBP)	= 2,4,6-Tribromophenol	(47-116)	(47-110)
(2CP)	= d4-2-Chlorophenol	(51-110)	(47-102)

Prep Method: SW3520C
Log Number Range: 06-23511 to 06-23515

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW01-111706**
 SAMPLE

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 13:34
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW01-111706**
 SAMPLE

Lab Sample ID: KG05A QC Report No: KG05-Floyd Snider
LIMS ID: 06-23511 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 12/01/06 13:34

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	71.2%	2-Fluorobiphenyl	70.0%
d14-p-Terphenyl	70.4%	d4-1,2-Dichlorobenzene	74.8%
d5-Phenol	58.4%	2-Fluorophenol	61.1%
2,4,6-Tribromophenol	68.0%	d4-2-Chlorophenol	68.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW02-111706**
 SAMPLE

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 14:06
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW02-111706**
 SAMPLE

Lab Sample ID: KG05B QC Report No: KG05-Floyd Snider
LIMS ID: 06-23512 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 12/01/06 14:06

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	78.8%	2-Fluorobiphenyl	77.2%
d14-p-Terphenyl	58.0%	d4-1,2-Dichlorobenzene	78.4%
d5-Phenol	71.2%	2-Fluorophenol	67.5%
2,4,6-Tribromophenol	88.0%	d4-2-Chlorophenol	75.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW02D-111706**
Page 1 of 2 **SAMPLE**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 14:39
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW02D-111706**
 SAMPLE

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Date Analyzed: 12/01/06 14:39

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	69.6%	2-Fluorobiphenyl	69.6%
d14-p-Terphenyl	67.6%	d4-1,2-Dichlorobenzene	67.2%
d5-Phenol	60.3%	2-Fluorophenol	59.2%
2,4,6-Tribromophenol	73.6%	d4-2-Chlorophenol	65.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW03-111706**
 SAMPLE

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 15:11
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW03-111706**
 SAMPLE

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Date Analyzed: 12/01/06 15:11

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.6%	2-Fluorobiphenyl	78.0%
d14-p-Terphenyl	78.8%	d4-1,2-Dichlorobenzene	79.6%
d5-Phenol	70.9%	2-Fluorophenol	68.0%
2,4,6-Tribromophenol	85.6%	d4-2-Chlorophenol	74.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
 SAMPLE

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 15:44
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
 SAMPLE

Lab Sample ID: KG05E QC Report No: KG05-Floyd Snider
LIMS ID: 06-23515 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 12/01/06 15:44

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	70.8%	2-Fluorobiphenyl	75.6%
d14-p-Terphenyl	74.0%	d4-1,2-Dichlorobenzene	70.0%
d5-Phenol	58.1%	2-Fluorophenol	60.0%
2,4,6-Tribromophenol	72.8%	d4-2-Chlorophenol	67.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
Page 1 of 1 **MS/MSD**

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted MS/MSD: 11/24/06

Date Analyzed MS: 12/01/06 16:16
MSD: 12/01/06 16:49
Instrument/Analyst MS: NT6/LJR
MSD: NT6/LJR

Sample Amount MS: 500 mL
MSD: 500 mL
Final Extract Volume MS: 0.5 mL
MSD: 0.5 mL
Dilution Factor MS: 1.00
MSD: 1.00

GPC Cleanup: NO

Analyte	Sample	MS	Spike Added-MS	MS Recovery	MSD	Spike Added-MSD	MSD Recovery	RPD
Phenol	< 1.0 U	21.8	37.5	58.1%	24.6	37.5	65.6%	12.1%
2-Chlorophenol	< 1.0 U	24.4	37.5	65.1%	26.6	37.5	70.9%	8.6%
1,4-Dichlorobenzene	< 1.0 U	14.8	25.0	59.2%	16.9	25.0	67.6%	13.2%
N-Nitroso-Di-N-Propylamine	< 5.0 U	17.0	25.0	68.0%	18.9	25.0	75.6%	10.6%
1,2,4-Trichlorobenzene	< 1.0 U	15.2	25.0	60.8%	17.5	25.0	70.0%	14.1%
4-Chloro-3-methylphenol	< 5.0 U	26.2	37.5	69.9%	28.9	37.5	77.1%	9.8%
Acenaphthene	< 1.0 U	18.2	25.0	72.8%	18.9	25.0	75.6%	3.8%
4-Nitrophenol	< 5.0 U	25.2	37.5	67.2%	30.3	37.5	80.8%	18.4%
2,4-Dinitrotoluene	< 5.0 U	18.7	25.0	74.8%	20.1	25.0	80.4%	7.2%
Pentachlorophenol	< 5.0 U	35.2	37.5	93.9%	40.1	37.5	107%	13.0%
Pyrene	< 1.0 U	18.6	25.0	74.4%	17.2	25.0	68.8%	7.8%
Di-n-Octyl phthalate	< 1.0 U	16.8	25.0	67.2%	12.2	25.0	48.8%	31.7%
Benzo(g,h,i)perylene	< 1.0 U	16.8	25.0	67.2%	13.0	25.0	52.0%	25.5%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
 MATRIX SPIKE

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 16:16
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	---
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	---
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	---
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	---
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	---
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	---
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	---
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	---
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
 MATRIX SPIKE

Lab Sample ID: KG05E QC Report No: KG05-Floyd Snider
LIMS ID: 06-23515 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 12/01/06 16:16

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	---
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	---
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	---
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	74.4%	2-Fluorobiphenyl	74.8%
d14-p-Terphenyl	59.2%	d4-1,2-Dichlorobenzene	76.4%
d5-Phenol	67.2%	2-Fluorophenol	65.3%
2,4,6-Tribromophenol	80.3%	d4-2-Chlorophenol	72.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 2

Sample ID: MW04-111706
MATRIX SPIKE DUP

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 16:49
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	---
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	---
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	---
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	---
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	---
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	---
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	---
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	---
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	---
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MW04-111706**
 MATRIX SPIKE DUP

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Date Analyzed: 12/01/06 16:49

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	---
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	---
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	---
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	---

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	77.2%	2-Fluorobiphenyl	78.0%
d14-p-Terphenyl	66.0%	d4-1,2-Dichlorobenzene	78.8%
d5-Phenol	73.1%	2-Fluorophenol	68.5%
2,4,6-Tribromophenol	86.9%	d4-2-Chlorophenol	75.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: MB-112406**
 METHOD BLANK

Lab Sample ID: MB-112406
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Date Extracted: 11/24/06
Date Analyzed: 12/01/06 10:20
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
108-95-2	Phenol	1.0	< 1.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	1.0	< 1.0 U
95-57-8	2-Chlorophenol	1.0	< 1.0 U
541-73-1	1,3-Dichlorobenzene	1.0	< 1.0 U
106-46-7	1,4-Dichlorobenzene	1.0	< 1.0 U
100-51-6	Benzyl Alcohol	5.0	< 5.0 U
95-50-1	1,2-Dichlorobenzene	1.0	< 1.0 U
95-48-7	2-Methylphenol	1.0	< 1.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0	< 1.0 U
106-44-5	4-Methylphenol	1.0	< 1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	5.0	< 5.0 U
67-72-1	Hexachloroethane	1.0	< 1.0 U
98-95-3	Nitrobenzene	1.0	< 1.0 U
78-59-1	Isophorone	1.0	< 1.0 U
88-75-5	2-Nitrophenol	5.0	< 5.0 U
105-67-9	2,4-Dimethylphenol	1.0	< 1.0 U
65-85-0	Benzoic Acid	10	< 10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0	< 1.0 U
120-83-2	2,4-Dichlorophenol	5.0	< 5.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0	< 1.0 U
91-20-3	Naphthalene	1.0	< 1.0 U
106-47-8	4-Chloroaniline	5.0	< 5.0 U
87-68-3	Hexachlorobutadiene	1.0	< 1.0 U
59-50-7	4-Chloro-3-methylphenol	5.0	< 5.0 U
91-57-6	2-Methylnaphthalene	1.0	< 1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0	< 5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0	< 5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0	< 5.0 U
91-58-7	2-Chloronaphthalene	1.0	< 1.0 U
88-74-4	2-Nitroaniline	5.0	< 5.0 U
131-11-3	Dimethylphthalate	1.0	< 1.0 U
208-96-8	Acenaphthylene	1.0	< 1.0 U
99-09-2	3-Nitroaniline	5.0	< 5.0 U
83-32-9	Acenaphthene	1.0	< 1.0 U
51-28-5	2,4-Dinitrophenol	10	< 10 U
100-02-7	4-Nitrophenol	5.0	< 5.0 U
132-64-9	Dibenzofuran	1.0	< 1.0 U
606-20-2	2,6-Dinitrotoluene	5.0	< 5.0 U
121-14-2	2,4-Dinitrotoluene	5.0	< 5.0 U
84-66-2	Diethylphthalate	1.0	< 1.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS

Sample ID: MB-112406
METHOD BLANK

Lab Sample ID: MB-112406
LIMS ID: 06-23515
Matrix: Water
Date Analyzed: 12/01/06 10:20

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result
7005-72-3	4-Chlorophenyl-phenylether	1.0	< 1.0 U
86-73-7	Fluorene	1.0	< 1.0 U
100-01-6	4-Nitroaniline	5.0	< 5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10	< 10 U
86-30-6	N-Nitrosodiphenylamine	1.0	< 1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0	< 1.0 U
118-74-1	Hexachlorobenzene	1.0	< 1.0 U
87-86-5	Pentachlorophenol	5.0	< 5.0 U
85-01-8	Phenanthrene	1.0	< 1.0 U
86-74-8	Carbazole	1.0	< 1.0 U
120-12-7	Anthracene	1.0	< 1.0 U
84-74-2	Di-n-Butylphthalate	1.0	< 1.0 U
206-44-0	Fluoranthene	1.0	< 1.0 U
129-00-0	Pyrene	1.0	< 1.0 U
85-68-7	Butylbenzylphthalate	1.0	< 1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0	< 5.0 U
56-55-3	Benzo(a)anthracene	1.0	< 1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0	< 1.0 U
218-01-9	Chrysene	1.0	< 1.0 U
117-84-0	Di-n-Octyl phthalate	1.0	< 1.0 U
205-99-2	Benzo(b)fluoranthene	1.0	< 1.0 U
207-08-9	Benzo(k)fluoranthene	1.0	< 1.0 U
50-32-8	Benzo(a)pyrene	1.0	< 1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	< 1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0	< 1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0	< 1.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d5-Nitrobenzene	87.6%	2-Fluorobiphenyl	81.2%
d14-p-Terphenyl	91.2%	d4-1,2-Dichlorobenzene	78.8%
d5-Phenol	82.4%	2-Fluorophenol	78.9%
2,4,6-Tribromophenol	93.3%	d4-2-Chlorophenol	86.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: LCS-112406**
 LCS/LCSD

Lab Sample ID: LCS-112406 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23515 Project: DC1-UPLANDS
Matrix: Water DC1
Data Release Authorized: Date Sampled: 11/17/06
Reported: 12/04/06 Date Received: 11/18/06

Date Extracted LCS/LCSD: 11/24/06 Sample Amount LCS: 500 mL
LCSD: 500 mL
Date Analyzed LCS: 12/01/06 10:52 Final Extract Volume LCS: 0.50 mL
LCSD: 12/01/06 11:24 LCSD: 0.50 mL
Instrument/Analyst LCS: NT6/LJR Dilution Factor LCS: 1.00
LCSD: NT6/LJR LCSD: 1.00
GPC Cleanup: NO

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Phenol	19.0	25.0	76.0%	20.4	25.0	81.6%	7.1%
Bis-(2-Chloroethyl) Ether	20.4	25.0	81.6%	21.8	25.0	87.2%	6.6%
2-Chlorophenol	19.9	25.0	79.6%	21.6	25.0	86.4%	8.2%
1,3-Dichlorobenzene	15.6	25.0	62.4%	17.8	25.0	71.2%	13.2%
1,4-Dichlorobenzene	15.9	25.0	63.6%	17.8	25.0	71.2%	11.3%
Benzyl Alcohol	18.6	25.0	74.4%	19.9	25.0	79.6%	6.8%
1,2-Dichlorobenzene	16.4	25.0	65.6%	18.4	25.0	73.6%	11.5%
2-Methylphenol	20.1	25.0	80.4%	21.5	25.0	86.0%	6.7%
2,2'-Oxybis(1-Chloropropane)	20.7	25.0	82.8%	22.1	25.0	88.4%	6.5%
4-Methylphenol	39.3	50.0	78.6%	42.2	50.0	84.4%	7.1%
N-Nitroso-Di-N-Propylamine	20.1	25.0	80.4%	21.4	25.0	85.6%	6.3%
Hexachloroethane	14.7	25.0	58.8%	17.4	25.0	69.6%	16.8%
Nitrobenzene	20.2	25.0	80.8%	22.0	25.0	88.0%	8.5%
Isophorone	22.8	25.0	91.2%	24.1	25.0	96.4%	5.5%
2-Nitrophenol	21.1	25.0	84.4%	22.7	25.0	90.8%	7.3%
2,4-Dimethylphenol	16.0	25.0	64.0%	17.5	25.0	70.0%	9.0%
Benzoic Acid	4.4	25.0	17.6%	11.8	25.0	47.2%	91.7%
bis(2-Chloroethoxy) Methane	20.6	25.0	82.4%	21.9	25.0	87.6%	6.1%
2,4-Dichlorophenol	21.1	25.0	84.4%	22.6	25.0	90.4%	6.9%
1,2,4-Trichlorobenzene	17.8	25.0	71.2%	19.4	25.0	77.6%	8.6%
Naphthalene	18.8	25.0	75.2%	20.2	25.0	80.8%	7.2%
4-Chloroaniline	42.2	60.0	70.3%	42.5	60.0	70.8%	0.7%
Hexachlorobutadiene	16.1	25.0	64.4%	18.1	25.0	72.4%	11.7%
4-Chloro-3-methylphenol	22.0	25.0	88.0%	23.3	25.0	93.2%	5.7%
2-Methylnaphthalene	19.9	25.0	79.6%	21.3	25.0	85.2%	6.8%
Hexachlorocyclopentadiene	15.8	25.0	63.2%	18.0	25.0	72.0%	13.0%
2,4,6-Trichlorophenol	22.4	25.0	89.6%	24.4	25.0	97.6%	8.5%
2,4,5-Trichlorophenol	22.2	25.0	88.8%	24.1	25.0	96.4%	8.2%
2-Chloronaphthalene	21.2	25.0	84.8%	22.8	25.0	91.2%	7.3%
2-Nitroaniline	23.0	25.0	92.0%	25.1	25.0	100%	8.7%
Dimethylphthalate	22.0	25.0	88.0%	23.8	25.0	95.2%	7.9%
Acenaphthylene	22.1	25.0	88.4%	23.8	25.0	95.2%	7.4%
3-Nitroaniline	60.2	64.0	94.1%	64.8	64.0	101%	7.4%
Acenaphthene	21.2	25.0	84.8%	23.0	25.0	92.0%	8.1%
2,4-Dinitrophenol	18.8	25.0	75.2%	23.1	25.0	92.4%	20.5%
4-Nitrophenol	22.4	25.0	89.6%	24.7	25.0	98.8%	9.8%
Dibenzofuran	21.8	25.0	87.2%	23.4	25.0	93.6%	7.1%
2,6-Dinitrotoluene	23.7	25.0	94.8%	25.6	25.0	102%	7.7%
2,4-Dinitrotoluene	23.8	25.0	95.2%	25.9	25.0	104%	8.5%
Diethylphthalate	22.4	25.0	89.6%	23.9	25.0	95.6%	6.5%
4-Chlorophenyl-phenylether	21.6	25.0	86.4%	23.2	25.0	92.8%	7.1%
Fluorene	21.6	25.0	86.4%	23.1	25.0	92.4%	6.7%
4-Nitroaniline	21.1	25.0	84.4%	24.0	25.0	96.0%	12.9%
4,6-Dinitro-2-Methylphenol	19.3	25.0	77.2%	21.4	25.0	85.6%	10.3%
N-Nitrosodiphenylamine	32.4	25.0	130%	34.5	25.0	138%	6.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS **Sample ID: LCS-112406**
 LCS/LCSD

Lab Sample ID: LCS-112406 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23515 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 12/01/06 10:52

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
4-Bromophenyl-phenylether	20.7	25.0	82.8%	21.8	25.0	87.2%	5.2%
Hexachlorobenzene	21.0	25.0	84.0%	22.3	25.0	89.2%	6.0%
Pentachlorophenol	22.0	25.0	88.0%	23.9	25.0	95.6%	8.3%
Phenanthrene	20.7	25.0	82.8%	22.0	25.0	88.0%	6.1%
Carbazole	21.1	25.0	84.4%	22.2	25.0	88.8%	5.1%
Anthracene	21.3	25.0	85.2%	22.4	25.0	89.6%	5.0%
Di-n-Butylphthalate	22.2	25.0	88.8%	23.6	25.0	94.4%	6.1%
Fluoranthene	21.3	25.0	85.2%	22.2	25.0	88.8%	4.1%
Pyrene	23.5	25.0	94.0%	25.0	25.0	100%	6.2%
Butylbenzylphthalate	24.0	25.0	96.0%	25.5	25.0	102%	6.1%
3,3'-Dichlorobenzidine	58.7	64.0	91.7%	60.1	64.0	93.9%	2.4%
Benzo(a)anthracene	22.5	25.0	90.0%	23.4	25.0	93.6%	3.9%
bis(2-Ethylhexyl)phthalate	22.7	25.0	90.8%	24.4	25.0	97.6%	7.2%
Chrysene	22.9	25.0	91.6%	23.6	25.0	94.4%	3.0%
Di-n-Octyl phthalate	21.3	25.0	85.2%	22.5	25.0	90.0%	5.5%
Benzo(b)fluoranthene	19.9	25.0	79.6%	21.6	25.0	86.4%	8.2%
Benzo(k)fluoranthene	21.2	25.0	84.8%	21.6	25.0	86.4%	1.9%
Benzo(a)pyrene	22.5	25.0	90.0%	23.8	25.0	95.2%	5.6%
Indeno(1,2,3-cd)pyrene	21.1	25.0	84.4%	22.7	25.0	90.8%	7.3%
Dibenz(a,h)anthracene	21.7	25.0	86.8%	23.2	25.0	92.8%	6.7%
Benzo(g,h,i)perylene	21.1	25.0	84.4%	22.8	25.0	91.2%	7.7%

Semivolatile Surrogate Recovery

	LCS	LCSD
d5-Nitrobenzene	86.8%	87.6%
2-Fluorobiphenyl	89.2%	89.2%
d14-p-Terphenyl	98.4%	99.6%
d4-1,2-Dichlorobenzene	79.2%	77.6%
d5-Phenol	80.5%	80.8%
2-Fluorophenol	77.6%	77.6%
2,4,6-Tribromophenol	95.2%	96.5%
d4-2-Chlorophenol	83.2%	83.7%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

VOA SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

ARI ID	Client ID	PV	DCE	TOL	BFB	DCB	TOT OUT
MB-112706	Method Blank	20	96.0%	106%	84.2%	108%	0
LCS-112706	Lab Control	20	107%	105%	99.8%	102%	0
LCSD-112706	Lab Control Dup	20	104%	101%	99.5%	110%	0
KG05A	MW01-111706	20	103%	103%	87.8%	113%	0
KG05B	MW02-111706	20	105%	104%	87.0%	115%	0
KG05C	MW02D-111706	20	109%	101%	89.5%	114%	0
MB-112906	Method Blank	20	97.8%	95.0%	86.0%	111%	0
LCS-112906	Lab Control	20	93.2%	97.2%	92.0%	101%	0
LCSD-112906	Lab Control Dup	20	91.5%	91.8%	87.0%	98.2%	0
KG05D	MW03-111706	20	105%	107%	86.8%	116%	0
KG05E	MW04-111706	20	108%	105%	88.5%	124%	0
KG05F	TRIP BLANK	20	102%	100%	89.2%	110%	0

	LCS/MB LIMITS		QC LIMITS	
SW8260B	5mL Purge	20mL Purge	5mL Purge	20mL Purge
(DCE) = d4-1,2-Dichloroethane	70-134	63-127	66-142	66-139
(TOL) = d8-Toluene	78-123	77-117	75-124	82-123
(BFB) = Bromofluorobenzene	78-121	68-116	75-121	71-113
(DCB) = d4-1,2-Dichlorobenzene	79-116	79-113	78-124	84-125

Prep Method: SW5030B
Log Number Range: 06-23511 to 06-23516

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW01-111706**
 SAMPLE

Lab Sample ID: KG05A
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/27/06 20:44

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.3**	**0.3**	
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW01-111706**
Page 2 of 2 **SAMPLE**

Lab Sample ID: KG05A QC Report No: KG05-Floyd Snider
LIMS ID: 06-23511 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 11/27/06 20:44

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	103%
Bromofluorobenzene	87.8%
d4-1,2-Dichlorobenzene	113%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW02-111706**
Page 1 of 2 **SAMPLE**

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/27/06 21:11

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	**Acetone**	**3.0**	**3.8**	
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW02-111706**
 SAMPLE

Lab Sample ID: KG05B
LIMS ID: 06-23512
Matrix: Water
Date Analyzed: 11/27/06 21:11

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	104%
Bromofluorobenzene	87.0%
d4-1,2-Dichlorobenzene	115%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW02D-111706**
Page 1 of 2 **SAMPLE**

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/27/06 21:38

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW02D-111706**
 SAMPLE

Lab Sample ID: KG05C
LIMS ID: 06-23513
Matrix: Water
Date Analyzed: 11/27/06 21:38

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	101%
Bromofluorobenzene	89.5%
d4-1,2-Dichlorobenzene	114%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW03-111706**
 SAMPLE

Lab Sample ID: KG05D
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/29/06 22:19

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	**2-Butanone**	**1.0**	**4.0**	
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW03-111706**
 SAMPLE

Lab Sample ID: KG05D QC Report No: KG05-Floyd Snider
LIMS ID: 06-23514 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 11/29/06 22:19

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	107%
Bromofluorobenzene	86.8%
d4-1,2-Dichlorobenzene	116%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MW04-111706**
Page 1 of 2 **SAMPLE**

Lab Sample ID: KG05E
LIMS ID: 06-23515
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/29/06 22:47

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	**Carbon Disulfide**	**0.2**	**0.2**	
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

Lab Sample ID: KG05E QC Report No: KG05-Floyd Snider
LIMS ID: 06-23515 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 11/29/06 22:47

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	105%
Bromofluorobenzene	88.5%
d4-1,2-Dichlorobenzene	124%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: TRIP BLANK SAMPLE**

Lab Sample ID: KG05F
LIMS ID: 06-23516
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: 11/17/06
Date Received: 11/18/06

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/27/06 20:16

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	**Methylene Chloride**	**0.3**	**0.3**	
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: TRIP BLANK SAMPLE**

Lab Sample ID: KG05F
LIMS ID: 06-23516
Matrix: Water
Date Analyzed: 11/27/06 20:16

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	100%
Bromofluorobenzene	89.2%
d4-1,2-Dichlorobenzene	110%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MB-112706**
 METHOD BLANK

Lab Sample ID: MB-112706
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN3/PAB
Date Analyzed: 11/27/06 12:26

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MB-112706**
 METHOD BLANK

Lab Sample ID: MB-112706 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23511 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 11/27/06 12:26

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	96.0%
d8-Toluene	106%
Bromofluorobenzene	84.2%
d4-1,2-Dichlorobenzene	108%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MB-112906**
 METHOD BLANK

Lab Sample ID: MB-112906 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23514 Project: DC1-UPLANDS
Matrix: Water DC1
Data Release Authorized: Date Sampled: NA
Reported: 12/04/06 Date Received: NA

Instrument/Analyst: FINN3/PAB Sample Amount: 20.0 mL
Date Analyzed: 11/29/06 18:33 Purge Volume: 20.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	0.2	< 0.2	U
74-83-9	Bromomethane	0.2	< 0.2	U
75-01-4	Vinyl Chloride	0.2	< 0.2	U
75-00-3	Chloroethane	0.2	< 0.2	U
75-09-2	Methylene Chloride	0.3	< 0.3	U
67-64-1	Acetone	3.0	< 3.0	U
75-15-0	Carbon Disulfide	0.2	< 0.2	U
75-35-4	1,1-Dichloroethene	0.2	< 0.2	U
75-34-3	1,1-Dichloroethane	0.2	< 0.2	U
156-60-5	trans-1,2-Dichloroethene	0.2	< 0.2	U
156-59-2	cis-1,2-Dichloroethene	0.2	< 0.2	U
67-66-3	Chloroform	0.2	< 0.2	U
107-06-2	1,2-Dichloroethane	0.2	< 0.2	U
78-93-3	2-Butanone	1.0	< 1.0	U
71-55-6	1,1,1-Trichloroethane	0.2	< 0.2	U
56-23-5	Carbon Tetrachloride	0.2	< 0.2	U
108-05-4	Vinyl Acetate	0.2	< 0.2	U
75-27-4	Bromodichloromethane	0.2	< 0.2	U
78-87-5	1,2-Dichloropropane	0.2	< 0.2	U
10061-01-5	cis-1,3-Dichloropropene	0.2	< 0.2	U
79-01-6	Trichloroethene	0.2	< 0.2	U
124-48-1	Dibromochloromethane	0.2	< 0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	< 0.2	U
71-43-2	Benzene	0.2	< 0.2	U
10061-02-6	trans-1,3-Dichloropropene	0.2	< 0.2	U
110-75-8	2-Chloroethylvinylether	0.5	< 0.5	U
75-25-2	Bromoform	0.2	< 0.2	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0	< 1.0	U
591-78-6	2-Hexanone	3.0	< 3.0	U
127-18-4	Tetrachloroethene	0.2	< 0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	< 0.2	U
108-88-3	Toluene	0.2	< 0.2	U
108-90-7	Chlorobenzene	0.2	< 0.2	U
100-41-4	Ethylbenzene	0.2	< 0.2	U
100-42-5	Styrene	0.2	< 0.2	U
75-69-4	Trichlorofluoromethane	0.2	< 0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	0.2	< 0.2	U
1330-20-7	m,p-Xylene	0.4	< 0.4	U
95-47-6	o-Xylene	0.2	< 0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	< 0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	< 0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	< 0.2	U
107-02-8	Acrolein	5.0	< 5.0	U
74-88-4	Methyl Iodide	0.2	< 0.2	U
74-96-4	Bromoethane	0.2	< 0.2	U
107-13-1	Acrylonitrile	1.0	< 1.0	U
563-58-6	1,1-Dichloropropene	0.2	< 0.2	U
74-95-3	Dibromomethane	0.2	< 0.2	U
630-20-6	1,1,1,2-Tetrachloroethane	0.2	< 0.2	U
96-12-8	1,2-Dibromo-3-chloropropane	0.5	< 0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	< 0.5	U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: MB-112906**
 METHOD BLANK

Lab Sample ID: MB-112906 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23514 Project: DC1-UPLANDS
Matrix: Water DC1
Date Analyzed: 11/29/06 18:33

CAS Number	Analyte	RL	Result	Q
110-57-6	trans-1,4-Dichloro-2-butene	1.0	< 1.0	U
108-67-8	1,3,5-Trimethylbenzene	0.2	< 0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	< 0.2	U
87-68-3	Hexachlorobutadiene	0.5	< 0.5	U
106-93-4	Ethylene Dibromide	0.2	< 0.2	U
74-97-5	Bromochloromethane	0.2	< 0.2	U
594-20-7	2,2-Dichloropropane	0.2	< 0.2	U
142-28-9	1,3-Dichloropropane	0.2	< 0.2	U
98-82-8	Isopropylbenzene	0.2	< 0.2	U
103-65-1	n-Propylbenzene	0.2	< 0.2	U
108-86-1	Bromobenzene	0.2	< 0.2	U
95-49-8	2-Chlorotoluene	0.2	< 0.2	U
106-43-4	4-Chlorotoluene	0.2	< 0.2	U
98-06-6	tert-Butylbenzene	0.2	< 0.2	U
135-98-8	sec-Butylbenzene	0.2	< 0.2	U
99-87-6	4-Isopropyltoluene	0.2	< 0.2	U
104-51-8	n-Butylbenzene	0.2	< 0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.5	< 0.5	U
91-20-3	Naphthalene	0.5	< 0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	< 0.5	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	97.8%
d8-Toluene	95.0%
Bromofluorobenzene	86.0%
d4-1,2-Dichlorobenzene	111%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: LCS-112706**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-112706
LIMS ID: 06-23511
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN3/PAB
LCSD: FINN3/PAB
Date Analyzed LCS: 11/27/06 11:24
LCSD: 11/27/06 11:59

Sample Amount LCS: 20.0 mL
LCSD: 20.0 mL
Purge Volume LCS: 20.0 mL
LCSD: 20.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	3.2	4.0	80.0%	2.9	4.0	72.5%	9.8%
Bromomethane	4.0	4.0	100%	3.5	4.0	87.5%	13.3%
Vinyl Chloride	3.4	4.0	85.0%	3.1	4.0	77.5%	9.2%
Chloroethane	3.4	4.0	85.0%	3.0	4.0	75.0%	12.5%
Methylene Chloride	3.7	4.0	92.5%	3.5	4.0	87.5%	5.6%
Acetone	14.2	20.0	71.0%	15.7	20.0	78.5%	10.0%
Carbon Disulfide	3.8	4.0	95.0%	3.7	4.0	92.5%	2.7%
1,1-Dichloroethene	3.7	4.0	92.5%	3.5	4.0	87.5%	5.6%
1,1-Dichloroethane	3.8	4.0	95.0%	3.7	4.0	92.5%	2.7%
trans-1,2-Dichloroethene	4.0	4.0	100%	3.8	4.0	95.0%	5.1%
cis-1,2-Dichloroethene	3.6	4.0	90.0%	3.5	4.0	87.5%	2.8%
Chloroform	3.7	4.0	92.5%	3.7	4.0	92.5%	0.0%
1,2-Dichloroethane	4.4	4.0	110%	4.2	4.0	105%	4.7%
2-Butanone	16.2	20.0	81.0%	16.5	20.0	82.5%	1.8%
1,1,1-Trichloroethane	3.9	4.0	97.5%	3.8	4.0	95.0%	2.6%
Carbon Tetrachloride	4.1	4.0	102%	4.1	4.0	102%	0.0%
Vinyl Acetate	3.5	4.0	87.5%	3.4	4.0	85.0%	2.9%
Bromodichloromethane	4.0	4.0	100%	3.9	4.0	97.5%	2.5%
1,2-Dichloropropane	3.9	4.0	97.5%	4.0	4.0	100%	2.5%
cis-1,3-Dichloropropene	4.4	4.0	110%	4.1	4.0	102%	7.1%
Trichloroethene	4.1	4.0	102%	4.0	4.0	100%	2.5%
Dibromochloromethane	3.7	4.0	92.5%	4.1	4.0	102%	10.3%
1,1,2-Trichloroethane	4.1	4.0	102%	3.7	4.0	92.5%	10.3%
Benzene	4.2	4.0	105%	4.0	4.0	100%	4.9%
trans-1,3-Dichloropropene	4.2	4.0	105%	4.0	4.0	100%	4.9%
2-Chloroethylvinylether	3.7	4.0	92.5%	3.4	4.0	85.0%	8.5%
Bromoform	3.9	4.0	97.5%	3.6	4.0	90.0%	8.0%
4-Methyl-2-Pentanone (MIBK)	18.8	20.0	94.0%	17.8	20.0	89.0%	5.5%
2-Hexanone	19.0	20.0	95.0%	20.1	20.0	100%	5.6%
Tetrachloroethene	4.7	4.0	118%	4.9	4.0	122%	4.2%
1,1,2,2-Tetrachloroethane	3.6	4.0	90.0%	3.3	4.0	82.5%	8.7%
Toluene	4.3	4.0	108%	4.1	4.0	102%	4.8%
Chlorobenzene	4.1	4.0	102%	4.0	4.0	100%	2.5%
Ethylbenzene	4.2	4.0	105%	4.2	4.0	105%	0.0%
Styrene	4.3	4.0	108%	4.7	4.0	118%	8.9%
Trichlorofluoromethane	4.0	4.0	100%	3.8	4.0	95.0%	5.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: LCS-112706**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-112706 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23511 Project: DC1-UPLANDS
Matrix: Water DC1

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1,2-Trichloro-1,2,2-trifluoroetha	3.7	4.0	92.5%	3.6	4.0	90.0%	2.7%
m,p-Xylene	9.0	8.0	112%	9.2	8.0	115%	2.2%
o-Xylene	4.3	4.0	108%	4.4	4.0	110%	2.3%
1,2-Dichlorobenzene	4.2	4.0	105%	4.1	4.0	102%	2.4%
1,3-Dichlorobenzene	4.2	4.0	105%	4.2	4.0	105%	0.0%
1,4-Dichlorobenzene	4.2	4.0	105%	4.1	4.0	102%	2.4%
Acrolein	14.2	20.0	71.0%	13.6	20.0	68.0%	4.3%
Methyl Iodide	4.8	4.0	120%	4.5	4.0	112%	6.5%
Bromoethane	3.7	4.0	92.5%	3.7	4.0	92.5%	0.0%
Acrylonitrile	3.5	4.0	87.5%	3.3	4.0	82.5%	5.9%
1,1-Dichloropropene	3.9	4.0	97.5%	4.0	4.0	100%	2.5%
Dibromomethane	4.3	4.0	108%	4.1	4.0	102%	4.8%
1,1,1,2-Tetrachloroethane	4.0	4.0	100%	4.1	4.0	102%	2.5%
1,2-Dibromo-3-chloropropane	3.1	4.0	77.5%	2.9	4.0	72.5%	6.7%
1,2,3-Trichloropropane	4.0	4.0	100%	3.5	4.0	87.5%	13.3%
trans-1,4-Dichloro-2-butene	4.1	4.0	102%	3.9	4.0	97.5%	5.0%
1,3,5-Trimethylbenzene	4.1	4.0	102%	3.8	4.0	95.0%	7.6%
1,2,4-Trimethylbenzene	3.9	4.0	97.5%	3.8	4.0	95.0%	2.6%
Hexachlorobutadiene	4.6	4.0	115%	4.6	4.0	115%	0.0%
Ethylene Dibromide	4.2	4.0	105%	3.9	4.0	97.5%	7.4%
Bromochloromethane	3.7	4.0	92.5%	3.7	4.0	92.5%	0.0%
2,2-Dichloropropane	4.3	4.0	108%	4.2	4.0	105%	2.4%
1,3-Dichloropropane	3.9	4.0	97.5%	4.0	4.0	100%	2.5%
Isopropylbenzene	4.0	4.0	100%	3.6	4.0	90.0%	10.5%
n-Propylbenzene	4.4	4.0	110%	4.0	4.0	100%	9.5%
Bromobenzene	4.5	4.0	112%	4.0	4.0	100%	11.8%
2-Chlorotoluene	4.3	4.0	108%	3.9	4.0	97.5%	9.8%
4-Chlorotoluene	4.0	4.0	100%	3.7	4.0	92.5%	7.8%
tert-Butylbenzene	3.9	4.0	97.5%	3.8	4.0	95.0%	2.6%
sec-Butylbenzene	3.9	4.0	97.5%	4.0	4.0	100%	2.5%
4-Isopropyltoluene	4.0	4.0	100%	4.0	4.0	100%	0.0%
n-Butylbenzene	4.1	4.0	102%	4.0	4.0	100%	2.5%
1,2,4-Trichlorobenzene	4.3	4.0	108%	4.2	4.0	105%	2.4%
Naphthalene	3.6	4.0	90.0%	3.4	4.0	85.0%	5.7%
1,2,3-Trichlorobenzene	4.2	4.0	105%	4.2	4.0	105%	0.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	107%	104%
d8-Toluene	105%	101%
Bromofluorobenzene	99.8%	99.5%
d4-1,2-Dichlorobenzene	102%	110%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: LCS-112906**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-112906
LIMS ID: 06-23514
Matrix: Water
Data Release Authorized:
Reported: 12/04/06

QC Report No: KG05-Floyd Snider
Project: DC1-UPLANDS
DC1
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN3/PAB
LCSD: FINN3/PAB
Date Analyzed LCS: 11/29/06 17:10
LCSD: 11/29/06 17:37

Sample Amount LCS: 20.0 mL
LCSD: 20.0 mL
Purge Volume LCS: 20.0 mL
LCSD: 20.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	2.7	4.0	67.5%	2.5	4.0	62.5%	7.7%
Bromomethane	3.5	4.0	87.5%	3.5	4.0	87.5%	0.0%
Vinyl Chloride	3.1	4.0	77.5%	2.9	4.0	72.5%	6.7%
Chloroethane	2.9	4.0	72.5%	2.8	4.0	70.0%	3.5%
Methylene Chloride	3.2	4.0	80.0%	3.3	4.0	82.5%	3.1%
Acetone	15.0	20.0	75.0%	14.0	20.0	70.0%	6.9%
Carbon Disulfide	3.5	4.0	87.5%	3.2	4.0	80.0%	9.0%
1,1-Dichloroethene	3.4	4.0	85.0%	3.2	4.0	80.0%	6.1%
1,1-Dichloroethane	3.5	4.0	87.5%	3.3	4.0	82.5%	5.9%
trans-1,2-Dichloroethene	3.4	4.0	85.0%	3.5	4.0	87.5%	2.9%
cis-1,2-Dichloroethene	3.6	4.0	90.0%	3.2	4.0	80.0%	11.8%
Chloroform	3.4	4.0	85.0%	3.4	4.0	85.0%	0.0%
1,2-Dichloroethane	4.2	4.0	105%	3.9	4.0	97.5%	7.4%
2-Butanone	14.7	20.0	73.5%	14.1	20.0	70.5%	4.2%
1,1,1-Trichloroethane	3.4	4.0	85.0%	3.4	4.0	85.0%	0.0%
Carbon Tetrachloride	4.0	4.0	100%	3.8	4.0	95.0%	5.1%
Vinyl Acetate	3.1	4.0	77.5%	3.0	4.0	75.0%	3.3%
Bromodichloromethane	3.9	4.0	97.5%	3.4	4.0	85.0%	13.7%
1,2-Dichloropropane	3.6	4.0	90.0%	3.4	4.0	85.0%	5.7%
cis-1,3-Dichloropropene	3.9	4.0	97.5%	3.6	4.0	90.0%	8.0%
Trichloroethene	3.7	4.0	92.5%	3.5	4.0	87.5%	5.6%
Dibromochloromethane	3.5	4.0	87.5%	3.5	4.0	87.5%	0.0%
1,1,2-Trichloroethane	3.7	4.0	92.5%	3.5	4.0	87.5%	5.6%
Benzene	3.7	4.0	92.5%	3.7	4.0	92.5%	0.0%
trans-1,3-Dichloropropene	3.9	4.0	97.5%	3.5	4.0	87.5%	10.8%
2-Chloroethylvinylether	3.2	4.0	80.0%	2.8	4.0	70.0%	13.3%
Bromoform	3.5	4.0	87.5%	3.3	4.0	82.5%	5.9%
4-Methyl-2-Pentanone (MIBK)	17.2	20.0	86.0%	15.5	20.0	77.5%	10.4%
2-Hexanone	17.5	20.0	87.5%	17.4	20.0	87.0%	0.6%
Tetrachloroethene	4.6	4.0	115%	4.7	4.0	118%	2.2%
1,1,2,2-Tetrachloroethane	3.1	4.0	77.5%	2.9	4.0	72.5%	6.7%
Toluene	4.1	4.0	102%	3.8	4.0	95.0%	7.6%
Chlorobenzene	3.9	4.0	97.5%	3.9	4.0	97.5%	0.0%
Ethylbenzene	4.0	4.0	100%	4.1	4.0	102%	2.5%
Styrene	4.0	4.0	100%	4.0	4.0	100%	0.0%
Trichlorofluoromethane	3.7	4.0	92.5%	3.6	4.0	90.0%	2.7%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260B **Sample ID: LCS-112906**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-112906 QC Report No: KG05-Floyd Snider
LIMS ID: 06-23514 Project: DC1-UPLANDS
Matrix: Water DC1

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,1,2-Trichloro-1,2,2-trifluoroetha	3.4	4.0	85.0%	3.4	4.0	85.0%	0.0%
m,p-Xylene	8.6	8.0	108%	8.4	8.0	105%	2.4%
o-Xylene	3.9	4.0	97.5%	4.0	4.0	100%	2.5%
1,2-Dichlorobenzene	3.8	4.0	95.0%	3.7	4.0	92.5%	2.7%
1,3-Dichlorobenzene	3.9	4.0	97.5%	3.9	4.0	97.5%	0.0%
1,4-Dichlorobenzene	3.9	4.0	97.5%	3.8	4.0	95.0%	2.6%
Acrolein	12.3	20.0	61.5%	11.4	20.0	57.0%	7.6%
Methyl Iodide	4.3	4.0	108%	4.3	4.0	108%	0.0%
Bromoethane	3.5	4.0	87.5%	3.4	4.0	85.0%	2.9%
Acrylonitrile	3.2	4.0	80.0%	3.0	4.0	75.0%	6.5%
1,1-Dichloropropene	3.8	4.0	95.0%	3.6	4.0	90.0%	5.4%
Dibromomethane	4.1	4.0	102%	3.5	4.0	87.5%	15.8%
1,1,1,2-Tetrachloroethane	3.8	4.0	95.0%	3.9	4.0	97.5%	2.6%
1,2-Dibromo-3-chloropropane	2.8	4.0	70.0%	3.0	4.0	75.0%	6.9%
1,2,3-Trichloropropane	3.1	4.0	77.5%	3.0	4.0	75.0%	3.3%
trans-1,4-Dichloro-2-butene	3.7	4.0	92.5%	3.3	4.0	82.5%	11.4%
1,3,5-Trimethylbenzene	3.6	4.0	90.0%	3.5	4.0	87.5%	2.8%
1,2,4-Trimethylbenzene	3.7	4.0	92.5%	3.6	4.0	90.0%	2.7%
Hexachlorobutadiene	4.5	4.0	112%	4.4	4.0	110%	2.2%
Ethylene Dibromide	3.7	4.0	92.5%	3.5	4.0	87.5%	5.6%
Bromochloromethane	3.4	4.0	85.0%	3.4	4.0	85.0%	0.0%
2,2-Dichloropropane	4.0	4.0	100%	3.9	4.0	97.5%	2.5%
1,3-Dichloropropane	3.8	4.0	95.0%	3.5	4.0	87.5%	8.2%
Isopropylbenzene	3.4	4.0	85.0%	3.4	4.0	85.0%	0.0%
n-Propylbenzene	4.0	4.0	100%	3.8	4.0	95.0%	5.1%
Bromobenzene	4.2	4.0	105%	3.9	4.0	97.5%	7.4%
2-Chlorotoluene	3.9	4.0	97.5%	3.6	4.0	90.0%	8.0%
4-Chlorotoluene	3.8	4.0	95.0%	3.6	4.0	90.0%	5.4%
tert-Butylbenzene	3.6	4.0	90.0%	3.5	4.0	87.5%	2.8%
sec-Butylbenzene	3.9	4.0	97.5%	3.5	4.0	87.5%	10.8%
4-Isopropyltoluene	3.9	4.0	97.5%	3.5	4.0	87.5%	10.8%
n-Butylbenzene	3.8	4.0	95.0%	3.6	4.0	90.0%	5.4%
1,2,4-Trichlorobenzene	4.0	4.0	100%	4.0	4.0	100%	0.0%
Naphthalene	3.4	4.0	85.0%	3.2	4.0	80.0%	6.1%
1,2,3-Trichlorobenzene	4.1	4.0	102%	3.9	4.0	97.5%	5.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	93.2%	91.5%
d8-Toluene	97.2%	91.8%
Bromofluorobenzene	92.0%	87.0%
d4-1,2-Dichlorobenzene	101%	98.2%

Dakota Creek Industries
Shipyard Facility

Sediment Sampling Data Report

Prepared for

Port of Anacortes
P.O. Box 297
Anacortes, WA 98221-0297

Prepared by

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January 3, 2007

FINAL

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1.0 Introduction

This report has been prepared on behalf of the Port of Anacortes (Port) to present the results of recent sediment quality sampling at the Dakota Creek Industries Shipyard Facility (DCI Basin) in Anacortes, Washington (Figure 1.1). Sediment samples were collected and chemically analyzed to determine the nature and extent of dioxin/furans in the surface sediments of the DCI Basin. This document is consistent with the guidelines provided by the Washington State Department of Ecology (Ecology) in the Sediment Sampling and Analysis Plan Appendix (Ecology 2003) and the Puget Sound Estuary Program (PSEP) guidelines (PSEP 1997). The sediment investigation was performed in accordance with a Sediment Sampling and Analysis Plan (SAP), which was approved by the Ecology in May 2006. The purpose of this investigation was to determine the nature and extent of potential sediment contamination in the DCI Basin resulting from historical uses of the site. Data presented in this report supplements the existing sediment quality data collected at the site as summarized in the *Sediment Quality Analysis Report* (Landau 2003).

The results of the sampling and analysis performed show that concentrations of dioxin/furan compounds in the surface sediments of the DCI Basin are greater than those at representative background locations. Detected dioxin/furan concentrations in all of the samples analyzed showed similar concentration ratios, thus suggesting a common source. Select samples were identified to exceed toxicity based dredged material disposal criteria however none of the samples collected and analyzed exceed the sediment dioxin/furan screening level used for the Former Scott Paper Mill Marine Area.

This report in organized as follows:

- Section 1.0 provides the project background and document organization.
- Section 2.0 provides an overview of the sampling and analysis program, including a description of deviations from the Sediment SAP.
- Section 3.0 summarizes the results of the laboratory testing performed and the results of dioxin/furan data comparisons to applicable data and criteria.
- Section 4.0 summarizes existing surface and subsurface sediment data compared to both Sediment Management Standards (SMS) criteria and Dredge Material Management Program (DMMP) criteria where appropriate.
- Section 5.0 provides references for this document.

Tables and Figures are grouped together following the text and prior to appendices. The appendices include copies of the sample collection forms, background report figures, a sediment sample rationale memorandum, chains of custody, and analytical laboratory reports.

1.1 PROJECT BACKGROUND

The DCI Basin is currently an active shipyard, primarily used for the construction and repair of vessels. The general history and existing conditions of the DCI Basin are described in detail in the following reports:

- *Sediment Quality Analysis*, Dakota Creek Industries Shipyard Facility, Anacortes, Washington (Landau Associates 2003).
- *Dredge Material Characterization*, Dakota Creek Shipyards, Anacortes, Washington (Hart Crowser 2000).

The Port and tenant, Dakota Creek Industries, are currently preparing for redevelopment to both the uplands and offshore areas of the shipyard. The proposed offshore redevelopment construction activities include installation of a new bulkhead and dredging to approximately –35 feet mean lower low water (MLLW). Redevelopment construction is anticipated to begin in July of 2007.

A number of sediment surface and subsurface sediment quality samples have been collected from within the DCI Basin since 1985 (Landau 2003). The data from these investigations are useful in evaluating sources of potential contamination. Ecology has identified a data gap regarding sediment dioxin/furan concentrations because the previous investigations did not evaluate this contaminant since they were focused on the contaminant of concern listings of the Sediment management Standards or the Dredged Material Management Program. Concern has been raised that the Former Scott Paper Mill outfall, that discharged into Guemes Channel, adjacent to the DCI Basin, may have adversely impacted sediment quality with respect to dioxin/furans and therefore, evaluation of dioxin/furans is required by Ecology along with the other Sediment Management Standards contaminants of concern to complete a comprehensive sediment quality evaluation at the site relative to all potential sources. Partial dioxin/furan characterization at the site was completed by Kimberly Clark (Anchor 2004b) to determine the suitability of planned dredged material for open water disposal. Ecology has documented concerns that the existing sediment dioxin/furan analyses may not be representative of the sediment that was potentially directly impacted by the Former Scott Paper Mill outfall discharge. The existing dioxin/furan data are the results of analysis of composite samples collected over an approximately 5-foot subsurface interval. Ecology is concerned that the historical dioxin/furan deposits may have been diluted by mixing of sediments not representative of the Former Scott Paper Mill discharge period during the sample compositing process. To address the Ecology concerns, sediment dioxin/furan characterization was performed on the sample interval determined to be representative of the former outfall discharge period.

1.1.1 Target Sediment Sampling Interval

The actual sedimentation rate of the DCI Basin is unknown, but is evidenced to be low because significant infilling is not observed and routine maintenance dredging is not required. Based on a review of available literature, the Puget Sound typical low sedimentation rate of 0.1 cm/year was assumed for the DCI Basin (Appendix A). Using this assumed rate and the time period during which the Former Scott Paper Mill outfall discharged (approximately 1952 to 1978) (Anchor 2004a) the sediments that would have been directly affected by the outfall discharges are present at 2.7 to 5.3 cm below the mudline. Therefore, Ecology agreed that the upper 10 cm would be the most appropriate sample interval for evaluating potential historical impacts from the outfall discharges and this sampling interval is also compliant with the SMS surface sediment sampling interval. To account for potentially deeper contamination within the basin the 10 to 20 cm interval was also sampled where possible.

2.0 Sediment Sampling and Analysis

Surface sediment samples were collected at nine locations within and adjacent to the DCI Basin as shown in Figure 1.1. Sediment samples were collected in general accordance with the procedures described in the Ecology approved SAP (Floyd|Snider 2006). Deviations from the SAP are described in the following section.

Sediment samples were collected using either a 7-inch or a 14-inch diver-assisted hand corer. If cobbles, gravel, and/or debris were present at the sediment surface that prevented penetration of the 14-inch sampler the 7-inch sampler was used by the diver. The 7-inch sampler collects the surface 0 to 10 cm of sediment and the 14-inch sampler collects the 0 to 20 cm sediment surface interval.

The diver-assisted hand corer was inserted into the upper 10 or 20 cm of the sediment column and brought to the surface for sample processing. The sediment sample was visually classified in accordance with ASTM D 2488. The sediment descriptions, along with the sampling time, sampling coordinates and diver notes were recorded on a sediment sampling collection form (Appendix B). Sediment sample descriptions are summarized in Table 2.1. The sediment was placed in a decontaminated stainless steel bowl and homogenized until the sediment was uniform in color and texture. Appropriate sediment sampling containers were filled with the homogenized sediment, the sample labels completely filled out, and the containers stored on ice.

Sediment samples were stored in an iced cooler and submitted to ARI Laboratory under a chain-of-custody for the following analyses:

- Total Organic Carbon (PSEP)
- Total Solids (USEPA Method 160.3)
- Grain Size (PSEP)
- Dioxin/furan (USEPA Method 8290)

Copies of the chain-of-custody records are included as part of the laboratory reports provided in Appendix C.

Sediment samples were collected from sampling locations DCI06-1 through DCI06-3 and DCI06-5 through DCI06-8 as proposed. The diver was not able to collect a sample at proposed sampling location DCI06-4, located west of the Synchrolift. The diver could not safely reach the proposed location due to lack of visibility, the steep sediment surface drop off under the Synchrolift, and the risk of tangling air supply lines with dock pilling. Therefore, sampling location DCI06-4 was relocated to approximately 35 feet west of the eastern facing front of the “L Dock” (Figure 1.1). An additional surface sediment sample was collected at location designation DCI06-9, as shown on Figure 1.1, to aid in characterizing the surface sediment west of the Former Scott Paper Mill outfall. Sample location coordinates are presented in Table 2.2.

2.1 DEVIATIONS FROM THE SAP

- The diver was not able to collect a sample at proposed sampling location DCI06-4. The diver could not safely reach the proposed location due to lack of visibility, the steep sediment surface drop off under the Synchrolift, and the risk of tangling air supply lines with dock pilling. Therefore, sampling location DCI06-4 was relocated to approximately 35 feet west of the eastern facing front of the "L Dock" as shown in Figure 1.1.
- An additional surface sediment sample was collected at location designation DCI06-9, as shown on Figure 1.1 to compensate for relocation of DCI06-4.
- Due to adverse weather conditions (e.g. strong winds and currents, and rough water conditions) the proposed reference locations within Fidalgo Bay and Padilla Bay could not safely be reached with the diver boat. Therefore, sediment samples were not collected from the reference locations as proposed in the Sediment SAP (Floyd|Snider 2006).
- The sediment samples were not photographed during processing because the necessary equipment was not available at the time of sampling. In lieu of photographs, detailed sediment sample descriptions were prepared as summarized in Table 2.1.

3.0 Dioxin/furan Analysis Results

Results of the dioxin/furan analysis are presented in Figure 3.1.

3.1 DATA QUALITY REVIEW

All data packages were verified at a Level 1 review (also known as a Tier II, or basic review). Analytical data was validated in accordance with:

- EPA CLP National Functional Guidelines for Inorganic Data Review (1994)
- EPA CLP National Functional Guidelines for Organic Data Review (1999)

No qualifiers were added to the analytical results based on the results of the data validation. The dioxin compound OCDD was detected in one of the method blank samples, however, the OCDD concentrations detected in sediment samples were greater than five times the blank concentration, therefore in accordance with the EPA CLP National Functional Guidelines for Organic Data Review the compound results do not require qualification. Data was determined to be of acceptable quality for use as qualified.

3.2 DATA COMPARISON TO BACKGROUND LOCATIONS

As part of this field event sediment samples were not collected from reference locations due to adverse weather. However, the proposed background sampling locations were the same as those sampled by Anchor Environmental, L.L.C. (Anchor) in 2004 as part of the Supplemental Sediment Characterization performed at DCI (Anchor 2004b). Therefore, comparison of the results of dioxin/furan testing performed in this investigation to the dioxin/furan concentrations detected in sediment samples collected from the 2004 reference locations in Fidalgo Bay and Padilla Bay is considered applicable. For this evaluation the results of the dioxin/furan analysis in sediment samples collected from and adjacent to the DCI Basin were directly compared to the 2004 reference location concentrations.

Each of the DCI sediment samples had at least one dioxin/furan congener detected at a concentration greater than that of the reference samples. The most frequently detected congeners and those detected at the highest concentrations were HpCDD, HpCDF, OCDD, and OCDF. HpCDD and OCDD were also previously detected in the 2004 reference location samples (Table 3.2).

3.3 DATA COMPARISON TO TOXICITY EQUIVALENCY FACTORS CRITERION

Complex environmental mixtures such as dioxins and furans are composed of multiple chemical components. The toxicity equivalency methodology can be used to evaluate the toxicity and assess the risks of these complex chemical mixtures that have similar structure-activity relationships. The toxicity equivalency methodology uses toxicity equivalency factors (TEFs) to estimate the potency of congeners in the mixture relative to the index chemical which is the most potent chemical. For dioxin/furan mixtures this chemical is 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The toxicity equivalency methodology is used to calculate the total toxicity

equivalency (TEQ) of the dioxin/furan mixture. This value can then be compared to criteria. To determine the TEQ, first the concentration of each congener in the media is multiplied by the applicable TEF to obtain a toxicity equivalent concentration (TEC). Then the calculated TECs are summed to obtain the TEQ.

Dioxin/furan TEFs, as presented in MTCA (WAC 173-340-708(8)) and DMMP (PSDDA 2000) are based on scientific judgment and supported by empirical data (Table 3.1). Ecology has initiated a rulemaking process to amend the MTCA Cleanup Regulation, which includes amendments to the procedures for establishing cleanup levels for mixtures of polychlorinated dibenzo-p-dioxins/ polychlorinated dibenzo-p-furans and applicable TEFs. Because the rule amendments are still draft, the dioxin/furan data presented in this report were evaluated using the current MTCA and DMMP TEFs. However, the dioxin/furan data were also evaluated using the proposed TEFs for completeness (MTCA SAB 2006; Ecology 2006).

3.3.1 Data Comparison to DMMP Criteria

The DMMP provides guidance for the evaluation and determination of the suitability of dredged material for unconfined, open-water disposal. Included in this approach is chemical testing. DMMP provides criteria to evaluate the results of chemical testing for chemicals of concern (COC) and to determine if biological testing is necessary. The chemicals identified as COCs and those that have criteria generally have the characteristics including; a demonstrated or suspected effect on ecology or human health, one or more present or historical sources, a potential for remaining in a toxic form for long periods in the environment, and a potential for entering the food web. Therefore, although the objective of this investigation was not to determine the suitability of dredge material for disposal, comparison of the dioxin/furan data to DMMP criteria is appropriate as the criteria were derived to assess the potential for sediment toxicity.

DMMP guidance provides two criteria to evaluate dioxin/furan sediment data. Those criteria include the following:

- A bulk sediment 2,3,7,8-TCDD concentration of 5 ng/kg.
- A dioxin/furan TEQ concentration of 15 ng/kg.

To evaluate the results of the dioxin/furan testing, the current MTCA TEFs were used to calculate the congener TECs and the TECs were summed to obtain the dioxin/furan TEQ using the methods described above. If the dioxin/furan congener was not detected one-half of the reporting limit was used to calculate the TEC, in accordance with the requirements outlined in the DMMP guidance for dioxin/furan data evaluation (PSDDA 2000).

The DMMP criterion for 2,3,7,8-TCDD concentration of 5 ng/kg was not exceeded in any of the sediment samples collected (Table 3.3). A total of two sediment samples had TEQ concentrations that exceeded the DMMP criterion of 15 ng/kg. Both samples were 0 to 10 cm surface samples, collected from locations DCI06-4 and DCI06-6. These sample locations are along the “L Dock”, east of the Former Scott Paper Mill outfall. Using the proposed MTCA TEFs to evaluate the dioxin/furan data, the same two sediment samples would exceed the DMMP TEQ criterion.

3.3.2 Data Comparison to Criteria Used at the Former Scott Paper Mill Marine Area

The sediment dioxin/furan screening level that has been identified for the Former Scott Paper Mill Site is called the total 2,3,7,8-TCDD Equivalants. This screening level is equal to a concentration of 3,600 ng/kg (Anchor 2004a). The results of the dioxin/furan testing performed for this investigation were also compared to this sediment screening level. The calculated TEQ values for DCI sediment samples were well below the Former Scott Paper Mill sediment screening level.

4.0 Summary of Existing Data

This section provides an overview of surface sediment quality in the DCI Basin as determined from previous sediment investigations. A total of five sediment quality investigations have been conducted in the DCI Basin for the purposes of dredged material characterization as well as environmental assessments (Hart Crowser 1985, Otten Engineering 1997, Hart Crowser 2000, Weston 2002, and Anchor 2004b). Data from the investigations completed prior to 2004 have been compiled in the *Sediment Quality Analysis* report (Landau 2003).

Surface sediment metals have previously been detected at concentrations that exceed the Sediment Quality Standards (SQS) criteria in only two samples collected in 1997 and 2001 (Otten Engineering 1997; Weston 2002). In two locations, DC-SED-03 and IT004, both copper and zinc exceeded SQS criteria. Additionally, at location DC-SED-03, arsenic and mercury also exceeded SQS criteria. Metal concentrations detected in previous investigations are summarized in Figures presented in the Landau *Sediment Quality Analysis* report and are included in Appendix D.

Semivolatile organic compounds (SVOCs) were detected at concentrations that exceed the SQS criteria in two surface sediment samples located near the former Marine Railway (IT004, DC-SED-03) and in one location situated between the "East Dock" and the "L Dock" (DC-SED-08). High molecular weight polycyclic aromatic hydrocarbons (HPAHs) exceeded SQS in all three of these sampling locations and low molecular weight polycyclic aromatic hydrocarbons (LPAHs) in two locations (IT004 and DC-SED-08). Bis(2-ethylhexyl)phthalate and dibenzofuran were detected at concentrations greater than SQS in one sediment sample location (IT004). SVOC concentrations detected in previous investigations are summarized in Figures presented in the Landau *Sediment Quality Analysis* report and are included in Appendix D.

In 2000 two composite core sediment samples were collected as part of further characterization for dredge material management (Hart Crowser 2000). The DCI Basin was divided into two Dredge Material Management Units (DMMUs), DMMU 1 and DMMU 2. Sediment core samples were collected and composited into one sample for each DMMU (D1-Comp-(A) and D2-Comp-(A)). Core samples from approximately 0 to 4 ft below the surface in DMMU 1 and from approximately 0 to 5 ft below the surface in DMMU 2 were used for the composite sediment core samples. Composite samples were analyzed for all SMS contaminants as well as TBT, pesticides, ammonia, and sulfides. The samples were not analyzed for dioxin/furans. The concentrations of all detected contaminants in DMMU 1 were below SQS criteria. In composite sample D2-Comp-(A), collected from DMMU 2, detected concentrations of several HPAH compounds and the Total HPAH concentration exceeded SQS criteria, but were below CSL criteria. All other detected contaminant concentrations were below SQS criteria. There are no SMS criteria for VOCs or Pesticides; however, VOCs were not detected in either of the composite core samples. Pesticides were either not detected or at low concentrations, slightly above the reporting limits. DMMU 1 was approved for open-water disposal. The sediments below the contact with native till in DMMU 2 were also approved for open-water disposal.

Sediment investigations conducted prior to the Supplemental Dredged Material Characterization conducted by Anchor in 2004, did not analyze for contaminants that could potentially be associated with pulp mill effluent (i.e., dioxin/furans) discharged from the Former Scott Paper

Mill outfall. In 2004, five subsurface sediment cores, each approximately 5 feet in length, were collected to characterize materials in proposed dredging areas by Anchor. As part of the characterization, sediment core samples were analyzed for dioxin/furans. In each sediment core, sediment samples were collected from the 1- to 3-foot or 2- to 3-foot interval. However, the sample interval used did not focus on the sediment sample interval of interest that is representative of the outfall period of discharge. The dioxin/furan concentrations in the sediment cores collected from the DCI and Pier 1 Dredge Material Management Units (DMMUs) were less than both the DMMP criterion for 2,3,7,8-TCDD (5 ng/kg) and the TEQ (15 ng/kg). The complete results of the sediment characterization are provided in the *Sampling and Analysis Data Report* (Anchor 2004b), which is included in Appendix E.

5.0 References

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Dakota Creek Industries
Shipyard Facility

Sediment Sampling Data Report

Tables

FINAL

Table 2.1
Sediment Sample Descriptions

Sample	Depth Interval (cm)	Sample Description	Sample Collection Notes
DCI06-1A	0-10	Soft, dark gray gravelly sand with rounded gravel up to 1 inch in diameter. Approx. 80% shells and shell fragments. Small sheen in sediment, less than 1" wide.	Surface cobbles present and removed by Diver to penetrate with corer. Not able to collect 10 to 20 cm sample due to hard substrate.
DCI06-2A	0-10	Hard, olive gray sandy gravel with rounded gravel and rocks up to 3 inches in diameter with barnacles and algae. Abundant shell fragments.	Gravel and cobbles present. Not able to collect 10 to 20 cm sample due to hard substrate.
DCI06-2D	0-10	Hard, dark gray/olive, gravelly sand with angular and rounded gravel up to 2 inches in diameter. Abundant shell fragments, large 3 inch clam.	Gravel and cobbles present. Not able to collect 10 to 20 cm sample due to hard substrate.
DCI06-3A	0-10	Stiff surface greenish clay with several small polychaete worms. Beneath immediate surface (1 to 2 cm) greenish/gray coarse gravelly sand with shell fragments.	Cobbles, gravel, and debris present. Not able to collect 10 to 20 cm sample due to hard substrate.
DCI06-4A	0-10	Very soft, dark olive/gray to black clayey silt (~5% sand) with 5% angular gravel. Trace shells.	Surface drops off at synchrolift with zero visibility. Lots of water in sample, with possible mixing of intervals. Only able to go 30 to 35 feet west, under pier and synchrolift.
DCI06-4B	10-20	Soft, olive/dark gray, sandy, clayey silt with ~10% sand, small rounded gravel, and angular rock up to 3 inches in diameter. Wood debris up to 4 inches in diameter, some shell fragments.	Surface drops off at synchrolift with zero visibility. Lots of water in sample, with possible mixing of intervals. Only able to go 30 to 35 feet west, under pier and synchrolift.
DCI06-5A	0-10	Soft, olive gray silty clay with black banding (reduced sediment), increased (OL). Wood fibers ~40%. H_2S odor and small shell fragments.	None

Sample	Depth Interval (cm)	Sample Description	Sample Collection Notes
DCI06-5B	10-20	Very soft, olive gray silty clay with black banding (reduced sediment), and less than 10% wood fibers-roots. H_2S odor.	None
DCI06-6A	0-10	Soft/medium stiff black coarse sand with interbedded silty clay and rounded gravel up to 1 to 2 inches in diameter and one large 5-inch rock. Some shell fragments.	Cobbles present (100%) under L dock. Not able to collect 10-20 cm sample due to hard substrate.
DCI06-7A	0-10	Very soft, olive/gray/dark green silty clay with little shell fragments and algae (reddish and green). Faint H_2S odor.	Algae cover is 100% at sediment surface.
DCI06-7B	10-20	Soft, olive/gray/green clayey silt with less than 10% fine sand. Shell fragments. Faint H_2S odor.	Algae cover is 100% at sediment surface.
DCI06-8A	0-10	Dark gray, black gravelly coarse sand with crushed rock up to 3 inches in diameter and abundant shell fragments. Only marine odor.	Very coarse gravel present at surface. Not able to collect 10 to 20 cm sample due to hard substrate.
DCI06-9A	0-10	Dry sand-surface under building/dock adjacent to Port building.	None

Note:
Sediment samples collected using a 7-inch or a 14-inch diver-assisted hand core.

Table 2.2
Sediment Sampling Location Coordinates

Sample ID	Sample Coordinates (NAD 83 State Plane WA N)	
	Northing	Easting
DC106-1	560275	1209237
DC106-2	560230	1209652
DC106-3	560142	1209707
DC106-4	559989	1209715
DC106-5	560097	1209976
DC106-6	559852	1209708
DC106-7	559899	1209971
DC106-8	559756	1209962
DC106-9	NA	NA

Notes:
NA Not available. Sediment sample collected on-shore by hand.
All sediment samples collected on November 17, 2006.

Table 3.1
Summary of Dioxin/furan Toxic Equivalency Factors

Dioxin/Furan Congeners	TEF
1,2,3,4,6,7,8-HpCDD	0.01
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
1,2,3,4,7,8-HxCDD	0.1
1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDD	0.1
1,2,3,7,8,9-HxCDF	0.1
1,2,3,7,8-PeCDD	0.5
1,2,3,7,8-PeCDF	0.05
2,3,4,6,7,8-HxCDF	0.1
2,3,4,7,8-PeCDF	0.5
2,3,7,8-TCDD	1
2,3,7,8-TCDF	0.1
OCDD	0.001
OCDF	0.001

Notes:
TEF Toxic Equivalency Factors

Table 3.2
Summary of Sediment Sampling Results and Comparison to 2004 Reference Samples

Analytes	Sample ID	DCI06-1A	DCI06-2A	DCI06-2-D	DCI06-3A	DCI06-4A	DCI06-4B	DCI06-5A	DCI06-5B	DCI06-6A	DCI06-7A	DCI06-7B	DCI06-8A	DCI06-9A	AN-REF-1-01-SD	AN-REF-2-01-SD
	Sample Date	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	7/13/2004	7/13/2004
	Sample	0 to 10 cm	0 to 10 cm	0 to 10 cm	0 to 10 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	0 to 10 cm	0 to 15 cm	0 to 15 cm
Conventionals (USEPA Method 160.3)																
Total Solids	%	69.5	78.3	78.2	75.5	67	59.6	34.8	42.9	81.9	55.1	57.2	71.1	95.8	58	70.6
Total Organic Carbon[1]	%	1.32	0.641	1.15	0.448	0.883	3.43	4.96	2.88	0.56	1.48	1.06	1.27	0.239	1.17	0.74
Grain Size (PSEP Method)																
Gravel	%	40.5	41.4	15.4	27.4	22	32.7	3.2	1.4	39.1	0.6	2.3	29.4	0	0.02	0.04
Sand, Very Coarse	%	9.7	8.4	10.9	11.9	5.2	4.6	3.3	2.2	10.6	1.6	0.9	6.5	0.1	0.36	0.41
Sand, Coarse	%	6.8	11.8	17.3	10.1	4.5	3.5	3.9	2.5	9.5	1.9	1.7	12.8	2.9	0.47	4.37
Sand, Medium	%	14.7	17.4	33.7	13.8	9	6.8	6	4.1	13.7	3.9	4.5	22.1	78.1	0.74	19.5
Sand, Fine	%	12.2	8.7	11.4	10.4	17.3	14.5	12.1	12.3	16.4	12.5	13.1	10.9	18.7	16.9	24.8
Sand, Very Fine	%	4.4	2.2	2.9	6.2	14.5	10.1	11.8	13	4.4	23.1	20.7	3.9	0	33	5.57
Silt	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.6	30
Silt, Coarse	%	1.5	5.3	2.7	3.7	10.5	7.2	7.7	11.9	1.6	20.7	22.6	3.1	NA	NA	NA
Silt, Medium	%	1.7	0.9	1.1	3.7	4.1	5.6	16.5	12.1	1.3	11.5	12.4	2.9	NA	NA	NA
Silt, Fine	%	1.6	0.8	0.9	2.9	2.6	3.9	7.4	8.8	0.7	5.9	5.7	2	NA	NA	NA
Silt, Very Fine	%	1.3	0.6	0.8	2.3	2.4	2.6	6.2	6.7	0.5	3.8	3.2	1.2	NA	NA	NA
Clay	%	5.6	2.6	2.8	7.6	7.9	8.4	22	24.9	2.3	14.4	13.2	5.3	NA	10.8	6.23
Dioxin/Furan Congeners (USEPA Method 8290)																
1,2,3,4,6,7,8-HpCDD	ng/kg	**20**	2 J	**5**	**18**	**6100** A	**220**	**180**	**9**	**1100** A	**330**	**220**	**310** A	**17**	2.742 J	6.001
1,2,3,4,6,7,8-HpCDF	ng/kg	**3.1** J	1.1 U	0.91 U	**3.6** J	**1000** A	**54**	**29**	1.4 J	**180**	**40**	**23**	**39**	**6.8**	2.5 U	2.5 U
1,2,3,4,7,8,9-HpCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**36**	2	1.3	0.37 U	**7.2**	2.5	2 J	**2.7**	1.1 J	2.5 U	2.5 U
1,2,3,4,7,8-HxCDD	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**28**	1.8	1.8 J	0.37 U	**8.9**	2.1	1.1 J	**2.7**	1 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**28**	1.6	1.4 J	0.37 U	0.44 E	2.5	0.97 E	**3.1**	1 E	2.5 U	2.5 U
1,2,3,6,7,8-HxCDD	ng/kg	1.4 J	1.1 U	0.91 U	1.2 J	**330** A	**11**	**10**	0.68 J	**61** A	**14**	**8.4**	**13**	1 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	0.26 E	1.6	1.4 J	0.37 U	**3.2**	1.5 J	1 J	1.5	1 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDD	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**49**	**3.9**	2.5 J	0.46 J	**21**	**4.8**	2.2	**6.2**	1 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**16**	0.69 J	1 U	0.37 U	**2.8**	0.94 J	0.97 U	0.88 JA	1 U	2.5 U	2.5 U
1,2,3,7,8-PeCDD	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**7.5**	1.1 J	1 J	0.37 U	**5.1**	1.1 J	0.97 U	1.4	1 U	2.5 U	2.5 U
1,2,3,7,8-PeCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	2.5	0.27 I	1.2 J	0.37 U	0.96 JA	0.56 J	0.97 U	2.3	1 U	2.5 U	2.5 U
2,3,4,6,7,8-HxCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**49**	2.3	2 J	0.37 U	**10**	2.4	2.5 J	2.4	1 U	2.5 U	2.5 U
2,3,4,7,8-PeCDF	ng/kg	0.82 U	1.1 U	0.91 U	0.97 U	**11**	1.4	1.3 J	0.49 J	2.3	1.4 J	0.97 U	1.5	1 U	2.5 U	2.5 U
2,3,7,8-TCDD	ng/kg	0.27 AU	0.21 U	0.18 U	0.19 U	0.41 A	0.12 IA	0.25 AU	0.19 AU	0.43 JA	0.11 IA	0.19 U	0.16 JA	0.2 U	1 U	1 U
2,3,7,8-TCDF	ng/kg	0.64 J	0.21 U	0.18 U	0.19 U	0.7	0.83 A	**1.4**	0.74 A	0.43 JA	**1.3**	0.55 J	0.65 A	0.31 J	1 U	1 U
OCDD	ng/kg	**180**	14	**35**	**130**	**53000** N2	**1900**	**1800**	**78**	**10000**	**3100**	**2200**	**2500**	**160**	16.972 J	47.747 B
OCDF	ng/kg	**6.5** J	2.1 U	2.2 J	**5.6**	**1000**	**81**	**29**	2.2 J	**150**	**70**	**54**	**110**	**19**	5 U	5 U
Total HpCDD	ng/kg	**74**	**4.1** J	**20**	**48**	**10000**	**580**	**400**	**33**	**2000**	**840**	**580**	**900**	**31**	2.742	13.324
Total HpCDF	ng/kg	**9.3**	1.1 U	1.3 J	**8.4**	**4700**	**160**	**100**	**3.8**	**640**	**140**	**79**	**170**	**20**	2.5 U	2.5 U
Total HxCDD	ng/kg	**14**	1.1 U	1 J	**18**	**850**	**76**	**48**	**8.1**	**220**	**90**	**49**	**150**	**4.6** J	1.218	2.5 U
Total HxCDF	ng/kg	**5**	1.1 U	0.91 U	**3.7**	**1800**	**34**	**60**	2	**360**	**70**	**32**	**69**	**6**	2.5 U	2.5 U
Total PeCDD	ng/kg	0.96 J	1.1 U	0.91 U	**8.3**	**46**	**24**	**9.7**	**3.8**	**20**	**10**	0.97 U	**10**	1 U	2.5 U	2.5 U
Total PeCDF	ng/kg	**3.1** J	1.1 U	0.91 U	0.97 U	**120**	**20**	**16**	**3.3**	**33**	**17**	**5.4**	**12**	**5.9**	2.5 U	2.5 U
Total TCDD	ng/kg	**4.7**	0.21 U	0.18 U	**14**	**100**	**64**	**12**	**12**	**12**	**20**	**2.1**	**4.6**	0.2 U	1 U	1 U
Total TCDF	ng/kg	**6.3**	0.21 U	0.18 U	0.25	**14**	**17**	**24**	**14**	**4.5**	**11**	**2.7**	**4.7**	**5.2**	1 U	1 U

Notes:

BOLD Indicates dioxin concentration exceeds background sample concentration.
DCI06-2-D Indicates field duplicate sample.
A Detection limit based on signal-to-noise measurement
B Detected in method blank (assumed as this qualifier is from analysis conducted by a previous study)
E PCDE Interference
J Concentration detected is below the calibration range
NA Not applicable.
N2 Value obtained from additional analysis
U Not detected

Table 3.3
Summary of Sediment Dioxin Testing Results and Comparison to DMMP Criteria

	Sample ID		DCI06-1A	DCI06-2A	DCI06-2-D	DCI06-3A	DCI06-4A	DCI06-4B	DCI06-5A	DCI06-5B	DCI06-6A	DCI06-7A	DCI06-7B	DCI06-8A	DCI06-9A	AN-REF-1-01-SD	AN-REF-2-01-SD
	Sample Date		11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	11/17/2006	7/13/2004	7/13/2004
	Sample Depth		0 to 10 cm	0 to 10 cm	0 to 10 cm	0 to 10 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	0 to 10 cm	10 to 20 cm	0 to 10 cm	0 to 10 cm	0 to 15 cm	0 to 15 cm
Analytes	**Units**	**TEF**															
Conventionals (USEPA Method 160.3)																	
Total Solids	%	NA	69.5	78.3	78.2	75.5	67	59.6	34.8	42.9	81.9	55.1	57.2	71.1	95.8	58	70.6
Total Organic Carbon[1]	%	NA	1.32	0.641	1.15	0.448	0.883	3.43	4.96	2.88	0.56	1.48	1.06	1.27	0.239	1.17	0.74
Grain Size (PSEP Method)																	
Gravel	%	NA	40.5	41.4	15.4	27.4	22	32.7	3.2	1.4	39.1	0.6	2.3	29.4	0	0.02	0.04
Sand, Very Coarse	%	NA	9.7	8.4	10.9	11.9	5.2	4.6	3.3	2.2	10.6	1.6	0.9	6.5	0.1	0.36	0.41
Sand, Coarse	%	NA	6.8	11.8	17.3	10.1	4.5	3.5	3.9	2.5	9.5	1.9	1.7	12.8	2.9	0.47	4.37
Sand, Medium	%	NA	14.7	17.4	33.7	13.8	9	6.8	6	4.1	13.7	3.9	4.5	22.1	78.1	0.74	19.5
Sand, Fine	%	NA	12.2	8.7	11.4	10.4	17.3	14.5	12.1	12.3	16.4	12.5	13.1	10.9	18.7	16.9	24.8
Sand, Very Fine	%	NA	4.4	2.2	2.9	6.2	14.5	10.1	11.8	13	4.4	23.1	20.7	3.9	0	33	5.57
Silt	%	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.6	30
Silt, Coarse	%	NA	1.5	5.3	2.7	3.7	10.5	7.2	7.7	11.9	1.6	20.7	22.6	3.1	NA	NA	NA
Silt, Medium	%	NA	1.7	0.9	1.1	3.7	4.1	5.6	16.5	12.1	1.3	11.5	12.4	2.9	NA	NA	NA
Silt, Fine	%	NA	1.6	0.8	0.9	2.9	2.6	3.9	7.4	8.8	0.7	5.9	5.7	2	NA	NA	NA
Silt, Very Fine	%	NA	1.3	0.6	0.8	2.3	2.4	2.6	6.2	6.7	0.5	3.8	3.2	1.2	NA	NA	NA
Clay	%	NA	5.6	2.6	2.8	7.6	7.9	8.4	22	24.9	2.3	14.4	13.2	5.3	NA	10.8	6.23
Dioxin/Furan Congeners (USEPA Method 8290)																	
1,2,3,4,6,7,8-HpCDD	ng/kg	0.01	20	2 J	5	18	6100 A	220	180	9	1100 A	330	220	310 A	17	2.742 J	6.001
1,2,3,4,6,7,8-HpCDF	ng/kg	0.01	3.1 J	1.1 U	0.91 U	3.6 J	1000 A	54	29	1.4 J	180	40	23	39	6.8	2.5 U	2.5 U
1,2,3,4,7,8,9-HpCDF	ng/kg	0.01	0.82 U	1.1 U	0.91 U	0.97 U	36	2	1.3	0.37 U	7.2	2.5	2 J	2.7	1.1 J	2.5 U	2.5 U
1,2,3,4,7,8-HxCDD	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	28	1.8	1.8 J	0.37 U	8.9	2.1	1.1 J	2.7	1 U	2.5 U	2.5 U
1,2,3,4,7,8-HxCDF	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	28	1.6	1.4 J	0.37 U	0.44 E	2.5	0.97 E	3.1	1 E	2.5 U	2.5 U
1,2,3,6,7,8-HxCDD	ng/kg	0.1	1.4 J	1.1 U	0.91 U	1.2 J	330 A	11	10	0.68 J	61 A	14	8.4	13	1 U	2.5 U	2.5 U
1,2,3,6,7,8-HxCDF	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	0.26 E	1.6	1.4 J	0.37 U	3.2	1.5 J	1 J	1.5	1 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDD	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	49	3.9	2.5 J	0.46 J	21	4.8	2.2	6.2	1 U	2.5 U	2.5 U
1,2,3,7,8,9-HxCDF	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	16	0.69 J	1 U	0.37 U	2.8	0.94 J	0.97 U	0.88 JA	1 U	2.5 U	2.5 U
1,2,3,7,8-PeCDD	ng/kg	0.5	0.82 U	1.1 U	0.91 U	0.97 U	7.5	1.1 J	1 J	0.37 U	5.1	1.1 J	0.97 U	1.4	1 U	2.5 U	2.5 U
1,2,3,7,8-PeCDF	ng/kg	0.05	0.82 U	1.1 U	0.91 U	0.97 U	2.5	0.27 I	1.2 J	0.37 U	0.96 JA	0.56 J	0.97 U	2.3	1 U	2.5 U	2.5 U
2,3,4,6,7,8-HxCDF	ng/kg	0.1	0.82 U	1.1 U	0.91 U	0.97 U	49	2.3	2 J	0.37 U	10	2.4	2.5 J	2.4	1 U	2.5 U	2.5 U
2,3,4,7,8-PeCDF	ng/kg	0.5	0.82 U	1.1 U	0.91 U	0.97 U	11	1.4	1.3 J	0.49 J	2.3	1.4 J	0.97 U	1.5	1 U	2.5 U	2.5 U
2,3,7,8-TCDD	ng/kg	1	0.27 AU	0.21 U	0.18 U	0.19 U	0.41 A	0.12 IA	0.25 AU	0.19 AU	0.43 JA	0.11 IA	0.19 U	0.16 JA	0.2 U	1 U	1 U
2,3,7,8-TCDF	ng/kg	0.1	0.64 J	0.21 U	0.18 U	0.19 U	0.7	0.83 A	1.4	0.74 A	0.43 JA	1.3	0.55 J	0.65 A	0.31 J	1 U	1 U
OCDD	ng/kg	0.001	180	14	35	130	53000 N2	1900	1800	78	10000	3100	2200	2500	160	16.972 J	47.747 B
OCDF	ng/kg	0.001	6.5 J	2.1 U	2.2 J	5.6	1000	81	29	2.2 J	150	70	54	110	19	5 U	5 U
Total HpCDD	ng/kg	NA	74	4.1 J	20	48	10000	580	400	33	2000	840	580	900	31	2.742	13.324
Total HpCDF	ng/kg	NA	9.3	1.1 U	1.3 J	8.4	4700	160	100	3.8	640	140	79	170	20	2.5 U	2.5 U
Total HxCDD	ng/kg	NA	14	1.1 U	1 J	18	850	76	48	8.1	220	90	49	150	4.6 J	1.218	2.5 U
Total HxCDF	ng/kg	NA	5	1.1 U	0.91 U	3.7	1800	34	60	2	360	70	32	69	6	2.5 U	2.5 U
Total PeCDD	ng/kg	NA	0.96 J	1.1 U	0.91 U	8.3	46	24	9.7	3.8	20	10	0.97 U	10	1 U	2.5 U	2.5 U
Total PeCDF	ng/kg	NA	3.1 J	1.1 U	0.91 U	0.97 U	120	20	16	3.3	33	17	5.4	12	5.9	2.5 U	2.5 U
Total TCDD	ng/kg	NA	4.7	0.21 U	0.18 U	14	100	64	12	12	12	20	2.1	4.6	0.2 U	1 U	1 U
Total TCDF	ng/kg	NA	6.3	0.21 U	0.18 U	0.25	14	17	24	14	4.5	11	2.7	4.7	5.2	1 U	1 U
Calculated Dioxin/Furan TEQ	ng/kg	NA	1.44	1.12	0.99	1.38	**185.2**	8.4	7.4	0.91	**38.0**	11.2	7.03	10.9	1.48	2.81	2.87

Notes:

The DMMP criterion for 2,3,7,8-TCDD of 5 ng/kg was not exceeded in any of the sediment samples collected.
TEFs were obtained from the DMMP procedures document (PSDDA 2000).

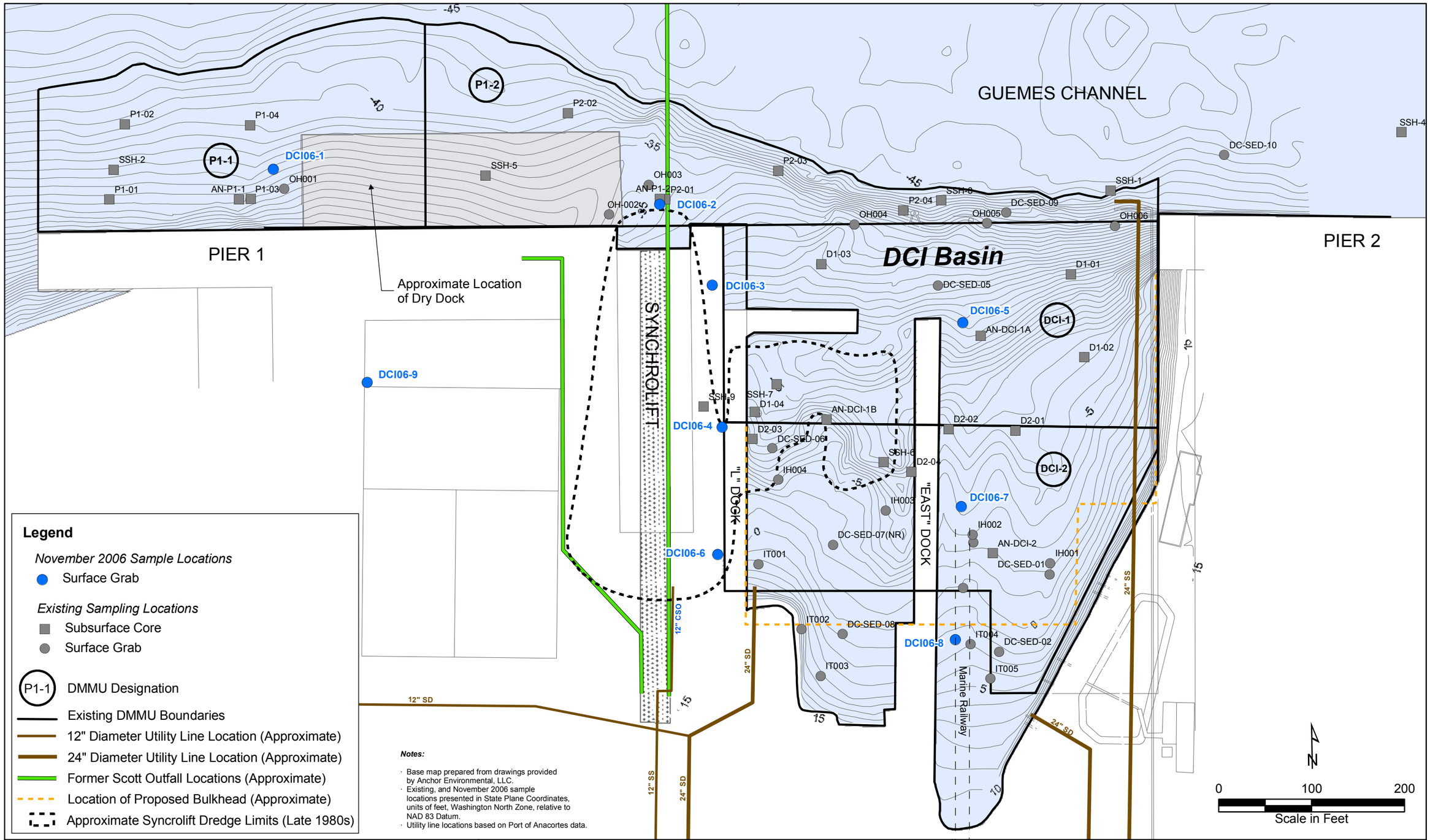
1 PSEP Method (Plumb, 1981)
DCI06-2-D Indicates field duplicate sample.
BOLD TEC conentrations indicate exceedance fo the TEC DMMP criterion of 15 ng/kg.
A Detection limit based on signal-to-noise measurement.
B Detected in method blank (assumed as this qualifier is from analysis conducted by a previous study).
CDD chlorinated dibenzodioxins.
CDF chlorinated dibenzofurans.
E PCDE Interference.
J Concentration detected is below the calibration range.
NA Not applicable
N2 Value obtained from additional analysis.
TEF Toxicity Equivalency Factors.
TEQ Total Toxicity Equivalence
U Not detected.

Dakota Creek Industries
Shipyard Facility

Sediment Sampling Data Report

Figures

FINAL



Legend

November 2006 Sample Locations
- Surface Grab

Existing Sampling Locations
- Subsurface Core
- Surface Grab

P1-1 DMMU Designation

Existing DMMU Boundaries

12" Diameter Utility Line Location (Approximate)

24" Diameter Utility Line Location (Approximate)

Former Scott Outfall Locations (Approximate)

Location of Proposed Bulkhead (Approximate)

Approximate Syncrolift Dredge Limits (Late 1980s)

Notes:

- Base map prepared from drawings provided by Anchor Environmental, LLC.
- Existing, and November 2006 sample locations presented in State Plane Coordinates, units of feet, Washington North Zone, relative to NAD 83 Datum.
- Utility line locations based on Port of Anacortes data.

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Sediment Sampling Data Report
Dakota Creek Shipyard
Port of Anacortes, Washington

Figure 1.1
Sediment Sampling Locations

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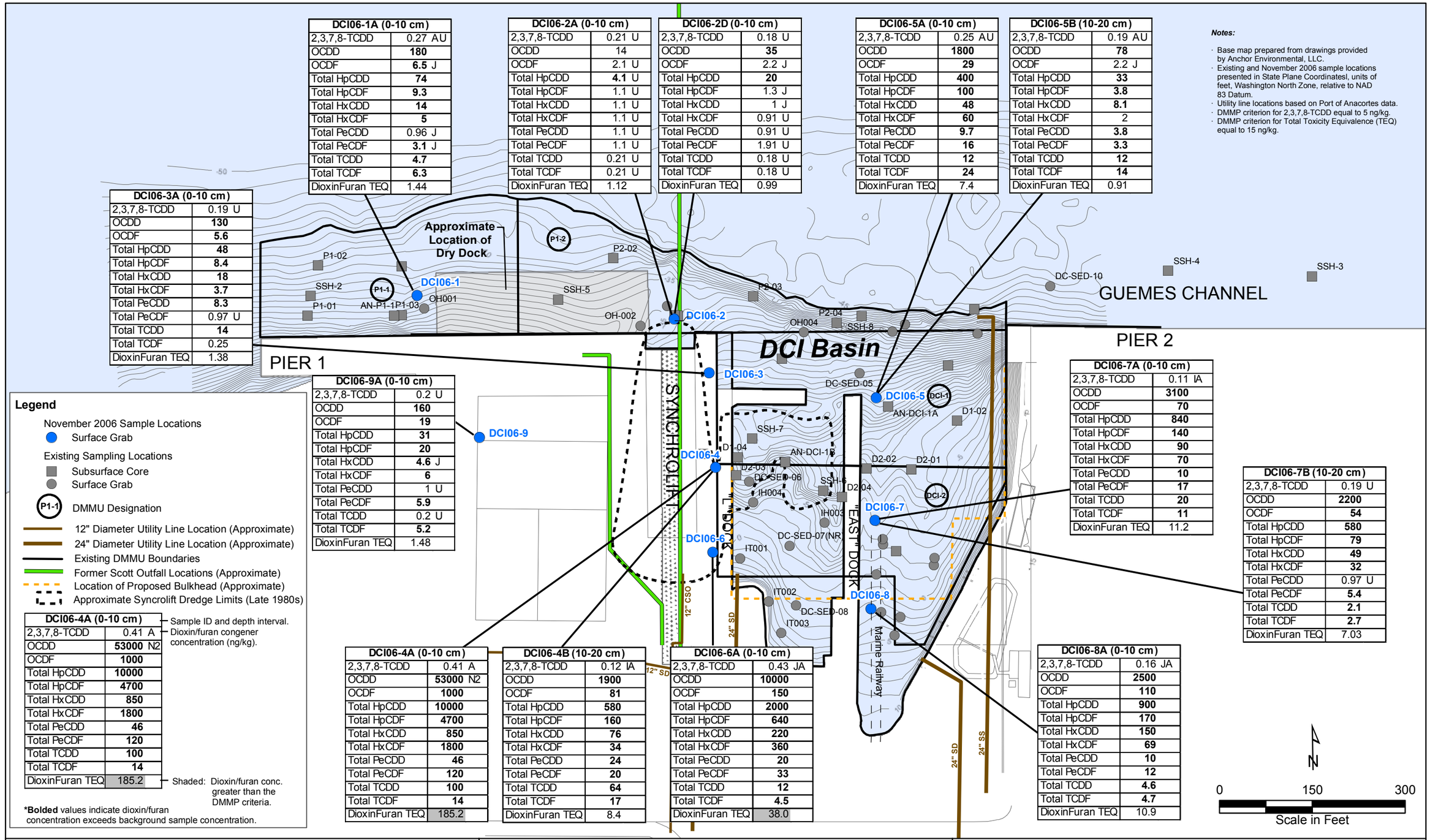

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Sediment Sampling Data Report
Dakota Creek Shipyard
Port of Anacortes, Washington

Figure 3.1
Dioxin/furan Sediment Results

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Dakota Creek Industries
Shipyard Facility

Sediment Sampling Data Report

Appendix A
Sediment Sample Interval Memorandum

FINAL

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Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101-2341
tel: 206.292.2078 fax: 206.682.7867

DAKOTA CREEK SHIPYARD BASIN SAMPLING INTERVAL

An outfall from the former Scott Mill facility existed within the Dakota Creek Shipyard basin (Basin) from approximately 1952 to 1978. Determination of potential environmental impacts to the basin resulting from the historical outfall discharges requires sampling of sediments deposited during the discharge period. The proposed sampling interval is based on assumptions regarding the sedimentation rate within the Basin.

Sedimentation within the Dakota Creek Shipyard Basin

Data on a specific sedimentation rate within the Basin does not exist. However, empirical data indicate the rate of sedimentation within Basin is low. Evidence for this conclusion is as follows:

- Materials comprising the upper several feet of the sediment column are coarse-grained gravels and sands. In northern Puget Sound, sediments of this nature are typically associated with glacial deposition when not situated near an alternate source such as a river delta. A low sedimentation rate is evidenced by the presence of these glacially derived materials near the surface of the sediment column. In a less energetic depositional environment, the glacial deposits would typically be covered by more recent, fine-grained sediments as is observed in nearby Fidalgo Bay.
- The low sedimentation rates are most likely the result of the high current velocities within Guemes Channel. Propeller wash, and movement of the synchrolift and drydock also contribute to the dynamic environment of the DCI basin resulting in a low sedimentation rate.
- Low sedimentation rates are also evidenced by the dredging history of the DCI basin. Dredging was performed as part of construction of the Synchrolift and to clear the berthing approach to Pier 2. Both historical dredging events are visually apparent in recent bathymetry surveys of the site and have not required additional maintenance dredging. These observations strongly suggest significant infilling is not occurring within or immediately outside the Basin.

Regional Sedimentation Rates

Review of available literature indicates regional sedimentation rates are highly variable and are a function of the depositional energy within the environment sampled.

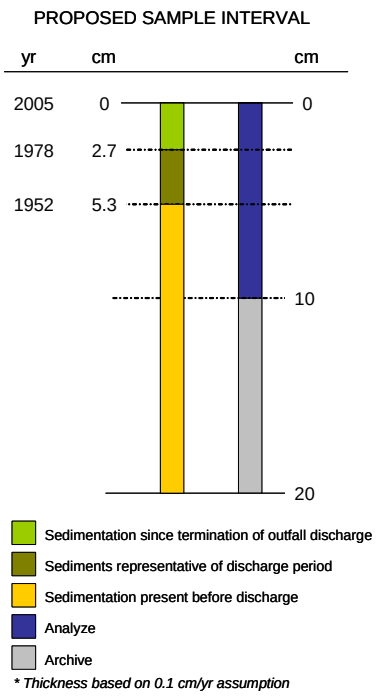
- Typical measured sedimentation rates ranged from 0.1 to 2.4 cm/yr but can be lower, and potentially negative, in high energy and erosional areas.
- Sedimentation rate data were typically collected to evaluate long-term chemical trends and therefore, were only available in lower energy depositional environments.
- No sedimentation rate data were available for shipyard or similar environments. This result was expected given sedimentation rate determination relies on evaluation of undisturbed sediment column samples.

Location	Sedimentation Rate (cm/yr)	Reference
Padilla Bay	0.36	Gwozdz, R. WWU MS Research: Sediment accretion in eelgrasses. NOAA, NERR Padilla Bay Program.
Puget Sound (typical range)	0.1 to 2.4	Carpenter, R., M. L. Peterson, and J. T. Bennett. 1985. 210 Pb-Derived sediment accumulation and mixing rates for the greater Puget Sound Region. Marine Geology. 64:291-312. Shell, W.R., and A. Nevissi. 1977. Heavy metals from waste disposal in central Puget Sound. ES and T. Vol. 11(9):887-893. Crecelius et al. 1975. Geochemistries of arsenic, antimony, mercury, and related elements in sediments in Puget Sound. ES and T. Vol. 9(4):325-333.

PROPOSED SEDIMENT SAMPLING INTERVAL

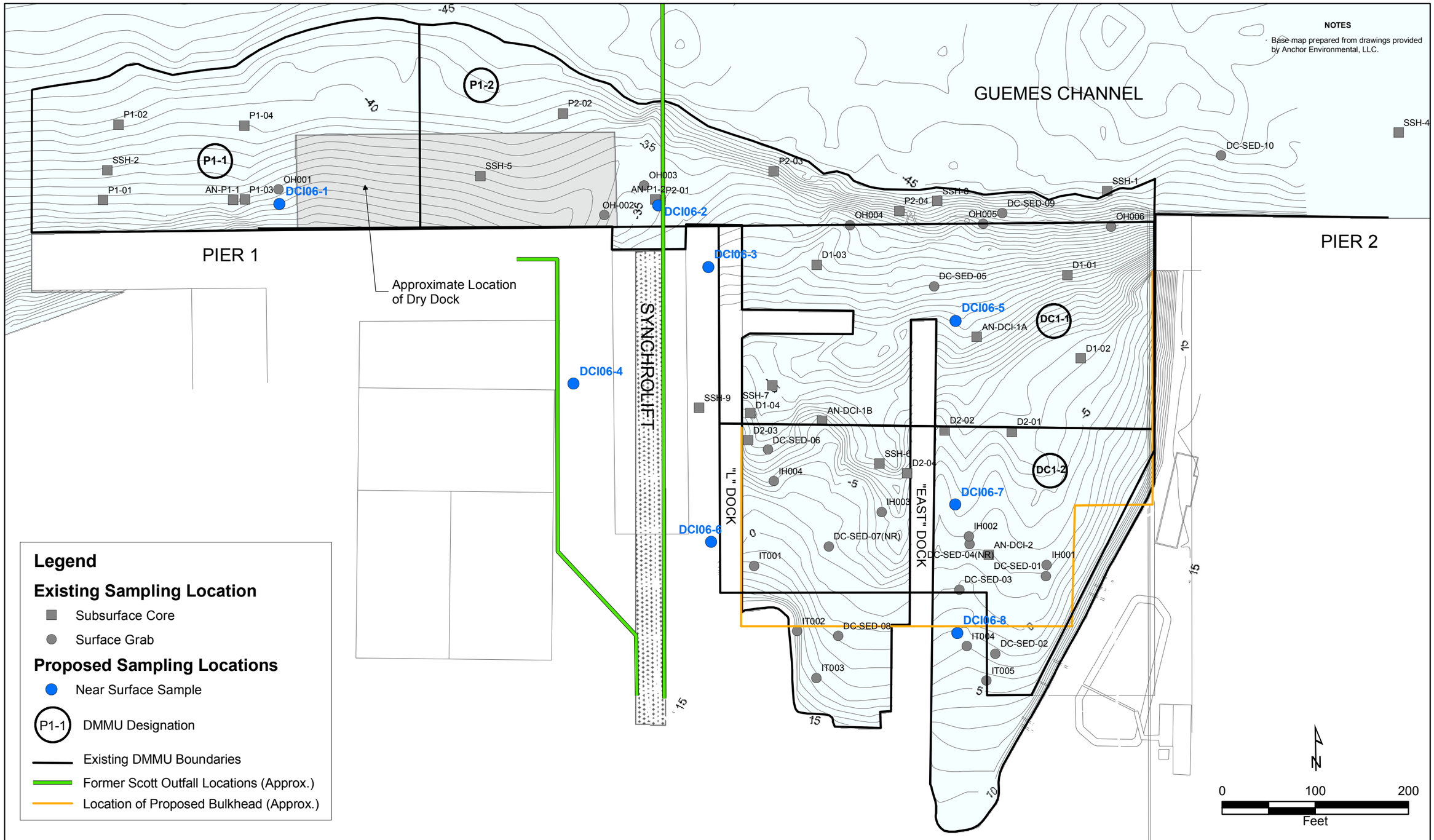
Given the actual sedimentation rate of the Basin is unknown but evidenced to be low, the Puget Sound typical-low range of 0.1 cm/yr is assumed.

- Based on this assumed sedimentation rate, the interval with the highest potential to have been impacted by the 26 years of Scott Mill outfall discharge is 2.7 to 5.3 cm below mudline.
- Sampling of the upper 10 cm is appropriate for evaluation of potential historical contamination and compliance with the Sediment Management Standards. This interval accounts for variability in sedimentation rate and potential redistribution of sediments from scour.
- To conservatively account for assumed higher sedimentation rates within the Basin, the 10 to 20-cm interval will also be sampled and archived for later analysis if necessary.
- No inner-tidal sediment samples above elevation 2 ft MLLW are proposed because the inner-tidal area is well mixed, with homogenized sediment.



PROPOSED SAMPLING LOCATIONS

Sample	Location	Rationale
DCI06-1	West of Dry Dock, DMMU (P1-1)	Confirm DMMU PSDDA Characterization Characterize area of former outfall location
DCI06-2	East of Dry Dock, DMMU (P1-2)	Confirm DMMU PSDDA Characterization Characterize area of former outfall location
DCI06-3	East of Synchrolift, under pier	Characterize area of former outfall location
DCI06-4	West of Synchrolift, bank sample	Characterize area of former outfall location
DCI06-5	DCI Basin, DMMU (DC1-1)	Confirm DMMU PSDDA Characterization
DCI06-6	East of Synchrolift, under pier	Characterize area of former outfall location
DCI06-7	DCI Basin, DMMU (DC1-2)	Confirm DMMU PSDDA Characterization
DCI06-8	DCI Basin, inner-tidal area	Characterize sediments south of the proposed bulkhead that will remain in place following redevelopment



Legend

Existing Sampling Location

- Subsurface Core
- Surface Grab

Proposed Sampling Locations

- Near Surface Sample
- P1-1 DMMU Designation
- Existing DMMU Boundaries
- Former Scott Outfall Locations (Approx.)
- Location of Proposed Bulkhead (Approx.)

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Port of Anacortes- Dakota Creek Shipyard
Anacortes, Washington

Existing and Proposed Sediment Sampling Locations

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EXHIBIT - H

Toxics Cleanup Program Policy

Policy 840

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Resource Contact: Policy and Technical Support Staff *Effective* August 1, 2005
References. WAC 173-340-840(5) *Revised* September 9, 2005
http://www.ecy.wa.gov/eim/
http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm
http://www.ecy.wa.gov/biblio/0309043.html
Replaces: Procedure 840

Policy 840: Data Submittal Requirements

Purpose: Contaminated site investigations and cleanups generate a large volume of environmental monitoring data that need to be properly managed to facilitate regulatory decisions and access to this data by site owners, consultants, and the general public. The purpose of this policy is to describe the requirements for submitting environmental monitoring data generated/collected during the investigation and cleanup of contaminated sites under the Model Toxics Control Act (MTCA) and the Sediment Management Standards.

Application: This policy applies to Ecology staff, potentially liable parties, prospective purchasers, state and local agencies, and Ecology contractors that investigate or manage the cleanup of contaminated sites.

1. Unless Otherwise Specified by Ecology, all Environmental Monitoring Data Generated during Contaminated Site Investigations and Cleanups shall be Required to be Submitted to Ecology in both a Written and Electronic Format.

Environmental monitoring data include biological, chemical, physical, and radiological data generated during site investigations and cleanups under the Model Toxics Control Act Cleanup Regulation (WAC 173-340) and the Sediment Management Standards (WAC 173-204).

Data generated/collected during site investigations and cleanups conducted under an order, agreed order or consent decree, permit, grant, loan, contract, interagency agreement, memorandum of understanding or during an independent remedial action, are considered environmental monitoring data under this policy.

Data generated/collected for non site-specific studies, site hazard assessments that result in no further action and initial site investigations are not considered environmental monitoring data under this policy.

2. Orders, Agreed Orders, Consent Decrees, or Permits Issued After the Effective Date of this Policy Shall Include a Condition that Site-Specific Data be Submitted in Compliance with this Policy.

Reports on such work that do not include documentation that the data have been submitted in compliance with this policy shall be deemed incomplete and a notice of such provided to the

submitter. These reports generally should not be reviewed until that information is provided. The assistant attorney general assigned to the site should be consulted in these situations.

3. Reports on Independent Remedial Actions Submitted for Review After October 1, 2005, Under Ecology's Voluntary Cleanup Program Shall Not be Reviewed Until the Data Have Been Submitted in Compliance with this Policy.

Such reports shall be deemed incomplete, and a notice to this effect provided to the submitter.

4. Grants, Contracts, Interagency Agreements or Memoranda of Understanding Issued After the Effective Date of this Policy Shall Include a Condition that Site-Specific Data be Submitted in Compliance with this Policy.

Reports on such work shall not be accepted as complete until the data have been submitted in compliance with this policy. If a payment or transfer of funds is involved in the transaction, the relevant payment or transfer shall be withheld until this requirement has been met.

Example language to include in these documents is attached in Appendix A.

5. Data Generated During Upland Investigations and Cleanups Shall be Submitted Electronically Using Ecology's Environmental Information Management System (EIM).

EIM is Ecology's main database for environmental monitoring data. Proper submission of data through this system meets the requirement of submitting such data in an electronic format. Electronic data shall be submitted to Ecology simultaneously with the accompanying printed report.

Additional information on EIM, including instructions for data submittal, can be found on Ecology's EIM web site at http://www.ecy.wa.gov/eim/. TCP's EIM Coordinator also is available for technical assistance to site managers and consultants using EIM.

6. Data Submitted Electronically Using EIM Shall be Checked by the Toxics Cleanup Program's EIM Coordinator Prior to Loading the Data into EIM.

Normally, notice that data have been submitted through EIM will come to TCP's EIM Coordinator. Upon receipt of such a notice the EIM Coordinator should notify the site manager. Similarly, if the Ecology site manager receives a notice of an EIM submittal, they should notify TCP's EIM Coordinator. Upon receipt of the data, TCP's EIM Coordinator reviews the submittal for quality control and officially loads the data into the system.

7. Data Generated During Sediment Investigations and Cleanups shall be Submitted Electronically Using Ecology's Sediment Quality Information System (SEDQUAL).

SEDQUAL is Ecology's data management system for sediment-related data. Proper submission of data through this system meets the requirement of submitting such data in an electronic format. Electronic data shall be submitted to Ecology simultaneously with the accompanying printed report.

8. Sediment Sampling Data Shall be Submitted to Ecology Using the SEDQUAL Data Entry Templates.

At a minimum, the following SEDQUAL data entry templates must be completed:

1. **Reference & Bibliography:** Describes lab reports and publications that relate to the data being entered;
2. **Survey:** Sample number;
3. **Station:** Specifies geographic location of the sediment sample. Sample latitude/longitude coordinates must be entered using the North American Datum of 1983 in U.S. Survey feet (NAD 83, U.S. feet);
4. **Sample:** Describes sample characteristics such as depth; and
5. **Sediment Chemistry:** Reports chemical concentration data in dry weight units.

The following additional templates must also be completed where these measurements/observations have been made:

1. **Bioassay:** Bioassay test results;
2. **Bioassay Control:** Bioassay control test results;
3. **Benthic Infauna:** Species abundance & diversity;
4. **Tissue:** Describes the organism collected;
5. **Bioaccumulation:** Reports tissue chemical concentrations; and
6. **Histopathology:** Reports tissue pathology such as tumors or lesions.

9. Electronic Data Formats Shall be Verified to be Compatible with SEDQUAL Prior to Submittal.

Because SEDQUAL uses ASCII protocol and comma delimited text files, data format verification shall be conducted prior to submittal to Ecology. Data shall be verified by downloading the SEDQUAL database, importing the data into the database, correcting errors, and then exporting the corrected templates.

For additional information on sediment sampling and analysis plan requirements, see Ecology publication 03-09-043 "Sediment Sampling and Analysis Plan Appendix", April, 2003. A copy of this document can be obtained from Ecology's publication office or downloaded from the following web site: http://www.ecy.wa.gov/biblio/0309043.html
Additional information on SEDQUAL can be found at: http://www.ecy.wa.gov/programs/tcp/smu/sedqualfirst.htm. TCP's SEDQUAL Coordinator is also available for technical assistance to site managers and consultants using SEDQUAL.

10. Sediment Sampling Data Shall Also be Submitted to Ecology in a Printed Report.

Printed reports shall present the data in both dry weight and total organic carbon normalized units in data tables that compare the results to applicable state regulatory criteria.

11. Data Submitted Electronically Using SEDQUAL Shall be Checked by the Toxics Cleanup Program's SEDQUAL Coordinator Prior to Loading the Data into SEDQUAL.

Normally, SEDQUAL data submittals will come to TCP's SEDQUAL Coordinator. Upon receipt of a submittal, the Coordinator should notify the site manager. Similarly, if the Ecology site manager receives a SEDQUAL submittal, they should notify TCP's SEDQUAL Coordinator. Upon receipt of the data, TCP's SEDQUAL Coordinator reviews the submittal for quality control and officially loads the data into the system.

Approved

James J. Pendowski, Program Manager
Toxics Cleanup Program

Policy Disclaimer: This policy is intended solely for the guidance of Ecology staff. It is not intended, and cannot be relied on, to create rights, substantive or procedural, enforceable by any party in litigation with the state of Washington. Ecology may act at variance with this policy depending on site-specific circumstances, or modify or withdraw this policy at any time.

APPENDIX A: MODEL GRANT AND PERMIT CONDITION

The following condition is to be inserted in permits, grants, loans, contracts, interagency agreements, memorandum of understandings where site-specific environmental monitoring data is expected to be generated:

All sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840: Data Submittal Requirements. Electronic submittal of data is not required for site hazard assessments that result in no further action and initial site investigations. (FOR GRANTS & CONTRACTS ADD: Failure to properly submit sampling data will result in Ecology withholding payment and could jeopardize future grant funding.)

EXHIBIT - I

PORT OF ANACORTES DAKOTA CREEK SITE
APPLICABLE RELEVANT AND APPROPRIATE REQUIREMENTS

Chapter 70.105D (Model Toxics Control Act, and Chapter 173-340 WAC (MTCA Regulations)

Chapter 173-204 WAC (Sediment Management Standards)

Core of Engineers JARPA Permit

Chapter -197-11 WAC (State Environmental Policy Act)
Chapter 43.21C RCW

Chapter 90.48 RCW (State Water Pollution Control Act)

Chapter 70.105 RCW (Washington State Hazardous Waste Management Act), and
Chapter 173-303 WAC (State Dangerous Waste Regulations)

Chapter 70.95 RCW (Solid Waste Management-Reduction and Recycling)

Chapter 173-201A WAC (Washington Surface Water Quality Standards)

Shoreline Management Act, Chapter 173-14-28 WAC

National Toxics Rule: 40 CFR 131.36.

Chapter 173-160 RCW (Minimum Standards for Construction and Maintenance of Wells)

Occupational Safety and Health Act (OSHA), 29 CFR Subpart 1910.120

Washington Industrial Safety and Health Act (WISHA)