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6 July 2011

Mr. Chris Maurer Department of Ecology Southwest Regional Office PO Box 47775 Olympia, WA 98504-7775

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DEPT OF ECOLOGY

Toxics Cleanup Program

Dear Mr. Maurer:

Regarding: Site Investigation Report for the Short Stop 1 Site, 6317 California Avenue SW, Seattle, WA

Facility ID No. 92888299; VCP Project No. NW1610

This letter report is submitted to you for your review on behalf of Mr. Bud Pontius, one of the coowners of the subject property. This latest environmental investigation has been performed under the Voluntary Cleanup Program. It was based on the work plan submitted to you, dated 5 January 2011 by Coles Environmental Consulting (CEC, 2011). This report documents the results from the February 2011 sampling of soils from seven push probes (one converted into monitoring well MW-6) and a full round of groundwater sampling performed 22-23 March 2011.

The purpose of the investigation was to fill several data gaps concerning: 1) subsurface conditions at the former gasoline tanks' pit; 2) the current status of vadose-soil contamination near the dry cleaner; and 3) the groundwater conditions off site in the downgradient direction from the dry cleaner. Investigating the former UST excavation pit fills a key data gap because of the lack of documentation for the 1991 UST decommissioning and subsequent cleanup effort.

Portions of the background information and the site setting provided in a previous report, dated 9 April 2008 (CEC, 2008), will be repeated herein for the reader's convenience. This earlier report described the results from the initial groundwater monitoring effort conducted for four quarters during 2007. Subsequent monitoring rounds were conducted in August 2008 and January 2009 and in March 2011, as mentioned above.

#### **Background**

Contaminated soil from a UST decommissioning was remediated on site during mid April 1991 according to a Phase II report prepared by Stemen Environmental, Inc. (Stemen, 2002). Further, releases of dry-cleaning wastes also were noted during the Phase II investigation. Samples of soil and groundwater collected on 25 September 2001 as part of the Phase II investigation confirmed the release of gasoline and halogenated hydrocarbons. Direct-push probes were used for the sampling operation and groundwater grab samples were collected from the probes.

A subsequent investigation was initiated by Stemen Environmental, Inc. during March 2003 (Stemen, 2003a). Five monitoring wells were installed on 5-6 March 2003. The wells all had a depth of ap-

proximately 32 feet below ground surface (bgs). After conducting the first groundwater monitoring round, the report stated that no gasoline or volatile organic compounds (VOCs) were detected in any of the five samples. However, the laboratory report attached to Stemen's report indicated that MW-3 contained 2.8  $\mu$ g/l PCE. The boring logs included in the report indicated that the subsurface is dominated by fine to medium sands with traces of silt.

The second groundwater monitoring round was performed by Stemen on 23 July 2003. The letter report for this second round was dated 25 July 2003 (Stemen, 2003b). This report reversed the labels for MW-4 and MW-5, compared to the previous report. The well monuments are stamped in a manner consistent with the earlier report (i.e., MW-5 is the western-most well at the lowest topography of the five wells and MW-4 is the well near the east [front] door of the dry cleaner, in the parking lot). Reported PCE concentrations ranged from  $1.7 \mu g/l$  (MW-1) to  $74 \mu g/l$  (MW-2).

The third groundwater monitoring round was performed by Stemen on 7 December 2003. The letter report for this third round was dated 15 December 2003 (Stemen, 2003c). This report continued the reversed labels for MW-4 and MW-5, as noted above for the second monitoring round report. The stated PCE concentrations ranged from not-detected (MW-1) to 39  $\mu$ g/l (MW-5).

No post Stemen environmental investigations are known to have been conducted at the site until the quarterly groundwater monitoring effort was restarted in February 2007 by CEC. Thus, the five monitoring wells were not sampled for over three years. This hiatus did allow the natural attenuation process an opportunity to reduce the concentrations of PCE in the groundwater. Subsequent sampling rounds were conducted by CEC in August 2008 and January 2009. A letter report prepared by CEC documented the results from the four quarterly groundwater monitoring rounds conducted in 2007 (CEC, 2008) and a brief summary report was prepared after the 2008 and 2009 rounds were completed (CEC, 2009).

#### **Site Setting**

The subject site is located about 500 feet northwest of the intersection of California Avenue SW and Fauntleroy Way SW in West Seattle, Washington. Location details are as follows:

NW quarter of Section 26, Township 24 North, Range 3 East 47° 32' 45.90" N; 122° 23' 15.16" W **5** 46 085.63 m East; **52** 66 032.90 m North.

Figure 1 is a recent aerial photograph of the subject site and the immediately surrounding area (dated 20 June 2010 from Google Earth). It shows the subject site with the approximate property boundary outlined in yellow. South of the southern boundary is SW Eddy Street, which is an undeveloped right-of-way. The topography of the site slopes in the direction of SW Eddy Street.

Figure 2 is a topographic map of the area surrounding the subject property. The elevation of the site is approximately 68 feet above mean sea level (amsl). CEC added a blue line to the map to highlight the approximate surface water drainage pattern. It begins at SW Eddy Street, south of the site, and continues to Puget Sound. The erosion feature controlling this drainage channel steepens just west of the site. The distance to the Sound is approximately 3,400 feet.

Because groundwater's surface (and flow) often mirrors the topography of an area (albeit subdued compared to the surface), it can be assumed, as a first approximation, that groundwater flow from the site follows the direction of SW Eddy Street and continues under the surface-water drainage channel.

Figure 3 is a site diagram showing key site features. The building has two tenants operating two businesses. The dry cleaner occupies the southern end of the building. A grocery and deli business occupies the northern end of the building. Parking is located on the east site, between the building and California Avenue SW. Parking also is present on the south end of the building. A gated fence secures the rear (west side) of the building. The north side is paved and not accessible to traffic from the alley. The vegetated portion of the property is raised well above the alley to the west and SW Eddy Street to the southwest. SW Eddy does not extend far to the southwest. It also is basically an alley.

The geology of the site was reviewed, based on a recent geologic map by Troost, et al. (2005). The map indicates that a contact between two upper Pleistocene glacial deposits is located approximately under the center of the site. This contact is shown generally following the strike of the drainage channel discussed above. The northern deposit is defined as Vashon till (Qvt) that consists of poorly sorted sediments (a wide range of particle sizes from silt to sand to cobbles), which are generally dense but with sand lenses present (subglacial melt-out till) that are less dense. The southern deposit is defined as Advance Outwash Deposits (Qva) and consists of "well-sorted sand and gravel deposited by streams issuing from advancing ice sheet". It is further defined as "predominantly medium grained sand…".

Based on the boring logs of Stemen (2003a) and the six attached boring logs from this investigation, the geology of the site is mostly medium sands to the total depth of 32 feet bgs. It appears to be more closely aligned with the Advance Outwash Deposits rather than the Vashon till. Contacts between geologic units on maps of such a large scale as Troost, et al. (2005) are approximate, at best, for the scale of the subject site. Therefore, CEC concludes that the geology of the subsurface is primarily medium, unconsolidated sand, consistent with Stemen's logs and CEC's logs.

The medium, well-sorted sands under the subject site probably have relatively high hydraulic conductivity and therefore, a relatively high potential for groundwater and contaminant migration. It seems reasonable to assume that halogenated hydrocarbons (in this case, PCE and its degradation products) and gasoline will be subject to natural attenuation under these conditions (mainly through migration and dilution).

## February 2011 Push Probe Soil Sampling Event

Field Activities. Based on the 5 January 2011 work plan (CEC, 2011), seven push-probe holes were installed at the site on 21-22 February 2011 by Pacific Soil & Water, Inc. under the direction of CEC. Figure 3 shows the locations of the seven probes, as well as the existing five monitoring wells. Photograph 1 shows the push probe installing probe PP-1. CEC logged all seven holes. The resulting boring logs are attached herein. One of the probes was converted to an offsite monitoring well (MW-6) located in SW Eddy Street. The City of Seattle provided a permit for this installation. Soil samples were collected from the recovered boring cores and submitted to Apex Laboratories, Tigard, Oregon for analysis. Samples being submitted for volatile organic compounds (VOCs) analysis by EPA Method 8260B were collected using the soil sampling protocol EPA Method 5035A, as described by Ecology (2004).

Push probes PP-1 and PP-2 were placed in the former UST excavation and cleanup pit and aligned approximately along the direction of groundwater flow. The purpose of these two probes was to determine whether residual gasoline contamination was present in the soils at the bottom of the former pit. It is noteworthy that no gasoline constituents have been detected in any of the groundwater samples collected from the five monitoring wells since they were installed in 2003.

The boring log for PP-1 indicates that fill is present to a depth of approximately 12.5 feet bgs. This is assumed to be the bottom of the tank excavation and cleanup pit. Gray, native silty sand with the strong odor of gasoline was present from 12.5 feet bgs to the total depth of 15 feet bgs (see Photograph 2). The photoionization detector (HNu) also indicated the presence of VOCs. Soil samples were collected at the soil/groundwater interface (10.5-11.5 feet bgs) and from the gray, native soil (13-14 feet bgs). The present interpretation of these field observations is that some petroleum contaminated soil (PCS) was left at the bottom of the pit during the UST removal and cleanup effort. Similar observations were made for boring PP-2, which was located at the downgradient end of the old excavation pit. Photograph 3 shows stained native soil with fluvial structure in the core at a depth of approximately 13-15 feet bgs.

Probe PP-3 was placed in the pavement near the front door of the dry cleaners. This location had deteriorated asphalt pavement, which could allow surface contamination to migrate into the subsurface. Four soil samples were collected from this boring to determine whether contamination had migrated from the surface to the groundwater near the dry cleaner building. A shallow sample was collected under the asphalt and base rock (1.5-2 feet bgs). This material had a petroleum odor. Another sample was collected from vadose sand at a depth of 8.5-9 feet bgs as well as one at the soil/groundwater interface (15-16 feet bgs). Finally, a sample of sand was collected at total depth (19-20 feet bgs). The soil/groundwater interface sample had a strong gasoline odor, an obvious sheen, and a significant response from the HNu (see Photograph 4).

Probe PP-4 was located outside the rear door of the dry cleaner. This probe, along with probe PP-5, was placed behind the dry cleaner to help determine whether surface spills of PCE-related materials might have occurred in this area and migrated into the vadose soils. The boring log for this probe indicates that a shallow soil sample was collected from under the asphalt and woody fill (0.5-1.5 feet bgs) and another at the soil/groundwater interface (14-15 feet bgs). No field evidence was noted for contamination in the recovered core from this probe. Field observations for probe PP-5 were similar to those for PP-4. Soil samples were collected at 3-5 feet bgs and 12-13 feet bgs from probe PP-5.

Probe PP-6 was placed near MW-3, downgradient from the dry cleaner's operation. The purpose of this probe was to evaluate possible vadose contamination in the vicinity of MW-3. This probe was advanced to a total depth of 20 feet bgs. Upper vadose samples were collected at 6-7 feet bgs and 12-13 feet bgs. Finally, a sample just below the soil/water interface was collected from gray sand with a strong gasoline odor (19-20 feet bgs). Photograph 5 shows the lower core with the section of stained sand marked with arrows. Unstained soil was observed above and below the stained section.

The probe for monitoring well MW-6 was placed in the right-of-way of SW Eddy Street, well downgradient of the dry cleaner (see Photograph 6). The purpose of this boring was to determine whether significant off-site migration of either gasoline or PCS had occurred. The boring was converted into a 20-foot deep monitoring well. Due to construction problems with the well installation, a smaller diameter well (¾") was installed at this location instead of the standard 2" diameter well. No field evidence for contamination was noted in the recovered core. A soil sample was collected at the soil/groundwater interface (15.5-16.5 feet bgs). The well was placed about 10 feet north of the City's sanitary sewer line, per their access permit.

Geophysical Survey Results. As part of the private utility locate effort, Mountain View Locating conducted a ground-penetrating radar (GPR) survey of the site. Six unknown anomalies were observed around the building. Figure 3 shows the locations of these anomalies. Without excavating these six areas, the sources for the anomalies presently are unknown.

Soil Analysis Results. Table 1 provides the analysis results for the 16 soil samples collected during the February 2011 push probe investigation. The laboratory report for this sampling event is provided herein in electronic format (.pdf) on the attached CD. The samples analyzed for gasoline were by Method NWTPH-Gx. All of the samples collected were analyzed for the full list of VOCs by Method 8260B. The table lists all of the analytes that were detected. For each sample, the concentrations of detected analytes are highlighted in red. If any concentrations exceed the corresponding MTCA Method A Soil Cleanup Levels for Unrestricted Land Use, they are underlined. Only nine of the detected analytes have Cleanup Levels provided in Chapter 173-340 WAC, Table 740-1.

Sample PP-1 (10.5-11.5 feet bgs) was collected from the material used to backfill the 1991 UST excavation at the soil/groundwater interface. Four common aromatic gasoline constituents were detected in the sample at low concentrations. These constituents are comparatively stable under subsurface conditions and are typically present in weathered gasoline plumes. The lighter, mobile constituents such as benzene and toluene were not present in this sample above their respective Method Reporting Limits (MRLs). This supports the premise that the gasoline has been present underground for an extended period. However, a relatively high concentration of tetrachloroethene (PCE) was found in this sample (575  $\mu$ g/kg compared to the Method A Level of 50  $\mu$ g/kg). Interestingly, this sample is located upgradient of the PCE source (the dry cleaner) and present in the UST fill material. The working hypothesis is that some fill material may have originated in the excavation wall near the dry cleaner (see Figure 3, which shows the outline of the excavation pit) and was moved to this location during the filling operation.

Sample PP-1 (13-14 feet bgs) was collected from native soil under the fill. It was gray and had the odor of gasoline. Gasoline was detected above the MTCA Method A Level of 100 mg/kg (158 mg/kg) and six other gasoline constituents also were detected, including toluene. However, no benzene was detected which supports the contention that the gasoline is old.

Sample PP-2 (13-14 feet bgs) was collected from sandy soil with field evidence observed for gasoline contamination. It was downgradient from PP-1 and at the approximate same depth as sample PP-1 (13-14 feet bgs). The sample contained 1,340 mg/kg gasoline and higher concentrations of gasoline constituents n-butylbenzene and sec-butylbenzene. Two other gasoline constituents also were detected but at lower concentrations. Consistent with the PP-1 sample, no benzene was detected again indicating that the gasoline had lost its original content of the higher volatile and higher soluble constituents. PCE also was detected at a concentration of 499  $\mu$ g/kg. Similar to PP-1, it is assumed that fill material which originated from the excavation pit closer to MW-4 (and the dry cleaner) accounts for this upgradient PCE. Because the 1991 excavation was focused on gasoline contamination at depth, some shallow soil contaminated with PCE probably was used as part of the back fill after the gasoline contamination was mostly removed.

The sample collected directly under PP-2 (13-14 feet bgs) was sample PP-2 (14-15 feet bgs). Only one gasoline constituent was found at the low concentration of 93.9  $\mu$ g/kg. PCE was the only other analyte detected at 35.1  $\mu$ g/kg. These data indicate that the concentrations of both gasoline and PCE decreased rapidly with depth. Coupled with the PP-1 samples, it can be inferred that contamination is present in a thin horizon about 13-14 feet bgs within the area of the former UST excavation pit.

As previously mentioned, boring PP-3 was placed in front of the dry cleaner's front door, near a low area with deteriorated asphalt. The shallow sample (1.5-2 feet bgs) was collected under the pavement to determine whether any contamination could have impacted this area through surface spills. This patch of deteriorated asphalt may have been caused by either PCE or gasoline spills that collected at this location. Table 1 shows it contained the highest concentration of PCE at 18,300  $\mu$ g/kg (as well as its degradation products TCE and the cis- and trans- isomers of 1,2-dichloroethene). No vinyl chloride has been de-

tected in any soil or groundwater samples collected by CEC since its 2007 involvement in this project. Interestingly, benzene was detected in this shallow sample but in none of the other samples. This is interpreted as a surface spill that probably originated from a vehicle parked at this location.

For the next deeper sample from probe PP-3 (8.5-9 feet bgs), much reduced concentrations of PCE and TCE were detected. This indicated that the vertical migration from the surface source was limited. No gasoline constituents were detected in this sample. The soil/groundwater interface sample PP-3 (15-16 feet bgs) showed the highest concentrations of gasoline and its constituents but no PCE, although the MRLs for the chlorinated compounds were high due to interference from the high gasoline concentrations. Finally, the deepest sample PP-3 (19-20 feet bgs) had no contaminants detected.

The four samples collected from PP-3 indicate the presence of surface contamination of PCE and its related chlorinated degradation compounds and a small amount of benzene. Vertical migration of the surface source did not appear to extend to the groundwater. However, horizontal, downgradient migration of gasoline from the UST pit has reached this location, following the surface of the groundwater (with some presumed smear on the soils due to seasonal fluctuations of the groundwater elevation).

The four samples collected from PP-4 and PP-5, outside the rear of the dry cleaner facility, detected various concentrations of PCE and TCE. The shallow sample from PP-4 (0.5-1.5 feet bgs) detected the second highest concentration of PCE observed in all of the samples at 4,440  $\mu$ g/kg, even though the sample location was covered with asphalt (albeit old, poor quality pavement). The deeper sample PP-4 (12-13 feet bgs) contained 558  $\mu$ g/kg. While a significant decrease with depth, this sample indicated that vertical migration from the surface has reached the groundwater at this location because this sample was collected at the soil/groundwater interface. It also supports the assertion that some spillage of PCE-containing materials has occurred behind the dry cleaner. Both samples from PP-4 also detected TCE although it was present at concentrations barely above the MRLs. No gasoline constituents were detected in either sample.

The two samples from PP-5 also detected PCE but not TCE. Interestingly, the deeper soil/groundwater interface sample PP-5 (12-13 feet bgs) had a higher PCE concentration (482  $\mu$ g/kg) than the shallow sample (150  $\mu$ g/kg). Because the concentration in the soil/interface samples from both PP-4 and PP-5 have similar concentrations, this may indicate that they represent contamination from an upgradient source (e.g., under the dry cleaner facility) rather than a surface source at either PP-3 or PP-2. Again, without additional vadose samples from both probes, this thesis is speculative.

The three samples collected from the PP-6 core, downgradient of the dry cleaner, all detected PCE but no TCE. The deep sample PP-6 (17-18 feet bgs) was from the soil/groundwater interface and had the highest concentration of PCE from this probe (2,940  $\mu$ g/kg). This also was the third highest PCE concentration observed from all of the soil samples collected during this investigation. The two vadose samples collected from 6-7 feet bgs and 12-13 feet bgs also detected PCE but at lower levels (300  $\mu$ g/kg and 274  $\mu$ g/kg, respectively). Additionally, the soil/groundwater interface sample had the second highest gasoline concentration and some of the highest gasoline constituent levels observed at the site (e.g., the combined meta and para xylene isomers were present at a concentration of 182,000  $\mu$ g/kg, which is the highest VOC concentration observed in any of the investigation's soil samples). Results from this probe located downgradient from both the dry cleaner and the former UST pit indicate that contaminant migration has occurred in the groundwater under this site.

The soil/water interface sample collected from the MW-6 probe, located farther downgradient in the SW Eddy Street right-of-way, was collected at a depth of 15.5-16.5 feet bgs. Both PCE and TCE were

detected at concentrations of 381  $\mu$ g/kg and 40.0  $\mu$ g/kg, respectively. Also, two gasoline constituents were detected at the low concentrations of 74.9  $\mu$ g/kg (combined meta and para xylene isomers) and 100  $\mu$ g/kg (1,2,4-trimethylbenzene). While the results from the analysis of these soil samples confirms that off-site migration of both chlorinated compounds and gasoline constituents has occurred, the concentrations are modest and are present well below depths that could result in either human or ecological exposures.

Figure 4 provides data flags with the soil analysis results for gasoline (NWTPH-Gx) shown for the deeper samples (12-18 feet bgs). The deeper samples reflect past migration of gasoline contamination downgradient from the UST area. Tables 2A, 2B, and 2C show that the groundwater level varies from approximately 11 feet bgs to 14 feet bgs, depending on the season and the well location. Samples from this depth interval were chosen for display because it has been assumed that the gasoline contamination contacted the groundwater at the bottom of the UST pit and then migrated laterally downgradient on the surface of the water. Thus, these samples approximately represent the concentration of residual contamination at the soil/groundwater interface and associated smear zone.

The approximate plume outline shown in Figure 4 is based only on the results for analysis of soil samples collected from the seven February 2011 probes. The darker colored plume shows concentrations exceeding 4,000 mg/kg gasoline. The lighter colored plume shows concentrations exceeding 100 mg/kg gasoline which is the MTCA Method A Soil Cleanup Level. While the PP-5 samples weren't analyzed for gasoline by Method NWTPH-Gx, they were analyzed for VOCs by Method 8260B. No gasoline-related VOCs were detected indicating it is unlikely that gasoline is present at this location.

These soil analysis results for gasoline need to be interpreted in conjunction with the groundwater analysis data (discussed below) in order to develop a conceptual site model for the fate and transport of the gasoline contamination. First, the VOC results for the soil data indicate that the gasoline likely is highly weathered (old) because the more volatile and soluble constitutes (e.g., benzene and toluene) are mostly gone. No benzene was detected in any sample except for a sample from PP-3 taken directly under the asphalt. As previously noted, this is interpreted as a recent parking lot spill from an automobile and not related to the UST. The only sample with toluene detected was from the downgradient probe PP-6 (17-18 feet bgs). Additionally, only low levels of xylene isomers and 1,2,4 trimethylbenzene were detected in the MW-6 soil sample. Second, no gasoline constituents have been detected in the groundwater samples collected by CEC for the February 2007 and March 2011 sampling. From these results, the conceptual site model for gasoline is that the plume shown in Figure 4 is mostly stable and confined primarily to the soil. No significant migration of gasoline constituents has been observed. Because of the depth of this stabilized plume, vapor intrusion and direct contact are very unlikely exposure pathways.

#### **Groundwater Monitoring 2007-2011**

CEC initially conducted four quarters of groundwater monitoring at the site during 2007. This was intended to be a restart of the original groundwater investigation implemented by Stemen Environmental, Inc. that had ended in December 2003. The existing five wells installed by Stemen were utilized for this effort. For the first monitoring event, the five samples were analyzed for the full suite of VOCs by EPA Method 8260B. The purpose was to confirm whether any gasoline contaminants were present in addition to PCE (and related degradation products, as reported by Stemen, 2002, 2003a, 2003b, and 2003c). With no gasoline constituents detected in this first monitoring round, samples from subsequent rounds were analyzed only for chlorinated compounds. Because some samples from the later 2004 quarterly rounds detected PCE at concentrations just above the MTCA Method A Cleanup Level for Groundwater (5  $\mu$ g/l), as provided in Chapter 173-340 WAC, Table 720-1, two additional rounds were conducted in 2008 and

2009. Finally, with the addition of MW-6, a new round of quarterly sampling was begun in March 2011. While the results from these earlier rounds have been provided in previous reports, this section will summarize the data from all of seven monitoring rounds.

The dates for CEC's groundwater monitoring events were:

- 19 February 2007
- 21 May 2007
- 20 August 2007
- 20 November 2007
- 25 August 2008
- 15 January 2009
- 23 March 2011.

For each of the seven monitoring events, the wells were opened and allowed to equilibrate with atmospheric conditions for at least 30 minutes prior to measuring groundwater levels. After the groundwater-level measurements were collected, the wells were purged, in turn, of at least three well volumes. Field parameters were measured between each well volume to be assured that after purging, the three measurements all agreed within a variation of 10 percent.

Field measurements included pH, conductivity, and temperature. After purging, samples were collected in VOA vials, placed in an ice chest, and delivered to Apex Laboratories, Beaverton, OR for analysis under proper chain-of-custody forms. Once the samples had been collected, dissolved oxygen (DO) was measured with a down-hole probe and the redox condition (Eh) was measured with a Pt electrode on a sample brought to the surface. All purge waters were stored on site in drums for later disposal.

The attached Tables 2A, 2B, and 2C provide the field parameter measurements for each well for each monitoring event. Field parameters from those tables ranged as follows:

Summary of Field Parameter Variation (mean  $\pm 1\sigma$ , expressed as % of the mean)

parameter	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6*
gw elev, (ft)	221.49 ± 0.15%	219.39 ± 0.15%	216.95 ± 0.15%	219.48 ± 0.28%	217.38 ± 0.18%	212.88
pH**	6.81 ± 2.1%	$7.19 \pm 2.4\%$	$7.05 \pm 1.4\%$	$6.98 \pm 2.8\%$	6.89 ± 4.1%	6.75
temp. (°C)	12.2 ± 15%	12.4 ± 13%	12.8 ± 10%	$12.6 \pm 9.7\%$	12.5 ± 11%	12.3
cond. (µS/cm)	$262 \pm 6.3\%$	349 ± 4.3%	311 ± 3.9%	$272 \pm 7.8\%$	283 ± 5.1%	319
DO (mg/l)***	$6.0 \pm 23\%$	$2.0 \pm 67\%$	2.2 ± 45%	$3.9 \pm 39\%$	$3.8 \pm 32\%$	2.1
Eh (mv)	232 ± 61%	229 ± 58%	244 ± 51%	250 ± 49%	245 ± 48%	211

<sup>\*</sup>not a mean; only one sampling round collected to date. \*\*mean of the pH is the mean of <u>log</u> values. \*\*\*DO not measured in 2008 and 2009 rounds and intermittently in other rounds.

This summary is included to demonstrate the relative consistency of the the field parameters over the course of CEC's five year monitoring effort. The mean and standard deviation of each field parameter for the first six monitoring rounds are provided in the table. The results from the single 2011 round are shown for comparison. However, it needs to be emphasized that some seasons have been sampled more frequently than others. For example, two spring, two summer, two winter, and one fall monitoring rounds were completed. Also, these rounds cover an extended period with intermittent sampling. Thus, the conclusion of consistency should be viewed with this limitation in mind.

Tables 2A, 2B, and 2C (and the summary table above) demonstrate that key field conditions (groundwater elevations, pH, conductivity) varied little for the seven monitoring rounds. The groundwater elevations changed only minimally (<0.3%), even considering changes between the wet and dry seasons. This indicated that groundwater levels are not very seasonally dependent at this location. The pH values measured for each well varied less than about 4% and for the entire site were generally near neutral (7.0) with the means for the six wells varying from 6.81 to 7.19 and MW-6 having a value of 6.75 for its first measurement. MW-1 (upgradient well) appeared to have a very slightly detectable lower pH value than the other wells. Temperature values vary seasonally and it is difficult to obtain consistent dissolved oxygen (DO) and Eh field measurements. That explains why the means show such high standard deviations for these three parameters.

Conductivity values for each well were consistent throughout the five years of monitoring varying between 3.9% and 7.8%. Among the wells, the eastern well MW-2 had the highest value and the upgradient (north) well MW-1 had the lowest value. If a higher conductivity water flowing from the east and a lower conductivity water flowing from the north were to merge under the subject site and then flow down the plunging topography of SW Eddy Street, the conductivity values observed in the other four wells would seem to follow, being of intermediate values.

Because the dissolved oxygen and Eh measurements typically result in less precision than other measurements, they provide limited information. However, both DO and Eh values indicate that the groundwater is aerobic. This suggests that the contamination present is having little impact on these parameters and that aerobic bacteria are probably degrading the gasoline but not the chlorinated compounds. Gasoline is prone to degradation by aerobic bacteria, whereas anaerobic bacteria are more successful at reductive dechlorination reactions, which are needed to degrade PCE.

#### Site Hydrogeology

Figure 5 shows CEC's interpretation of the potentiometric surface and groundwater flow patterns for the March 2011 groundwater monitoring round. This diagram is consistent with the results from the six previous rounds but adds MW-6 to the flow net. The results also are consistent with the area's plunging topography down SW Eddy Street (see Figure 2). Thus, the groundwater generally flows south, with a possible southwest component, toward SW Eddy Street. Based on the topography and the presence of a large sewer line that runs down SW Eddy Street (see Photograph 6), it is assumed that the water flows south toward SW Eddy Street and then turns to the southwest to follow the topography and the sewer line. From the topography and anecdotal information, a pre-development creek was present at SW Eddy Street, which helps explain the topography and flow pattern. The upper portion of the area was filled during development by the City. Because the flow patterns for each of the seven monitoring rounds are similar, it indicates that seasonal effects on the flow are minimal. This also is demonstrated by the generally uniform groundwater chemistry and the minimal decrease in water levels during the dry season.

#### **Groundwater Analysis Results**

As mentioned above and in CEC's 8 April 2008 report, groundwater samples from the first 2007 quarterly monitoring round were analyzed for the full set of Method 8260B VOCs to verify the results of Stemen (2002, 2003a, 2003b, and 2003c). They reported some evidence for gasoline components as well as halogenated hydrocarbons in their soil and groundwater grab samples, but only halogenated hydrocarbons had been detected in their samples from their three monitoring well rounds (with the exception of  $1.1 \mu g/l$  toluene in the MW-3 sample collected on 24 July 2003). Because no gasoline components were detected by CEC in the first 2007 quarterly round, only halogenated compounds were analyzed for the three later quarterly rounds as well as the 2009 and 2010 rounds. However, a full set of VOCs were analyzed in the March 2011 round because significant gasoline was detected in the soil samples. Basically, because there had been no persuasive evidence that gasoline contamination was still present in the groundwater and it had been assumed that the UST removal and cleanup effort had been successful in remediating the site, the emphasis from 2007 through 2010 was on contamination from the dry cleaner operation.

Figure 6 presents a diagram with data flags for the groundwater analysis results for all seven groundwater monitoring rounds completed by CEC from February 2007 through March 2011. The laboratory report for the latest sampling round is provided herein in electronic format (.pdf) on the attached CD. Only PCE is shown because, with two exceptions, it was the only compound ever detected during all seven groundwater monitoring events. The two exceptions are very low concentrations of two PCE decomposition compounds found in two samples. TCE was detected in the 25 August 2008 sample from MW-3 ( $0.65 \mu g/l$ ) and cis-1,2-DCE was detected in the 22 March 2011 sample ( $0.66 \mu g/l$ ).

From the data shown in Figure 6, PCE was detected in monitoring well MW-1 only once (15 January 2009) at a concentration of 0.62  $\mu$ g/l. However, this value is close to the MRL of 0.5  $\mu$ g/l. Consequently, it is uncertain whether the result is valid or a spurious laboratory value. For MW-2, it was detected twice. The 20 November 2007 sample is shown with 0.57  $\mu$ g/l present. Consistent with the 15 January 2009 MW-1 sample, it may not be a valid concentration. However, the 15 January 2009 sample is shown with 1.88  $\mu$ g/l detected. For MW-3, MW-4, and MW-5, PCE was detected in all of the samples except for those collected on 19 February 2007 and 22 March 2011.

Only four groundwater samples had PCE detected at concentrations above the MTCA Groundwater Cleanup Level of 5  $\mu$ g/l (underlined in the data flag on Figure 6). The 25 August 2008 sample from MW-3 had 9.26  $\mu$ g/l detected which was the highest concentration detected in any sample. The 25 August 2008 sample from MW-4 had 7.17  $\mu$ g/l detected. The 15 January 2009 sample from MW-4 had 5.01  $\mu$ g/l detected. Finally, the 20 November 2008 sample from MW-5 had 5.44  $\mu$ g/l detected.

Notwithstanding the observation that the MTCA cleanup level occasionally has been exceeded in groundwater samples collected from this site, there is no known direct exposure pathway for PCE in groundwater to reach either human or ecological receptors. This is because of the depth of the groundwater; the fact that drinking water is provided by the City, not from local wells; and the lack of a surface exposure for the groundwater in an ecological habitat. Moreover, the PCE concentration in the first downgradient sample from MW-6 indicates that only minimal PCE has migrated off site. It is noteworthy that the highest concentrations observed were all from the three wells closest to, and surrounding the dry cleaner facility. This tends to suggest that the contamination is localized with minimal migration downgradient. The highest soil concentrations observed also were near the facility (PP-3, PP-4, and PP-6). PP-6 had the highest PCE concentration in a deep soil sample which was near MW-3. Again, MW-3 had the highest groundwater concentration observed. Even with the significant soil and groundwater concentration observed.

trations immediately downgradient of the dry cleaner facility, the new downgradient well MW-6 failed to detect substantial PCE in recent groundwater sample and only modest PCE in the soil/groundwater interface sample.

Finally, in spite of observing relatively high gasoline concentrations in deep soil samples between PP-3 and PP-6, no gasoline contamination was detected in downgradient groundwater samples from either MW-3 (located within the higher concentration portion of the plume shown in Figure 4) or MW-6. As suggested above, this tends to support the contention that the gasoline contamination is stabilized and not leaching detectable concentrations of gasoline constituents into the local groundwater.

#### **Conclusions**

The following conclusions are offered for this subsurface investigation:

- Soil samples collected from seven push probes indicate that significant gasoline contamination is still present in the deeper soil (12-18 feet bgs). The contaminated plume extends from the UST pit downgradient to the northern edge of SW Eddy Street. However, the lack of gasoline constituents in the groundwater samples indicates that the plume is stabilized in the soil and not contributing detectable contamination to the groundwater.
- Gasoline and several of its VOC constituents were found in deep soil samples at concentrations significantly above MTCA Method A Soil Cleanup Levels. Because the contaminated area shown in Figure 4 is deep (12-18 feet bgs), it is very unlikely that excavations in the future will reach this depth and expose trench workers. Also, there appears to be no significant impact to the local groundwater by gasoline contamination. Finally, with the most volatile constituents mostly gone (e.g., benzene) and considering the depth of the contamination, vapor intrusion seems unlikely. Therefore, no human or ecological receptors are likely to come into contact with residual contamination for it to represent either a human or an ecological risk. Natural attenuation will continue to degrade this contamination over time.
- Relatively high concentrations of PCE were found in shallow soil samples around the dry cleaner facility. Lower concentrations were found in the vadose zone at all of the probe sites. A deep downgradient soil sample (PP-6) had the third highest concentration of PCE. These results confirm that the dry cleaner facility contributed PCE to the surface soils which has migrated to the groundwater (see below). The deeper soil contamination accounts for the low concentrations found in the groundwater. The fact that the groundwater concentrations are not higher attest to the stability of the PCE contamination in the soil, similar to that observed for the gasoline contamination.
- The concentrations of residual PCE in the groundwater samples were very low and only infrequently above the MTCA Method A Cleanup Level of  $5.0~\mu g/l$ . However, no pathways to human or ecological receptors presently are known to exist in the immediate area (the area is urban and sufficiently developed such that ecological habitat is limited and human exposure through groundwater is not expected given that potable water is supplied by the City). Notwithstanding the regulations in WAC Chapter 173-340, residual PCE's presence does not appear to represent either a realistic human or ecological risk.

- The direction of groundwater flow is consistent with the site topography, being south toward SE Eddy Street. It is then assumed to flow to the southwest along with the topographical plunge down SE Eddy Street. The large sanitary sewer line also runs down SW Eddy Street which likely provides a preferential pathway to complement the steep topography. The concentrations of gasoline in the soil and PCE in the groundwater are consistent with this flow pattern. As mentioned in CEC's 8 April 2008, the fact that MW-4, located slightly upgradient from the dry cleaner facility, had PCE present supports Stemen's (2002) contention that some contamination was the result of a broken drain pipe which flowed to the east.
- Field parameters continue to indicate that the groundwater chemistry is relatively consistent for the six wells with MW-2 showing the most variation from the other wells. This is interpreted as groundwater flowing from the east and mixing with water from the north as both sources move toward the SW Eddy Street drainage channel. However, the differences in chemistry are subtle.
- Consistent with conclusions from the 8 April 2008 report, groundwater levels generally change seasonally as expected, but the variations were minor. Also, the potentiometric surface and groundwater flow patterns changed very little over time.

### Recommendations

- Continue quarterly groundwater monitoring for the full suite of 8360B analytes (both chlorinated and gasoline related analytes) to determine whether a seasonal trend can be confirmed over four seasonal quarters. In particular, by monitoring the new monitoring well MW-6, determine whether contamination will migrate significantly off site. If found, possible exposure to future sewer line excavation workers should be recognized.
- Excavate shallow PCE-impacted soil around the perimeter of the dry cleaning facility. Depending on the amount of residual contamination that may exist in this area after the removal, consider installing a soil venting system along the three sides of the facility. It may be necessary to remove soil directly under the building if, and when, it is demolished in the future should site renovation be considered. With excavation equipment available at that time, check GPR anomalies around the facility.
- Allow natural attenuation to continue to degrade the gasoline contamination.

Your review of this document, its conclusions, and its recommendations will be appreciated along with your input for any possible future activities which may be required to achieve site closure.

Sincerely yours

David G. Coles, M.S., L.G

Principal, Geochemist

Attachments: six diagrams

four tables

seven boring logs six field photographs one CD with lab reports

cc: Bud Pontius (representing the property owners)
Project File

#### References:

(CEC, 2008) Coles Environmental Consulting, Inc., *Final Groundwater Monitoring Report for the Short Stop 1 Site*, 6311/6317, *California Avenue*, *SW*, *Seattle*, *WA*, (TCP ID #NW1610), dated 9 April 2008.

(CEC, 2009) Coles Environmental Consulting, Inc., Status Report on the VCP Project for the Short Stop 1 Site, 6317 California Ave., SW, Seattle, Washington (Facility ID No: 92888299; VCP Project No.: NW1610), dated 13 July 2009.

(CEC, 2011) Coles Environmental Consulting, Inc., *Proposal for a Pre-Closure Subsurface Investigation at the Short Stop 1 Site*, 6317 California Ave., SW, Seattle, Washington (Facility ID No.: 92888299; VCP Project No.: NW1610), dated 5 January 2011.

(Stemen, 2002) Stemen Environmental, Inc., *Phase II Environmental Site Assessment Report, Property Located 6317 California Avenue*, S.W., Seattle, Washington, dated 13 January 2002.

(Stemen, 2003a) Stemen Environmental, Inc., Monitoring Well Installation and Quart[er]ly Groundwater Monitoring Report, Short Stop Site, 6317 California Avenue, S.W., Seattle, Washington, Ecology Site #101565, dated 15 May 2003.

(Stemen, 2003b) Stemen Environmental, Inc., *Groundwater Monitoring Report*, *Short Stop Site*, 6317 *California Avenue*, S.W., Seattle, Washington, dated 25 July 2003.

(Stemen, 2003c) Stemen Environmental, Inc., *Groundwater Monitoring Report, Short Stop Site*, 6317 *California Avenue*, S.W., Seattle, Washington, dated 15 December 2003.

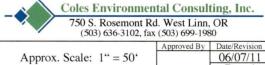
Troost, K. G., Booth, Wisher, and Shimel, *The Geologic Map of Seattle, A Progress Report*, USGS Open-File Report 2005-1252, V. 1.0 (2005). Downloaded from the Pacific Northwest Center for Geologic Mapping Studies, U. of Washington (http://geomapnw.ess.washington.edu).

Washington Department of Ecology, *Chapter 173-340 WAC*, *MODEL TOXICS CONTROL ACT--CLEANUP*, updated 10/12/07 (Table 720-1: Method A Cleanup Levels for Ground Water and Table 7403.1: Method A Soil Cleanup Levels for Unrestricted Land Uses).

(Ecology 2004) Washington Department of Ecology, *Collecting and Preparing Soil Samples for VOC Analysis*, Implementation Memorandum #5, dated 17 June 2004.





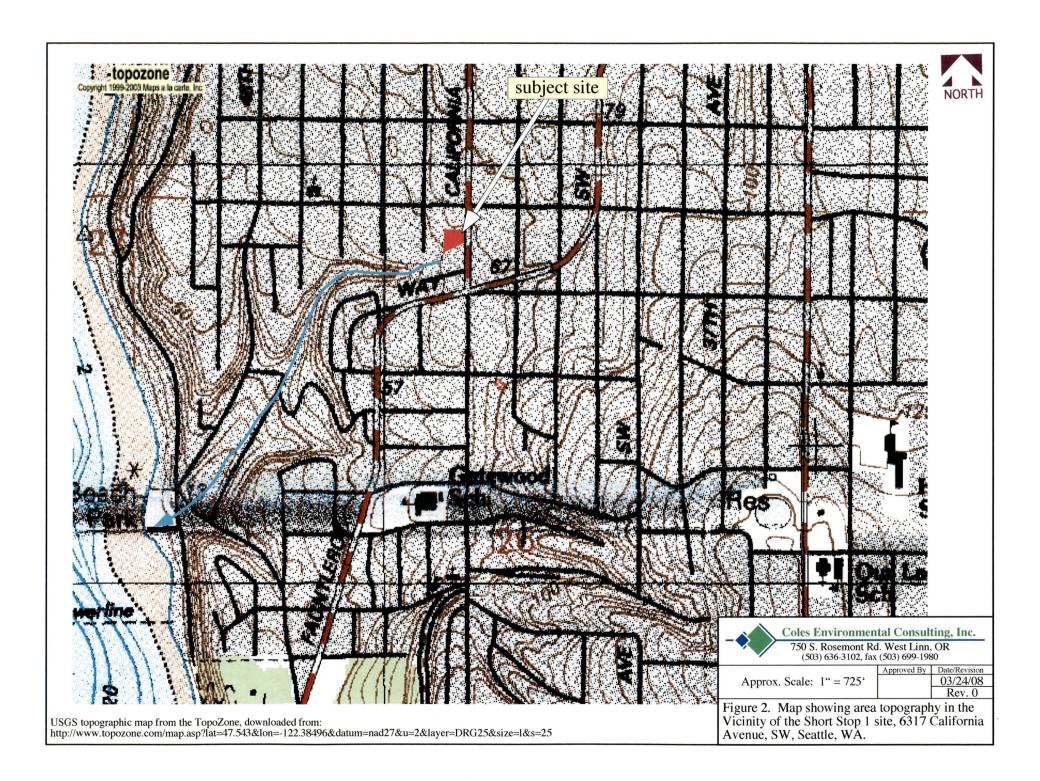


Approx. Scale: 1" = 50'

Approxed By Date Revision  $\frac{06/07/11}{\text{Rev. 1}}$ Figure 1. Aerial photograph showing site features at the Short Stop 1 site, 6317 California Avenue, SW, Seattle, WA.

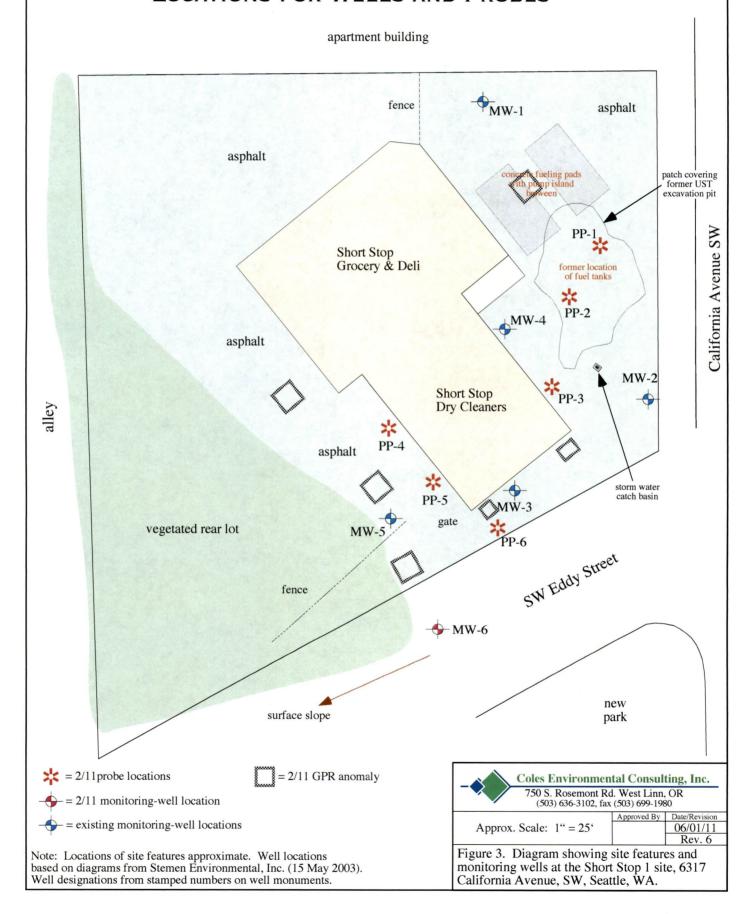
own (yellow)

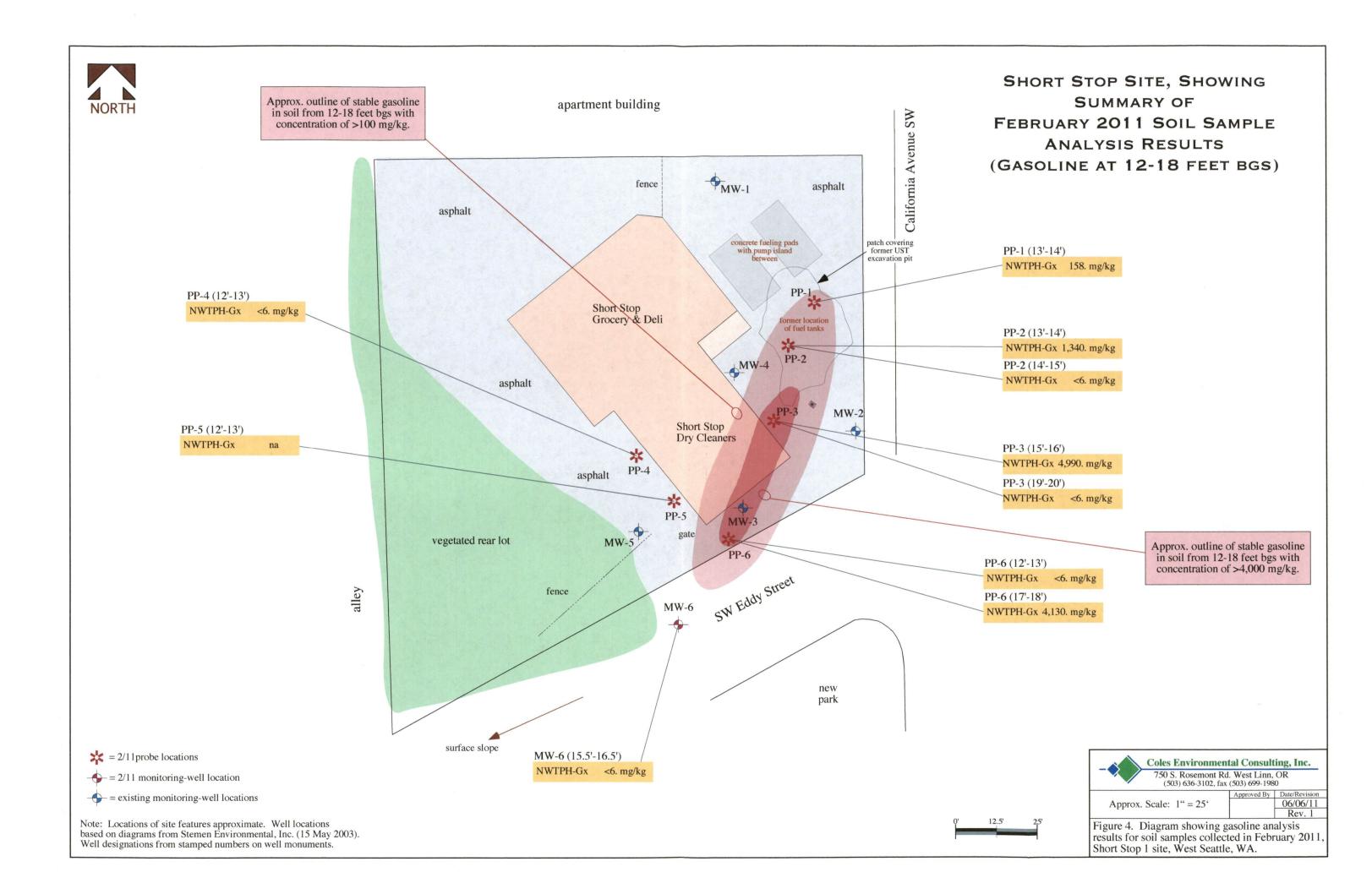
Google Earth photograph, 20 June 2010. Property line shown (yellow) is approximate.



# SHORT STOP SITE, SHOWING EXISTING WELLS AND LOCATIONS FOR WELLS AND PROBES

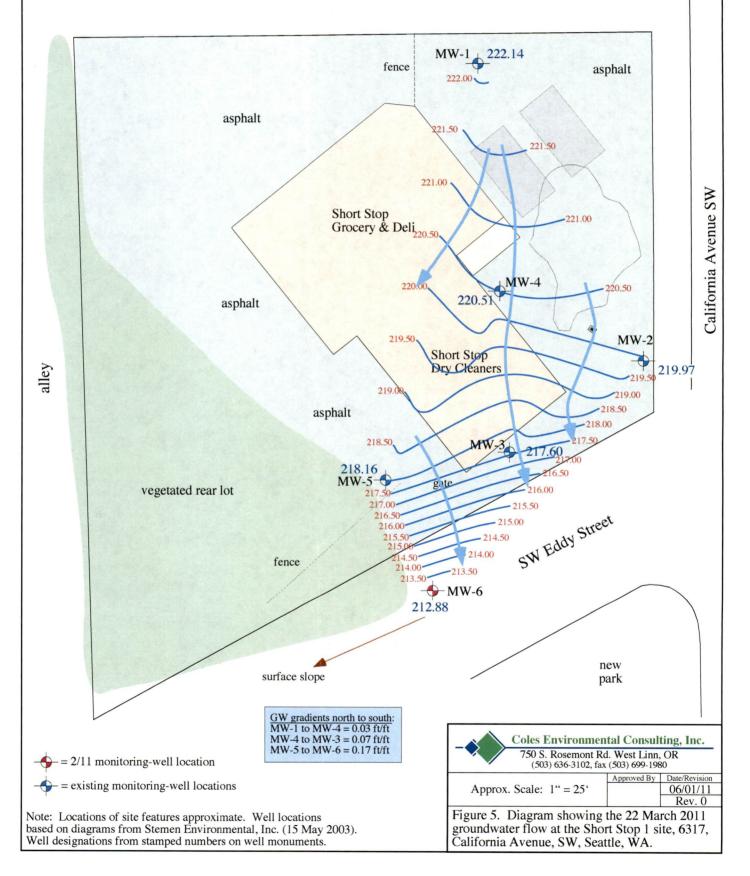


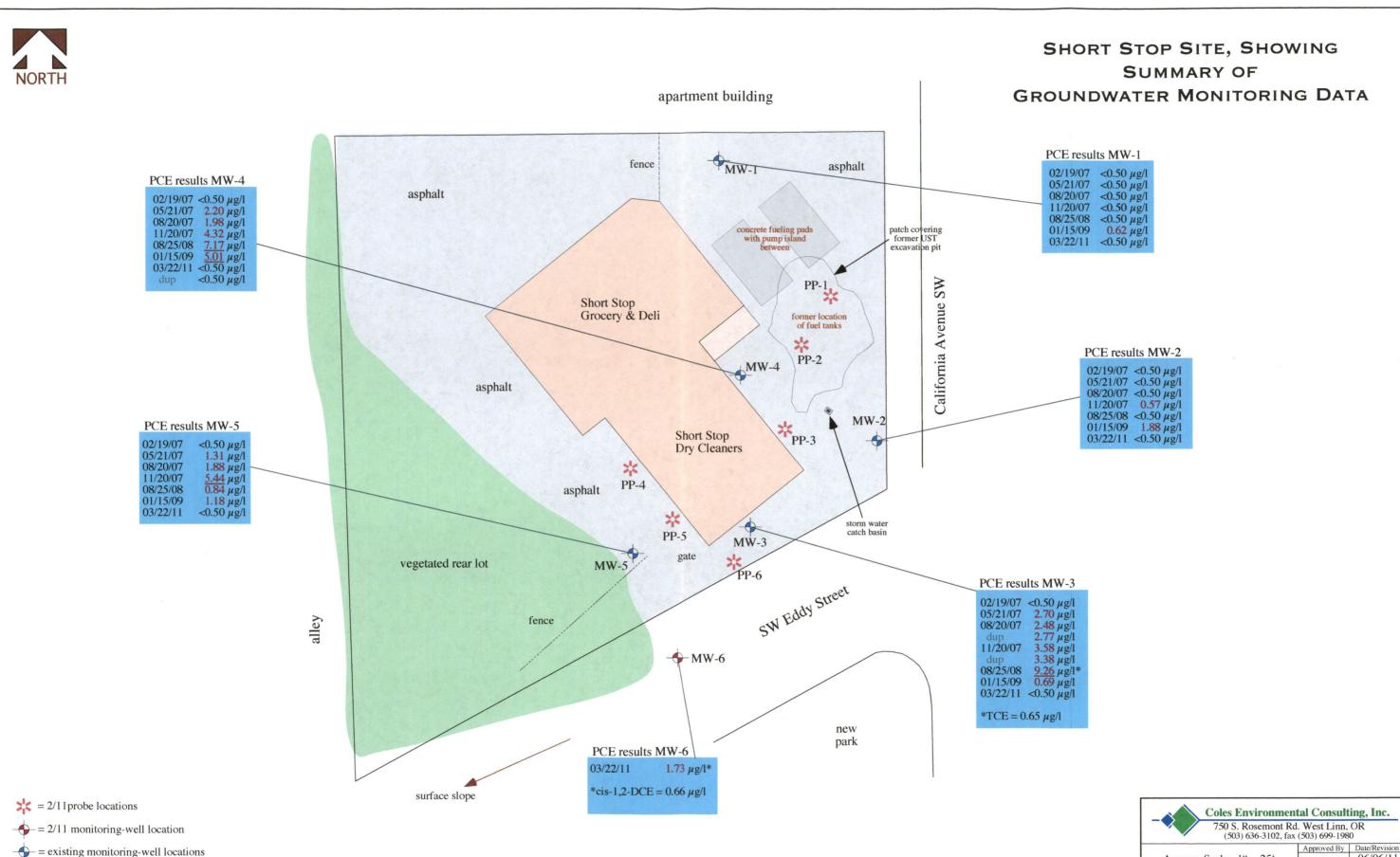






## **GROUNDWATER FLOW ON 22 MARCH 2011**





Note: Locations of site features approximate. Well locations based on diagrams from Stemen Environmental, Inc. (15 May 2003). Well designations from stamped numbers on well monuments.

Approx. Scale: 1" = 25"

Rev. 7 Figure 6. Diagram showing analysis results for groundwater monitoring rounds at the Short Stop 1 site, 6317, California Avenue, SW, Seattle, WA.

06/06/11

Table 1. Soil sample analysis results for the 21-22 February 2011 subsurface investigation at the Short Stop 1 site, 6317 California Avenue, SW, Seattle, WA.

	-Gx(mg/kg)		VOCs (8260B) (μg/kg)									chlorinated VOCs (8260B) (µg/kg)						
Sample Location (depth interval)	gasoline	benzene	toluene	ethylbenzene	o-xylene	m.p-xylene	n-propylbenzene	n-butylbenzene	sec-butylbenzene	isiopropyl- benzene	4-isiopropyl-toluene	1,2,4-trimethyl- benzene	1,3,5-trimethyl- benzene	naphthalene	PCE	TCE	cis-1,2 DCE	trans-1,2 DCE
PP-1 (10.5-11.5)	<6.	<31.	<62.	<31.	33.4	78.6	<31.	<62.	<62.	<62.	<62.	163.	68.1	<124.	<u>575.</u>	<u>&lt;31.</u>	<31.	<31.
PP-1 (13-14)	<u>158.</u>	<16.	65.3	<33.	<33.	112.	38.5	142.	87.5	<65.	<65.	90.8	<65.	<131.	<33.	<u>&lt;33.</u>	<33.	<33.
PP-2 (13-14)	<u>1,340.</u>	<31.	<125.	<62.	<62.	<125.	66.3	4,070.	1,700.	<125.	1,180.	<125.	<125.	<250.	<u>499.</u>	<u>&lt;62.</u>	<62.	<62.
PP-2 (14-15)	<6.	<14.	<57.	<28.	<28.	<56.	<28.	93.9	<57.	<57.	<57.	<57.	<57.	<113.	35.1	<28.	<28.	<28.
PP-3 (1.5-2)	na	178	<53.	<26.	<26.	<53.	<26.	<53.	<53.	<53.	<53.	<53.	<53.	<106.	18,300.	<u>6,750.</u>	693.	46.7
PP-3 (8.5-9)	na	<14	<54.	<27.	<27.	<54.	<27.	<54.	<54.	<54.	<54.	<54.	<54.	<108.	484.	31.9	<27.	<27.
PP-3 (15-16)	<u>4,990.</u>	<170.	<680.	2,840.	354.	3,170.	41,600.	32,500.	7,900.	6,420.	7,360.	51,700.	42,600.	2,800.	<340.	<340.	<340.	<340.
PP-3 (19-20)	<6.	<15.	<61.	<30.	<30.	<61.	<30	<61.	<61.	<61.	<61.	<61.	<61.	<121.	<30.	<u>&lt;30.</u>	<30.	<30.
PP-4 (0.5-1.5)	na	<13.	<51.	<26.	<26.	<51.	<26.	<51.	<51.	<51.	<51.	<51.	<51.	<102.	4,440.	31.2	<26.	<26.
PP-4 (12-13)	<6.	<14.	<57.	<28.	<28.	<57.	<28.	<57.	<57.	<57.	<57.	<57.	<57.	<114.	<u>558.</u>	48.2	<28.	<28.
PP-5 (3-4)	na	<16.	<62.	<31.	<31.	<62.	<31.	<62.	<62.	<62.	<62.	<62.	<62.	<125.	<u>150.</u>	<u>&lt;31.</u>	<31.	<62.
PP-5 (12-13)	na	<16.	<65.	<32.	<32.	<65.	<32.	<65.	<65.	<65.	<65.	<65.	<65.	<130.	482.	<u>&lt;32.</u>	<32.	<32.
PP-6 (6-7)	na	<14.	<58.	<29.	<29.	<58.	<29.	<58.	<58.	<58.	<58.	<58.	<58.	<116.	<u>300.</u>	<29.	<29.	<58.
PP-6 (12-13)	<6.	>14.	<58.	<29.	<29.	<58.	<29.	<58.	<58.	<58.	<58.	<58.	<58.	<115.	<u>274.</u>	<29.	<29.	<58
PP-6 (17-18)	<u>4,130.</u>	>405.	34,800.	42,200.	43,000.	182,000.	35,200.	11,200.	3,820.	8,620.	6,070.	179,000.	58,500.	<u>19,100.</u>	<u>2,940.</u>	<u>&lt;809.</u>	<809.	<809.
MW-6 (15.5-16.5)	<6.	<16.	<64.	<32.	<32.	74.9	>32.	<64.	<64.	<64.	<64.	100.	<64.	<127.	381.	40.0	<32.	<64.
MTCA Method A Soil Cleanup Levels for Unrestricted Land Use	100.	30.	7,000.	6,000.	9,00	00	nd	nd	nd	nd	nd	nd	nd	5,000.	50.	30.	nd	nd
EPA's Regional Screening Levels for Residential Soil) Dec. 2009	nd	1,100.	5,000,000.	5,400.	630,0	000	3,400,000.	nd	nd	nd	nd	62,000.	780,000.	3,600.	550.	2,800.	780,000.	150,000.

Table 2A. Short-Stop 1, West Seattle, quarterly groundwater monitoring rounds: field parameter results.

Sampling Dates	Monitoring Well Designations (TOC elevations, ft)									
Groundwater Parameters	MW-1 (233.01)	MW-2 (230.42)	MW-3 (230.64)	MW-4 (230.94)	MW-5 (228.62)					
<b>02/19/07</b> (1st Quarter)										
water level depth (ft)	11.39	10.73	13.77	11.08	11.20					
water level elevation (ft)	221.62	219.69	216.87	219.86	217.42					
pH	6.90	7.24	7.16	7.06	6.70					
temperature (°C)	12.6	12.8	13.3	12.8	12.8					
conductivity ( $\mu$ S/cm)	250.	345.	308.	271.	280					
DO (mg/l)	5.9	nm	2.2	4.2	3.7					
Eh (mv)	160.	195.	235.	235.	280.					
<b>05/21/07</b> (2nd Quarter)										
water level depth (ft)	11.52	11.07	13.78	11.15	11.30					
water level elevation (ft)	221.49	219.35	216.86	219.79	217.32					
pН	6.91	7.27	7.00	6.72	6.73					
temperature (°C)	13.1	13.4	13.9	13.6	13.5					
conductivity (µS/cm)	254.	346.	311.	270.	279					
DO (mg/l)	5.2	0.8	1.0	nm	3.0					
Eh (mv)	140.	115.	135.	155.	160.					
<b>8/20/07</b> (3rd Quarter)			-							
water level depth (ft)	11.74	11.36	13.97	11.42	11.52					
water level elevation (ft)	221.27	219.06	216.67	219.52	217.10					
pН	6.71	7.42	7.12	7.31	7.49					
temperature (°C)	14.7	14.6	nm	13.7	13.7					
conductivity ( $\mu$ S/cm)	251.	337.	294.	272.	268.					
DO (mg/l)	7.5	2.2	3.2	5.0	5.4					
Eh (mv)	110.	135.	165.	145.	150.					
11/20/07 (4th Quarter)										
water level depth (ft)	11.81	11.29	13.92	11.38	11.54					
water level elevation (ft)	221.20	219.13	216.72	219.56	217.08					
pН	6.93	7.21	7.08	6.88	7.00					
temperature (°C)	10.2	11.1	12.0	12.0	12.0					
conductivity ( $\mu$ S/cm)	243.	328.	300.	229.	270.					
DO (mg/l)	7.3	3.8	3.0	4.6	4.6					
Eh (mv)	170.	165.	170.	175.	170.					

Table 2B. Short-Stop 1, West Seattle, quarterly groundwater monitoring rounds: field parameter results.

Sampling Dates	Monitoring Well Designations (TOC elevations, ft)									
Groundwater Parameters	MW-1 (233.01)	MW-2 (230.42)	MW-3 (230.64)	MW-4 (230.94)	MW-5 (228.62)					
08/25/08										
water level depth (ft)	11.86	11.25	13.84	11.41	11.58					
water level elevation (ft)	221.15	219.17	216.80	219.53	217.04					
pH	6.82	7.19	7.13	6.90	6.70					
temperature (°C)	13.4	13.6	14.2	13.7	12.8					
conductivity (µS/cm)	270.	350.	320.	280.	280					
DO (mg/l)	nm	nm	nm	nm	nm					
Eh (mv)	306.	300.	318.	333.	280.					
<b>01/15/09</b> (2nd Quarter)										
water level depth (ft)	11.46	11.06	13.51	10.97	11.08					
water level elevation (ft)	221.55	219.36	217.13	219.97	217.54					
pН	6.84	7.10	7.00	6.88	6.89					
temperature (°C)	9.4	10.4	10.6	10.4	9.8					
conductivity (µS/cm)	280.	360.	330.	290.	300					
DO (mg/l)	nm	nm	nm	nm	nm					
Eh (mv)	516.	495.	489.	489.	482.					
Reserved										
water level depth (ft)										
water level elevation (ft)										
pН										
temperature (°C)										
conductivity ( $\mu$ S/cm)										
DO (mg/l)										
Eh (mv)										
Reserved										
woton lovel death (C)										
water level depth (ft)										
water level elevation (ft)										
pH (2C)										
temperature (°C)										
conductivity ( $\mu$ S/cm)	.									
DO (mg/l)										
Eh (mv)										

Table 2C. Short-Stop 1, West Seattle, quarterly groundwater monitoring rounds: field parameter results.

Sampling Dates	Monitoring Well Designations (TOC elevations, ft)									
Groundwater Parameters	MW-1 (233.01)	MW-2 (230.42)	MW-3 (230.64)	MW-4 (230.94)	MW-5 (228.62)	MW-6 (227.26)				
<b>03/23/11</b> (1st Quarter)										
water level depth (ft) water level elevation (ft) pH temperature (°C) conductivity (µS/cm) DO (mg/l)	10.87 222.14 6.53 12.2 286. 4.2	10.45 219.97 6.87 11.1 374.	13.04 217.60 6.87 12.8 311.	10.43 220.51 6.73 12.0 293.	10.46 218.16 7.10 13.0 306. 2.3	14.38 212.88 6.75 12.3 319. 2.1				
Eh (mv)	220.	195.	196.	221.	195.	211.				
<b>06/xx/11</b> (2nd Quarter)										
<b>09/xx/11</b> (3rd Quarter)										
12/xx/11 (4th Quarter)										

## **PP-01** DRILLING/BORING LOG NO. Project: Short Stop 1, West Seattle Date: 21 February 2011 Logged by: D. G. Coles, R.G. Drill Rig: 6600 Geoprobe Hole Dia: 2" Sampler: D. G. Coles, R.G. TOC Elev: N/A Initial GW Depth: ~11' Drilling Co: Pacific Soil & Water Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. asphalt misc. sand, crushed rocks, & clayey silt N/R fine sand No HNu (fill) response broken concrete (fill) N/R sand (fill) PP-01 (10.5'-11.5') 1445 gray, silty sand with strong gasoline odor SM HNu: 8-20 ppm N/R Total Depth PP-01 (13'-14') 1446 -16--17-18--19--20-

Silty sand near the bottom of the probe is interpreted as native soil, impacted with old gasoline, at the bottom of the former tank pit.

CEC Project No.

P5156.1 Page 1 of 1

General Notes:

CEC-

## **PP-02** DRILLING/BORING LOG NO. Logged by: D. G. Coles, R.G. Project: Short Stop 1, West Seattle Date: 21 February 2011 Hole Dia: 2" Sampler: D. G. Coles, R.G. Drill Rig: 6600 Geoprobe TOC Elev: N/A Initial GW Depth: not observed Drilling Co: Pacific Soil & Water Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. asphalt med. sand, gravel, & bricks (fill) N/R No HNu response med. sand, gravel (fill) N/R sand (fill) PP-02 (13'-14') 1512 SP med. sand (with native structure) SP dark sand with strong gasoline odor HNu: 15-20 ppm stiff, layered (structured) sand SP Total Depth PP-02 (14'-15') 1515 16 -17 -18-19-

#### **PP-03** DRILLING/BORING LOG NO. Project: Short Stop 1, West Seattle Logged by: D. G. Coles, R.G. Date: 21 February 2011 Drill Rig: 6600 Geoprobe Hole Dia: 2" Sampler: D. G. Coles, R.G. Initial GW Depth: ~15' TOC Elev: N/A Drilling Co: Pacific Soil & Water Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. broken asphalt med. sand (fill) wet, crushed rock (fill) slight pet. odor PP-03 (1.5'-2') 1525 stiff, brown, med. sand SP N/R sluff No HNu response SP med. stiff brown sand to medium sand PP-03 (8.5'-9') N/R 1533 10 11medium brown sand with structure SP 12 13 -14-PP-03 (15'-16') N/R 1602 gray, med. sand with strong gasoline odor SP and sheen (saturated) 16 HNu: up to 200 ppm 17-18 SP med. sand with structure PP-03 (19'-20') (unsaturated) 1608 Total Depth General Notes: CEC Project No. CEC-Sand near the soil/groundwater is interpreted as native soil, impacted with old gasoline that migrated from the former tank pit. P5156.1 Page 1 of 1

## **PP-04** DRILLING/BORING LOG NO. Logged by: D. G. Coles, R.G. Project: Short Stop 1, West Seattle Date: 21 February 2011 Sampler: D. G. Coles, R.G. Drill Rig: 6600 Geoprobe Hole Dia: 2" TOC Elev: N/A Initial GW Depth: not observed Drilling Co: Pacific Soil & Water Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. asphalt misc. fill, mostly wood debris stiff, med.-fine sand, brown with PP-04 (0.5'-1.5') cobbles and some carbon 1645 SW brown, med.-fine sand with sed. structure N/R sluff brown med. sand with coarse sand lenses No HNu SW and lenses of silty sand... all stiff response N/R 11. PP-04 (14'-15') slightly stiff, brown, med. sand 1710 SP (with native structure) 14 N/R Total Depth -16 -17 -18--19-CEC Project No. General Notes: -CEC-P5156.1 Page 1 of 1

## **PP-05** DRILLING/BORING LOG NO. Project: Short Stop 1, West Seattle Date: 21 February 2011 Logged by: D. G. Coles, R.G. Drill Rig: 6600 Geoprobe Hole Dia: 2" Sampler: D. G. Coles, R.G. Initial GW Depth: ~12' TOC Elev: N/A Drilling Co: Pacific Soil & Water Graphic Log **USCS** Class **GW** Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. asphalt dark soil stiff, med.-fine sand, brown with PP-05 (3'-5') rounded clasts (fill) 1730 loose, brown, med.-fine sand with sed. structure SW N/R banded tan-brown med. sand SP with small black lenses; sed. structure; med. stiff No HNu response N/R -11-PP-05 (14'-15') SP slightly stiff, brown, med. sand 1742 -13N/R -15-Total Depth -16--17--18 -19-General Notes: CEC Project No. -CEC-P5156.1 Page 1 of 1

## Coles Environmental Consulting, Inc. DRILLING/BORING LOG NO. **PP-06** Project: Short Stop 1, West Seattle Logged by: D. G. Coles, R.G. Date: 22 February 2011 Drill Rig: 6600 Geoprobe Sampler: D. G. Coles, R.G. Hole Dia: 2" Initial GW Depth: ~16.5' TOC Elev: N/A Drilling Co: Pacific Soil & Water Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample boring diagram. asphalt crushed rocks (fill) SP loose, brown, well sorted med. sand N/R sluff No HNu response PP-06 (6'-7') SP loose, brown, well sorted med. sand 0948 N/R sluff SP loose, brown-gray, well sorted med. sand PP-06 (12'-13') 1015 14sluff SP brown med. sand with sed. structure PP-06 (17'-18') 1008 gray med. sand with strong gasoline odor SP HNu: 250+ ppm 19 brown, med. sand SP Total Depth CEC Project No. General Notes:

P5156.1 Page 1 of 1

CEC-

## MW-6 DRILLING/BORING LOG NO. Project: Martin & Wright Asphalt Plant Date: 22 May 2006 Logged by: D. G. Coles, R.G. Drill Rig: 6620 DT Geoprobe Hole Dia: 2" Sampler: D. G. Coles, R.G. Initial GW Depth: ~12' Drilling Co: Boart-Longyear TOC Elev: N/A Graphic Log **USCS Class** GW Depth Depth (ft) Lithologic Description Remarks Sample well construction diagram asphalt flush vault crushed rocks (fill) sand with large cobbles (fill) N/R blank **PVC** pipe brown, med. dry sand; well sorted with some SP sed. structure No HNu response N/R sluff 12 brown-gray, med. dry sand; well sorted with some sed. structure SP sluff MW-06 (15.5'-16.5') 17 1145 saturated gray sand, minor silt SP 18 20 General Notes: CEC Project No. -CEC-Attempt at setting a two-inch well failed. Alternatively, set 3/4 inch well to 25 feet TD. P6160.1

Page 1 of 2

#### MW-6 DRILLING/BORING LOG NO.

Project: Martin & Wright Asphalt Plant

Drill Rig: 6620 DT Geoprobe

Initial GW Depth: ~12'

Date: 22 May 2006

Hole Dia: 2"

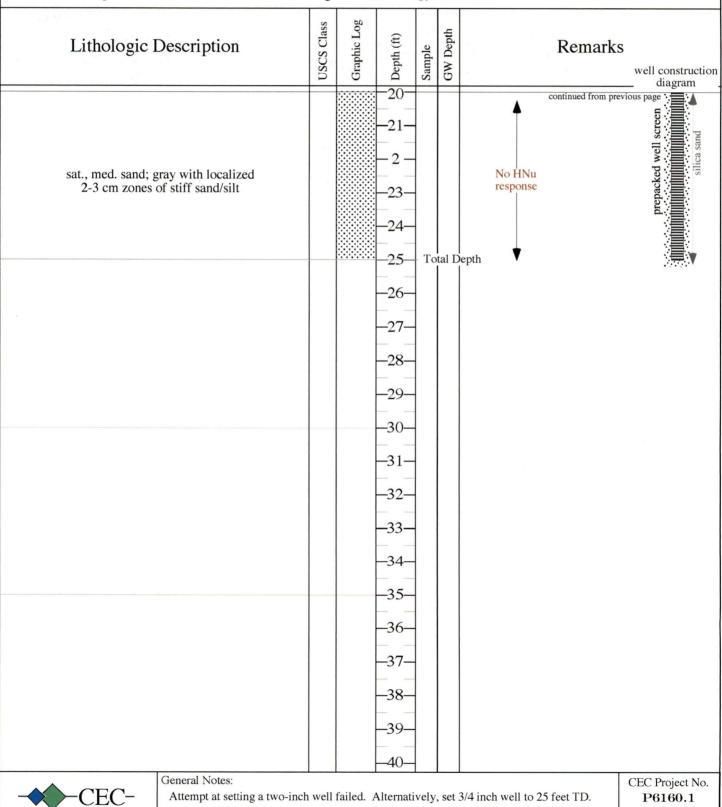
Drilling Co: Boart-Longyear

Logged by: D. G. Coles, R.G.

Sampler: D. G. Coles, R.G.

P6160.1 Page 2 of 2

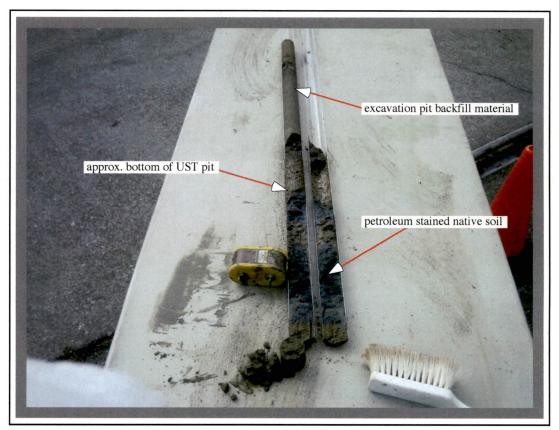
TOC Elev: N/A



Attempt at setting a two-inch well failed. Alternatively, set 3/4 inch well to 25 feet TD.



Photograph 1. This photograph shows Pacific Soil & Water installing push probe PP-1 at the upgradient location within the former UST excavation pit.



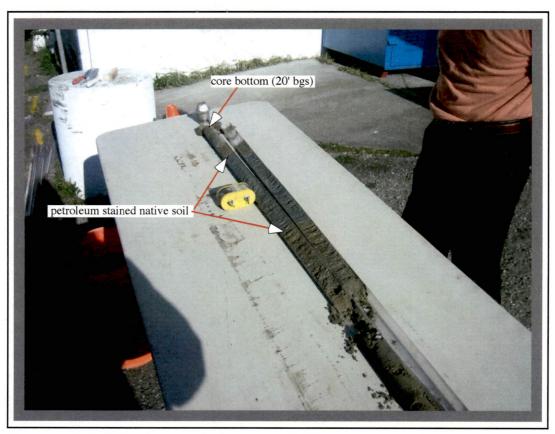
Photograph 2. This photograph shows the bottom core from PP-1. The core is in silty, sandy soil and stained with gasoline contamination (gray color).



Photograph 3. This photograph shows a section of the core from PP-2, at a depth of 13-14' bgs. Fluvial structure can be seen along with dark petroleums staining.



Photograph 4. This photograph shows the bottom core from PP-3 (15-16'). The core is gray with petroleum staining. A gasoline sheen is apparent in this sandy section.



Photograph 5. This photograph shows the 15-20' core from PP-6. A section of the' core (~17-18.5' bgs) shows dark petroleum staining between unstained sand (arrows).



Photograph 6. This photograph shows the installation of probe/monitoring well MW-6. The sewer "man hole" cover and arrow indicate the location of this main line.

## Apex Labs

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Friday, March 4, 2011

David Coles Coles Environmental 750 S. Rosemont Rd. West Linn, OR 97068

RE: Short Stop Seattle / [none]

Enclosed are the results of analyses for work order <u>A11B329</u>, which was received by the laboratory on 2/23/2011 at 3:25:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: <a href="mailto:pnerenberg@apex-labs.com">pnerenberg@apex-labs.com</a>, or by phone at 503-718-2323.

Apex Laboratories

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Philip Nevenberg

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL REPORT FOR SAMPLES

#### SAMPLE INFORMATION Sample ID Laboratory ID Matrix **Date Sampled Date Received** Soil 02/13/11 15:25 PP-1(10.5-11.5) A11B329-01 02/21/11 14:45 PP-1(13-14) A11B329-02 Soil 02/21/11 14:46 02/13/11 15:25 PP-2(13-14) A11B329-03 Soil 02/21/11 15:12 02/13/11 15:25 PP-2(14-15) A11B329-04 Soil 02/21/11 15:15 02/13/11 15:25 PP-3(1.5-2) A11B329-05 Soil 02/21/11 15:25 02/13/11 15:25 PP-3(8.5-9) A11B329-06 Soil 02/21/11 15:33 02/13/11 15:25 PP-3(15-16) A11B329-07 Soil 02/21/11 16:02 02/13/11 15:25 PP-3(19-20) A11B329-08 Soil 02/21/11 16:08 02/13/11 15:25 A11B329-09 Soil 02/21/11 16:45 PP-4(0.5-1.5) 02/13/11 15:25 A11B329-10 02/21/11 17:10 PP-4(12-13) Soil 02/13/11 15:25 PP-5(3-4) A11B329-11 Soil 02/21/11 17:30 02/13/11 15:25 PP-5(12-13) A11B329-12 Soil 02/21/11 17:42 02/13/11 15:25 A11B329-13 Soil PP-6(6-7) 02/22/11 09:48 02/13/11 15:25 PP-6(12-13) A11B329-14 Soil 02/22/11 10:15 02/13/11 15:25 Soil PP-6(17-18) A11B329-15 02/22/11 10:08 02/13/11 15:25 MW-6(15.5-16.5) A11B329-16 Soil 02/22/11 11:45 02/13/11 15:25 TB A11B329-17 Water 02/22/11 00:00 02/13/11 15:25

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

			<b>35</b> .:					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-1(10.5-11.5) (A11B329-01)			Matrix: So	il Ba	tch: 11024	26		
Gasoline Range Organics	ND		6.19	mg/kg dry	50	02/24/11 14:14	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 106 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			103 %	Limits: 50-150 %	"	"	"	
PP-1(13-14) (A11B329-02)			Matrix: So	il Ba	tch: 11024	26		
Gasoline Range Organics	158		13.1	mg/kg dry	100	02/24/11 20:56	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 137 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			127 %	Limits: 50-150 %	"	"	"	
PP-2(13-14) (A11B329-03RE1)		ļ	Matrix: So	il Ba	tch: 11024	34		
<b>Gasoline Range Organics</b>	1340		250	mg/kg dry	2000	02/25/11 14:00	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 130 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			119 %	Limits: 50-150 %	"	"	"	
PP-2(14-15) (A11B329-04)		1	Matrix: Soi	il Ba	ntch: 11024	26		
Gasoline Range Organics	ND		5.66	mg/kg dry	50	02/24/11 15:01	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 109 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			102 %	Limits: 50-150 %	"	"	"	
PP-3(15-16) (A11B329-07RE1)		ļ	Matrix: So	il Ba	tch: 11024	34		
Gasoline Range Organics	4990		680	mg/kg dry	5000	02/25/11 15:35	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 144 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			123 %	Limits: 50-150 %	"	"	"	
PP-3(19-20) (A11B329-08)		-	Matrix: So	il Ba	tch: 11024	26		
Gasoline Range Organics	ND		6.06	mg/kg dry	50	02/24/11 16:12	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recov	ery: 109 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			103 %	Limits: 50-150 %	"	"	"	
PP-4(12-13) (A11B329-10)		1	Matrix: Soi	il Ba	tch: 11024	26		
Gasoline Range Organics	ND		5.68	mg/kg dry	50	02/24/11 17:00	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recon	ery: 112 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			105 %	Limits: 50-150 %	"	"	"	
PP-6(12-13) (A11B329-14)		1	Matrix: So	il Ba	ntch: 11024	26		
Gasoline Range Organics	ND		5.77	mg/kg dry	50	02/24/11 18:34	NWTPH-Gx	
Surrogate: 4-Bromofluorobenzene (Sur)		Recon	ery: 118 %	Limits: 50-150 %	1	"	"	
1,4-Difluorobenzene (Sur)			107 %	Limits: 50-150 %	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

G	asoline Ra	nge Hydro	carbons (E	Benzene to Naph	nthalene) l	y NWTPH-Gx			
			Reporting						
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes	
PP-6(17-18) (A11B329-15RE2)	P-6(17-18) (A11B329-15RE2) Matrix: Soil Batch: 1102466								
Gasoline Range Organics	4130		809	mg/kg dry	5000	02/28/11 16:03	NWTPH-Gx		
Surrogate: 4-Bromofluorobenzene (Sur)		Rec	covery: 86 %	Limits: 50-150 %	1	"	"		
1,4-Difluorobenzene (Sur)			98 %	Limits: 50-150 %	"	"	"		
MW-6(15.5-16.5) (A11B329-16)			Matrix: So	il Ba	tch: 110243	34			
Gasoline Range Organics	ND		6.35	mg/kg dry	50	02/25/11 14:48	NWTPH-Gx		
Surrogate: 4-Bromofluorobenzene (Sur)		Reco	very: 134 %	Limits: 50-150 %	1	"	"		
1,4-Difluorobenzene (Sur)			114 %	Limits: 50-150 %	"	"	"		

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B										
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes		
PP-1(10.5-11.5) (A11B329-01)			Matrix: Soil	Batch: 1102426						
Acetone	ND		1240	ug/kg dry	50	02/24/11 14:14	5035/8260B			
Benzene	ND		15.5	"	"	"	"			
Bromobenzene	ND		31.0	"	"	"	"			
Bromochloromethane	ND		31.0	"	"	"	"			
Bromodichloromethane	ND		31.0	"	"	"	"			
Bromoform	ND		61.9	"	"	"	"			
Bromomethane	ND		310	"	"	"	"			
2-Butanone (MEK)	ND		619	"	"	"	"			
n-Butylbenzene	ND		61.9	"	"	"	"			
sec-Butylbenzene	ND		61.9	"	"	"	"			
tert-Butylbenzene	ND		61.9	"	"	"	"			
Carbon tetrachloride	ND		31.0	"	"	"	"			
Chlorobenzene	ND		31.0	"	"	"	"			
Chloroethane	ND		619	"	"	"	"			
Chloroform	ND		61.9	"	"	"	"			
Chloromethane	ND		310	"	"	"	"			
2-Chlorotoluene	ND		61.9	"	"	"	"			
4-Chlorotoluene	ND		61.9	"	"	"	"			
1,2-Dibromo-3-chloropropane	ND		310	"	"	"	"			
Dibromochloromethane	ND		124	"	"	"	"			
1,2-Dibromoethane (EDB)	ND		31.0	"	"	"	"			
Dibromomethane	ND		61.9	"	"	"	"			
1,2-Dichlorobenzene	ND		31.0	"	"	"	"			
1,3-Dichlorobenzene	ND		31.0	"	"	"	"			
1,4-Dichlorobenzene	ND		31.0	"	"	"	"			
Dichlorodifluoromethane	ND		124	"	"	"	"			
1,1-Dichloroethane	ND		31.0	"	"	"	"			
1,2-Dichloroethane (EDC)	ND		31.0	"	"	"	"			
1,1-Dichloroethene	ND		31.0	"	"	"	"			
cis-1,2-Dichloroethene	ND		31.0	"	"	"	"			
trans-1,2-Dichloroethene	ND		31.0	"	"	"	"			
1,2-Dichloropropane	ND		31.0	"	"	"	"			
1,3-Dichloropropane	ND		31.0	"	"	"	"			
2,2-Dichloropropane	ND		61.9	"	"	"	"			
1,1-Dichloropropene	ND		61.9	"	"	"	"			

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B										
			Reporting							
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes		
PP-1(10.5-11.5) (A11B329-01)			Matrix: Soil	Ва	tch: 110242	26				
cis-1,3-Dichloropropene	ND		31.0	ug/kg dry	50	"	5035/8260B			
trans-1,3-Dichloropropene	ND		61.9	"	"	"	"			
Ethylbenzene	ND		31.0	"	"	"	"			
Hexachlorobutadiene	ND		124	"	"	"	"			
2-Hexanone	ND		619	"	"	"	"			
Isopropylbenzene	ND		61.9	"	"	"	"			
4-Isopropyltoluene	ND		61.9	"	"	"	"			
4-Methyl-2-pentanone (MiBK)	ND		619	"	"	"	"			
Methyl tert-butyl ether (MTBE)	ND		61.9	"	"	"	"			
Methylene chloride	ND		310	"	"	"	"			
Naphthalene	ND		124	"	"	"	"			
n-Propylbenzene	ND		31.0	"	"	"	"			
Styrene	ND		61.9	"	"	"	"			
1,1,1,2-Tetrachloroethane	ND		31.0	"	"	"	"			
1,1,2,2-Tetrachloroethane	ND		31.0	"	"	"	"			
Tetrachloroethene (PCE)	575		31.0	"	"	"	"			
Toluene	ND		61.9	"	"	"	"			
1,2,3-Trichlorobenzene	ND		310	"	"	"	"			
1,2,4-Trichlorobenzene	ND		310	"	"	"	"			
1,1,1-Trichloroethane	ND		31.0	"	"	"	"			
1,1,2-Trichloroethane	ND		31.0	"	"	"	"			
Trichloroethene (TCE)	ND		31.0	"	"	"	"			
Trichlorofluoromethane	ND		61.9	"	"	"	"			
1,2,3-Trichloropropane	ND		61.9	"	"	"	"			
1,2,4-Trimethylbenzene	163		61.9	"	"	"	"			
1,3,5-Trimethylbenzene	68.1		61.9	"	"	"	"			
Vinyl chloride	ND		31.0	"	"	"	"			
m,p-Xylene	78.6		61.9	"	"	"	"			
o-Xylene	33.4		31.0	"	"	"	"			
Surrogate: Dibromofluoromethane (Surr)		Rec	covery: 108 %	Limits: 70-130 %	1	"	"			
1,4-Difluorobenzene (Surr)			108 %	Limits: 70-130 %	"	"	"			
Toluene-d8 (Surr)			103 %	Limits: 70-130 %	"	"	"			
4-Bromofluorobenzene (Surr)			106 %	Limits: 70-130 %	"	"	"			

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-1(13-14) (A11B329-02RE1)			Matrix: Soil	Batch: 1102466				
Acetone	ND		1310	ug/kg dry	50	02/28/11 14:51	5035/8260B	
Benzene	ND		16.3	"	"	"	"	
Bromobenzene	ND		32.7	"	"	"	"	
Bromochloromethane	ND		32.7	"	"	"	"	
Bromodichloromethane	ND		32.7	"	"	"	"	
Bromoform	ND		65.3	"	"	"	"	
Bromomethane	ND		327	"	"	"	"	
2-Butanone (MEK)	ND		1330	"	"	"	"	R-01
n-Butylbenzene	142		65.3	"	"	"	"	
sec-Butylbenzene	87.5		65.3	"	"	"	"	
tert-Butylbenzene	ND		65.3	"	"	"	"	
Carbon tetrachloride	ND		32.7	"	"	"	"	
Chlorobenzene	ND		32.7	"	"	"	"	
Chloroethane	ND		653	"	"	"	"	
Chloroform	ND		65.3	"	"	"	"	
Chloromethane	ND		327	"	"	"	"	
2-Chlorotoluene	ND		65.3	"	"	"	"	
4-Chlorotoluene	ND		65.3	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		327	"	"	"	"	
Dibromochloromethane	ND		131	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		32.7	"	"	"	ii .	
Dibromomethane	ND		65.3	"	"	"	"	
1,2-Dichlorobenzene	ND		32.7	"	"	"	"	
1,3-Dichlorobenzene	ND		32.7	"	"	"	"	
1,4-Dichlorobenzene	ND		32.7	"	"	"	"	
Dichlorodifluoromethane	ND		131	"	"	"	"	
1,1-Dichloroethane	ND		32.7	"	"	"	· ·	
1,2-Dichloroethane (EDC)	ND		32.7	"	"	"	· ·	
1,1-Dichloroethene	ND		32.7	"	"	"	· ·	
cis-1,2-Dichloroethene	ND		32.7	"	"	"	· ·	
trans-1,2-Dichloroethene	ND		32.7	"	"	"	"	
1,2-Dichloropropane	ND		32.7	"	"	"	"	
1,3-Dichloropropane	ND		32.7	"	"	"	"	
2,2-Dichloropropane	ND		65.3	"	"	"	"	
1,1-Dichloropropene	ND		65.3	"	"	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	mpounds by E	PA 8260B			
	D. Iv	) W	Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-1(13-14) (A11B329-02RE1)			Matrix: Soil	Ва	atch: 11024			
cis-1,3-Dichloropropene	ND		32.7	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		65.3	"	"	"	"	
Ethylbenzene	ND		32.7	"	"	"	"	
Hexachlorobutadiene	ND		131	"	"	"	"	
2-Hexanone	ND		653	"	"	"	"	
Isopropylbenzene	ND		65.3	"	"	"	"	
4-Isopropyltoluene	ND		65.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		953	"	"	"	"	R-01
Methyl tert-butyl ether (MTBE)	ND		65.3	"	"	"	"	
Methylene chloride	ND		327	"	"	"	"	ESTa
Naphthalene	ND		131	"	"	"	"	
n-Propylbenzene	38.5		32.7	"	"	"	"	
Styrene	ND		65.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		32.7	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		32.7	"	"	"	"	
Tetrachloroethene (PCE)	ND		32.7	"	"	"	"	
Toluene	65.3		65.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND		327	"	"	"	"	
1,2,4-Trichlorobenzene	ND		327	"	"	"	"	
1,1,1-Trichloroethane	ND		32.7	"	"	"	"	
1,1,2-Trichloroethane	ND		1160	"	"	"	"	R-01
Trichloroethene (TCE)	ND		32.7	"	"	"	"	
Trichlorofluoromethane	ND		65.3	"	"	"	"	
1,2,3-Trichloropropane	ND		65.3	"	"	"	"	
1,2,4-Trimethylbenzene	90.8		65.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND		65.3	"	"	"	"	
Vinyl chloride	ND		32.7	"	"	"	"	
m,p-Xylene	112		65.3	"	"	"	"	
o-Xylene	ND		32.7	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	r)	Re	ecovery: 101 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)			100 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			113 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr	)		108 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-2(13-14) (A11B329-03)			Matrix: Soil	Batch: 1102426				
Acetone	ND		2500	ug/kg dry	100	02/24/11 22:06	5035/8260B	
Benzene	ND		31.3	"	"	"	"	
Bromobenzene	ND		62.5	"	"	"	"	
Bromochloromethane	ND		62.5	"	"	"	"	
Bromodichloromethane	ND		1600	"	"	"	"	R-01
Bromoform	ND		125	"	"	"	"	
Bromomethane	ND		625	"	"	"	"	
2-Butanone (MEK)	ND		24400	"	"	"	"	R-01
n-Butylbenzene	4070		125	"	"	"	"	
sec-Butylbenzene	1700		125	"	"	"	"	
tert-Butylbenzene	ND		125	"	"	"	"	
Carbon tetrachloride	ND		62.5	"	"	"	"	
Chlorobenzene	ND		62.5	"	"	"	"	
Chloroethane	ND		1250	"	"	"	"	
Chloroform	ND		125	"	"	"	"	
Chloromethane	ND		625	"	"	"	"	
2-Chlorotoluene	ND		125	"	"	"	"	
4-Chlorotoluene	ND		125	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		625	"	"	"	"	
Dibromochloromethane	ND		250	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		62.5	"	"	"	"	
Dibromomethane	ND		125	"	"	"	"	
1,2-Dichlorobenzene	ND		62.5	"	"	"	"	
1,3-Dichlorobenzene	ND		62.5	"	"	"	"	
1,4-Dichlorobenzene	ND		62.5	"	"	"	"	
Dichlorodifluoromethane	ND		250	"	"	"	"	
1,1-Dichloroethane	ND		62.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		62.5	"	"	"	"	
1,1-Dichloroethene	ND		62.5	"	"	"	"	
cis-1,2-Dichloroethene	ND		62.5	"	"	"	"	
trans-1,2-Dichloroethene	ND		62.5	"	"	"	"	
1,2-Dichloropropane	ND		62.5	"	"	"	"	
1,3-Dichloropropane	ND		62.5	"	"	"	"	
2,2-Dichloropropane	ND		125	"	"	"	"	
1,1-Dichloropropene	ND		125	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	mpounds by E	PA 8260B			
	D14	MDI	Reporting		D'1 -	D	M.d. I	N
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-2(13-14) (A11B329-03)			Matrix: Soil		atch: 11024			
cis-1,3-Dichloropropene	ND		62.5	ug/kg dry	100	"	5035/8260B	
trans-1,3-Dichloropropene	ND		125	"	"	"	"	
Ethylbenzene	ND		62.5	"	"	"	"	
Hexachlorobutadiene	ND		250	"	"	"	"	
2-Hexanone	ND		1910	"	"	"	"	R-01
Isopropylbenzene	ND		125	"	"	"	"	
4-Isopropyltoluene	1180		125	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		9500	"	"	"	"	R-01
Methyl tert-butyl ether (MTBE)	ND		125	"	"	"	"	
Methylene chloride	ND		625	"	"	"	"	
Naphthalene	ND		250	"	"	"	"	
n-Propylbenzene	66.3		62.5	"	"	"	"	
Styrene	ND		125	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		62.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		500	"	"	"	"	R-01
Tetrachloroethene (PCE)	499		62.5	"	"	"	"	
Toluene	ND		125	"	"	"	"	
1,2,3-Trichlorobenzene	ND		625	"	"	"	"	
1,2,4-Trichlorobenzene	ND		625	"	"	"	"	
1,1,1-Trichloroethane	ND		62.5	"	"	"	"	
1,1,2-Trichloroethane	ND		5000	"	"	"	"	R-01
Trichloroethene (TCE)	ND		62.5	"	"	"	"	
Trichlorofluoromethane	ND		125	"	"	"	"	
1,2,3-Trichloropropane	ND		125	"	"	"	"	
1,2,4-Trimethylbenzene	ND		125	"	"	"	"	
1,3,5-Trimethylbenzene	ND		125	"	"	"	"	
Vinyl chloride	ND		62.5	"	"	"	"	
m,p-Xylene	ND		125	"	"	"	"	
o-Xylene	ND		62.5	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	urr)	Re	ecovery: 109 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)			116 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			100 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Sur	rr)		103 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B										
			Reporting							
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes		
PP-2(14-15) (A11B329-04)			Matrix: Soil	В	atch: 11024	26				
Acetone	ND		1130	ug/kg dry	50	02/24/11 15:01	5035/8260B			
Benzene	ND		14.1	"	"	"	"			
Bromobenzene	ND		28.3	"	"	"	"			
Bromochloromethane	ND		28.3	"	"	"	"			
Bromodichloromethane	ND		28.3	"	"	"	"			
Bromoform	ND		56.6	"	"	"	"			
Bromomethane	ND		283	"	"	"	"			
2-Butanone (MEK)	ND		566	"	"	"	"			
n-Butylbenzene	93.9		56.6	"	"	"	"			
sec-Butylbenzene	ND		56.6	"	"	"	"			
tert-Butylbenzene	ND		56.6	"	"	"	"			
Carbon tetrachloride	ND		28.3	"	"	"	"			
Chlorobenzene	ND		28.3	"	"	"	"			
Chloroethane	ND		566	"	"	"	"			
Chloroform	ND		56.6	"	"	"	"			
Chloromethane	ND		283	"	"	"	"			
2-Chlorotoluene	ND		56.6	"	"	"	"			
4-Chlorotoluene	ND		56.6	"	"	"	"			
1,2-Dibromo-3-chloropropane	ND		283	"	"	"	"			
Dibromochloromethane	ND		113	••	"	"	"			
1,2-Dibromoethane (EDB)	ND		28.3	••	"	"	"			
Dibromomethane	ND		56.6	••	"	"	"			
1,2-Dichlorobenzene	ND		28.3	"	"	"	"			
1,3-Dichlorobenzene	ND		28.3	"	"	"	"			
1,4-Dichlorobenzene	ND		28.3	"	"	"	"			
Dichlorodifluoromethane	ND		113	"	"	"	"			
1,1-Dichloroethane	ND		28.3	"	"	"	"			
1,2-Dichloroethane (EDC)	ND		28.3	"	"	"	"			
1,1-Dichloroethene	ND		28.3	"	"	"	"			
cis-1,2-Dichloroethene	ND		28.3	"	"	"	"			
trans-1,2-Dichloroethene	ND		28.3	"	"	"	"			
1,2-Dichloropropane	ND		28.3	"	"	"	"			
1,3-Dichloropropane	ND		28.3	"	"	"	"			
2,2-Dichloropropane	ND		56.6	"	"	"	"			
1,1-Dichloropropene	ND		56.6	"	"	"	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	npounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-2(14-15) (A11B329-04)			Matrix: Soil	Ba	atch: 11024	26		
cis-1,3-Dichloropropene	ND		28.3	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		56.6	"	"	"	"	
Ethylbenzene	ND		28.3	"	"	"	"	
Hexachlorobutadiene	ND		113	"	"	"	"	
2-Hexanone	ND		566	"	"	"	"	
Isopropylbenzene	ND		56.6	"	"	"	"	
4-Isopropyltoluene	ND		56.6	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		566	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		56.6	"	"	"	"	
Methylene chloride	ND		283	"	"	"	"	
Naphthalene	ND		113	"	"	"	"	
n-Propylbenzene	ND		28.3	"	"	"	"	
Styrene	ND		56.6	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		28.3	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		28.3	"	"	"	"	
Tetrachloroethene (PCE)	35.1		28.3	"	"	"	"	
Toluene	ND		56.6	"	"	"	"	
1,2,3-Trichlorobenzene	ND		283	"	"	"	"	
1,2,4-Trichlorobenzene	ND		283	"	"	"	"	
1,1,1-Trichloroethane	ND		28.3	"	"	"	"	
1,1,2-Trichloroethane	ND		28.3	"	"	"	"	
Trichloroethene (TCE)	ND		28.3	"	"	"	"	
Trichlorofluoromethane	ND		56.6	"	"	"	"	
1,2,3-Trichloropropane	ND		56.6	"	"	"	"	
1,2,4-Trimethylbenzene	ND		56.6	"	"	"	"	
1,3,5-Trimethylbenzene	ND		56.6	"	"	"	"	
Vinyl chloride	ND		28.3	"	"	"	"	
m,p-Xylene	ND		56.6	"	"	"	"	
o-Xylene	ND		28.3	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	rr)	Re	ecovery: 107 %	Limits: 70-130 %	1	u u	"	
1,4-Difluorobenzene (Surr)			110 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			103 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Sur	r)		104 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B										
			Reporting							
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes		
PP-3(1.5-2) (A11B329-05)			Matrix: Soil	В	atch: 11024	26				
Acetone	ND		1060	ug/kg dry	50	02/24/11 15:25	5035/8260B			
Benzene	178		13.3	"	"	"	"			
Bromobenzene	ND		26.5	"	"	"	"			
Bromochloromethane	ND		26.5	"	"	"	"			
Bromodichloromethane	ND		26.5	"	"	"	"			
Bromoform	ND		53.0	"	"	"	"			
Bromomethane	ND		265	"	"	"	"			
2-Butanone (MEK)	ND		530	"	"	"	"			
n-Butylbenzene	ND		53.0	"	"	"	"			
sec-Butylbenzene	ND		53.0	"	"	"	"			
tert-Butylbenzene	ND		53.0	"	"	"	"			
Carbon tetrachloride	ND		26.5	"	"	"	n			
Chlorobenzene	ND		26.5	"	"	"	"			
Chloroethane	ND		530	"	"	"	"			
Chloroform	ND		53.0	"	"	"	"			
Chloromethane	ND		265	"	"	"	"			
2-Chlorotoluene	ND		53.0	"	"	"	"			
4-Chlorotoluene	ND		53.0	"	"	"	"			
1,2-Dibromo-3-chloropropane	ND		265	"	"	"	"			
Dibromochloromethane	ND		106	"	"	"	"			
1,2-Dibromoethane (EDB)	ND		26.5	"	"	"	"			
Dibromomethane	ND		53.0	"	"	"	"			
1,2-Dichlorobenzene	ND		26.5	"	"	"	n .			
1,3-Dichlorobenzene	ND		26.5	"	"	"	n .			
1,4-Dichlorobenzene	ND		26.5	"	"	"	"			
Dichlorodifluoromethane	ND		106	"	"	"	"			
1,1-Dichloroethane	ND		26.5	"	"	"	"			
1,2-Dichloroethane (EDC)	ND		26.5	"	"	"	"			
1,1-Dichloroethene	ND		26.5	"	"	"	"			
cis-1,2-Dichloroethene	693		26.5	"	"	"	"			
rans-1,2-Dichloroethene	46.7		26.5	"	"	"	"			
1,2-Dichloropropane	ND		26.5	"	"	"	"			
1,3-Dichloropropane	ND		26.5	"	"	"	"			
2,2-Dichloropropane	ND		53.0	"	"	"	"			
1,1-Dichloropropene	ND		53.0	"	"	"	ıı .			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-3(1.5-2) (A11B329-05)			Matrix: Soil	Ва	atch: 110242	26					
cis-1,3-Dichloropropene	ND		26.5	ug/kg dry	50	"	5035/8260B				
trans-1,3-Dichloropropene	ND		53.0	"	"	"	"				
Ethylbenzene	ND		26.5	"	"	"	"				
Hexachlorobutadiene	ND		106	"	"	"	"				
2-Hexanone	ND		530	"	"	"	"				
Isopropylbenzene	ND		53.0	"	"	"	"				
4-Isopropyltoluene	ND		53.0	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		530	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		53.0	"	"	"	"				
Methylene chloride	ND		265	"	"	"	"				
Naphthalene	ND		106	"	"	"	"				
n-Propylbenzene	ND		26.5	"	"	"	"				
Styrene	ND		53.0	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		26.5	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		26.5	"	"	"	"				
Toluene	ND		53.0	"	"	"	"				
1,2,3-Trichlorobenzene	ND		265	"	"	"	"				
1,2,4-Trichlorobenzene	ND		265	"	"	"	"				
1,1,1-Trichloroethane	ND		26.5	"	"	"	"				
1,1,2-Trichloroethane	ND		26.5	"	"	"	"				
Trichloroethene (TCE)	6750		26.5	"	"	"	"				
Trichlorofluoromethane	ND		53.0	"	"	"	"				
1,2,3-Trichloropropane	ND		53.0	"	"	"	"				
1,2,4-Trimethylbenzene	ND		53.0	"	"	"	"				
1,3,5-Trimethylbenzene	ND		53.0	"	"	"	"				
Vinyl chloride	ND		26.5	"	"	"	"				
m,p-Xylene	ND		53.0	"	"	"	"				
o-Xylene	ND		26.5	"	"	"	"				
Surrogate: Dibromofluoromethane (Surr)		Red	covery: 104 %	Limits: 70-130 %	1	11	п				
1,4-Difluorobenzene (Surr)			105 %	Limits: 70-130 %	"	"	"				
Toluene-d8 (Surr)			99 %	Limits: 70-130 %	"	"	"				
4-Bromofluorobenzene (Surr)			103 %	Limits: 70-130 %	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Co	ompounds by El	PA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-3(1.5-2) (A11B329-05RE1)			Matrix: So	il Ba	itch: 11024	36		
Tetrachloroethene (PCE)	18300		265	ug/kg dry	500	02/28/11 15:15	5035/8260B	
Surrogate: Dibromofluoromethane (Surr)		Re	ecovery: 99 %	Limits: 70-130 %	1	n .	"	
1,4-Difluorobenzene (Surr)			101 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			102 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			100 %	Limits: 70-130 %	"	"	"	
PP-3(8.5-9) (A11B329-06RE1)			Matrix: So	il Ba	itch: 11024	66		
Acetone	ND		1080	ug/kg dry	50	02/28/11 14:27	5035/8260B	
Benzene	ND		13.5	"	"	"	"	
Bromobenzene	ND		27.1	"	"	"	"	
Bromochloromethane	ND		27.1	"	"	"	"	
Bromodichloromethane	ND		27.1	"	"	"	"	
Bromoform	ND		54.2	"	"	"	"	
Bromomethane	ND		271	"	"	"	"	
2-Butanone (MEK)	ND		542	"	"	"	"	
n-Butylbenzene	ND		54.2	"	"	"	"	
sec-Butylbenzene	ND		54.2	"	"	"	"	
tert-Butylbenzene	ND		54.2	"	"	"	"	
Carbon tetrachloride	ND		27.1	"	"	"	"	
Chlorobenzene	ND		27.1	"	"	"	"	
Chloroethane	ND		542	"	"	"	"	
Chloroform	ND		54.2	"	"	"	"	
Chloromethane	ND		271	"	"	"	"	
2-Chlorotoluene	ND		54.2	"	"	"	"	
4-Chlorotoluene	ND		54.2	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		271	"	"	"	"	
Dibromochloromethane	ND		108	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		27.1	"	"	"	"	
Dibromomethane	ND		54.2	"	"	"	"	
1,2-Dichlorobenzene	ND		27.1	"	"	"	"	
1,3-Dichlorobenzene	ND		27.1	"	"	"	"	
1,4-Dichlorobenzene	ND		27.1	"	"	"	"	
Dichlorodifluoromethane	ND		108	"	"	"	"	
1,1-Dichloroethane	ND		27.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		27.1	"	"	"	"	
1,1-Dichloroethene	ND		27.1	"	"	"	"	

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Philip Nerenberg, Lab Director

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-3(8.5-9) (A11B329-06RE1)			Matrix: Soil	Batch: 1102466							
cis-1,2-Dichloroethene	ND		27.1	ug/kg dry	50	"	5035/8260B				
trans-1,2-Dichloroethene	ND		27.1	"	"	"	"				
1,2-Dichloropropane	ND		27.1	"	"	"	"				
1,3-Dichloropropane	ND		27.1	"	"	"	"				
2,2-Dichloropropane	ND		54.2	"	"	"	"				
1,1-Dichloropropene	ND		54.2	"	"	"	"				
cis-1,3-Dichloropropene	ND		27.1	"	"	"	"				
trans-1,3-Dichloropropene	ND		54.2	"	"	"	"				
Ethylbenzene	ND		27.1	"	"	"	"				
Hexachlorobutadiene	ND		108	"	"	"	"				
2-Hexanone	ND		542	"	"	"	"				
Isopropylbenzene	ND		54.2	"	"	"	"				
4-Isopropyltoluene	ND		54.2	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		542	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		54.2	"	"	"	"				
Methylene chloride	ND		271	"	"	"	"	ESTa			
Naphthalene	ND		108	"	"	"	"				
n-Propylbenzene	ND		27.1	"	"	"	"				
Styrene	ND		54.2	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		27.1	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		27.1	"	"	"	"				
Tetrachloroethene (PCE)	484		27.1	"	"	"	"				
Toluene	ND		54.2	"	"	"	"				
1,2,3-Trichlorobenzene	ND		271	"	"	"	"				
1,2,4-Trichlorobenzene	ND		271	"	"	"	"				
1,1,1-Trichloroethane	ND		27.1	"	"	"	"				
1,1,2-Trichloroethane	ND		27.1	"	"	"	"				
Trichloroethene (TCE)	31.9		27.1	"	"	"	"				
Trichlorofluoromethane	ND		54.2	"	"	"	"				
1,2,3-Trichloropropane	ND		54.2	"	"	"	"				
1,2,4-Trimethylbenzene	ND		54.2	"	"	"	"				
1,3,5-Trimethylbenzene	ND		54.2	"	"	"	"				
Vinyl chloride	ND		27.1	"	"	"	"				
m,p-Xylene	ND		54.2	"	"	"	"				
o-Xylene	ND		27.1	"	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B												
A 1.	Result	MDL	Reporting		D'I d'	D. A. I. I.	M-4l-	NT 4				
Analyte	Resuit	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes				
PP-3(8.5-9) (A11B329-06RE1)			Matrix: So	—————————————————————————————————————	itch: 11024	bb						
Surrogate: Dibromofluoromethane (Surr	r)	Rec	covery: 101 %	Limits: 70-130 %	1	"	5035/8260B					
1,4-Difluorobenzene (Surr)			100 %	Limits: 70-130 %	"	"	"					
Toluene-d8 (Surr)			112 %	Limits: 70-130 %	"	"	"					
4-Bromofluorobenzene (Surr	)		106 %	Limits: 70-130 %	"	"	"					
PP-3(15-16) (A11B329-07)			Matrix: So	il Ba	tch: 11024	26						
Acetone	ND		13600	ug/kg dry	500	02/24/11 21:43	5035/8260B					
Benzene	ND		170	"	"	"	"					
Bromobenzene	ND		340	"	"	"	"					
Bromochloromethane	ND		340	"	"	"	"					
Bromodichloromethane	ND		5440	"	"	"	"	R-01				
Bromoform	ND		680	"	"	"	"					
Bromomethane	ND		3400	"	"	"	"					
2-Butanone (MEK)	ND		122000	"	"	"	"	R-01				
n-Butylbenzene	32500		680	"	"	"	"					
sec-Butylbenzene	7900		680	"	"	"	"					
tert-Butylbenzene	ND		680	"	"	"	"					
Carbon tetrachloride	ND		340	"	"	"	"					
Chlorobenzene	ND		340	"	"	"	"					
Chloroethane	ND		6800	"	"	"	"					
Chloroform	ND		680	"	"	"	"					
Chloromethane	ND		3400	"	"	"	"					
2-Chlorotoluene	ND		680	"	"	"	"					
4-Chlorotoluene	ND		680	"	"	"	"					
1,2-Dibromo-3-chloropropane	ND		3400	"	"	"	"					
Dibromochloromethane	ND		1360	"	"	"	"					
1,2-Dibromoethane (EDB)	ND		340	"	"	"	"					
Dibromomethane	ND		680	"	"	"	"					
1,2-Dichlorobenzene	ND		340	"	"	"	"					
1,3-Dichlorobenzene	ND		340	"	"	"	"					
1,4-Dichlorobenzene	ND		340	"	"	"	"					
Dichlorodifluoromethane	ND		1360	"	"	"	"					
1,1-Dichloroethane	ND		340	"	"	"	"					
1,2-Dichloroethane (EDC)	ND		340	"	"	"	"					
1,1-Dichloroethene	ND		340	"	"	"	"					
cis-1,2-Dichloroethene	ND		340	"	"	"	"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

			D '					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-3(15-16) (A11B329-07)			Matrix: Soil		atch: 110242			
trans-1,2-Dichloroethene	ND		340	ug/kg dry	500	"	5035/8260B	
1,2-Dichloropropane	ND		340	"	"	"	"	
1,3-Dichloropropane	ND		340	"	"	"	"	
2,2-Dichloropropane	ND		680	"	"	"	"	
1,1-Dichloropropene	ND		680	"	"	"	"	
cis-1,3-Dichloropropene	ND		340	"	"	"	"	
trans-1,3-Dichloropropene	ND		680	"	"	"	"	
Ethylbenzene	2840		340	"	"	"	"	
Hexachlorobutadiene	ND		1360	"	"	"	"	
2-Hexanone	ND		6800	"	"	"	"	
Isopropylbenzene	6420		680	"	"	"	"	
4-Isopropyltoluene	7360		680	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		16300	"	"	"	"	R-0
Methyl tert-butyl ether (MTBE)	ND		680	"	"	"	"	
Methylene chloride	ND		3400	"	"	"	"	
Naphthalene	2880		1360	"	"	"	"	
n-Propylbenzene	41600		340	"	"	"	"	
Styrene	ND		680	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		340	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		340	"	"	"	"	
Tetrachloroethene (PCE)	ND		340	"	"	"	"	
Toluene	ND		680	"	"	"	"	
1,2,3-Trichlorobenzene	ND		3400	"	"	"	"	
1,2,4-Trichlorobenzene	ND		3400	"	"	"	"	
1,1,1-Trichloroethane	ND		340	"	"	"	"	
1,1,2-Trichloroethane	ND		6250	"	"	"	"	R-0
Trichloroethene (TCE)	ND		340	"	"	"	"	
Trichlorofluoromethane	ND		680	"	"	"	"	
1,2,3-Trichloropropane	ND		680	"	"	"	"	
,2,4-Trimethylbenzene	51700		680	"	"	"	"	
,3,5-Trimethylbenzene	42600		680	"	"	"	"	
Vinyl chloride	ND		340	"	"	"	"	
n,p-Xylene	3170		680	"	"	"	"	
o-Xylene	354		340	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Co	ompounds by El	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-3(15-16) (A11B329-07)			Matrix: So	il Ba	tch: 110242			
Surrogate: 1,4-Difluorobenzene (Surr)		Rec	overy: 115 %	Limits: 70-130 %	1	"	5035/8260B	
Toluene-d8 (Surr)			96 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr)			107 %	Limits: 70-130 %	"	"	"	
PP-3(19-20) (A11B329-08)			Matrix: So	il Ba	tch: 110242	26		
Acetone	ND		1210	ug/kg dry	50	02/24/11 16:12	5035/8260B	
Benzene	ND		15.1	"	"	"	"	
Bromobenzene	ND		30.3	"	"	"	"	
Bromochloromethane	ND		30.3	"	"	"	"	
Bromodichloromethane	ND		30.3	"	"	"	"	
Bromoform	ND		60.6	"	"	"	"	
Bromomethane	ND		303	"	"	"	"	
2-Butanone (MEK)	ND		606	"	"	"	"	
n-Butylbenzene	ND		60.6	"	"	"	"	
sec-Butylbenzene	ND		60.6	"	"	"	"	
tert-Butylbenzene	ND		60.6	"	"	"	"	
Carbon tetrachloride	ND		30.3	"	"	"	"	
Chlorobenzene	ND		30.3	"	"	"	"	
Chloroethane	ND		606	"	"	"	"	
Chloroform	ND		60.6	"	"	"	"	
Chloromethane	ND		303	"	"	"	"	
2-Chlorotoluene	ND		60.6	"	"	"	"	
4-Chlorotoluene	ND		60.6	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		303	"	"	"	"	
Dibromochloromethane	ND		121	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		30.3	"	"	"	"	
Dibromomethane	ND		60.6	"	"	"	"	
1,2-Dichlorobenzene	ND		30.3	"	"	"	"	
1,3-Dichlorobenzene	ND		30.3	"	"	"	"	
1,4-Dichlorobenzene	ND		30.3	"	"	"	"	
Dichlorodifluoromethane	ND		121	"	"	"	"	
1,1-Dichloroethane	ND		30.3	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		30.3	"	"	"	"	
1,1-Dichloroethene	ND		30.3	"	"	"	"	
cis-1,2-Dichloroethene	ND		30.3	"	"	"	"	
trans-1,2-Dichloroethene	ND		30.3	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Departing											
Analyte	Result	MDL	Reporting Limit	Unita	Dilution	Date Analyzed	Method	Notes			
PP-3(19-20) (A11B329-08)	TOURT		Matrix: Soil	Units	atch: 110242		cuiou	11010			
1,2-Dichloropropane	ND		30.3	ug/kg dry	50	"	5035/8260B				
1,3-Dichloropropane	ND ND		30.3	ug/kg ary	30 "	"	3033/8200B "				
2,2-Dichloropropane	ND ND		60.6	"	"	"	"				
	ND ND		60.6	"	"	"	"				
1,1-Dichloropropene	ND ND		30.3	"	"		"				
cis-1,3-Dichloropropene trans-1,3-Dichloropropene	ND ND		50.5 60.6	"	"	"	"				
	ND ND			"	"	"	"				
Ethylbenzene Llavashlarahutadiana			30.3	"	,,	"	"				
Hexachlorobutadiene	ND		121	"	"	"	"				
2-Hexanone	ND		606	"	"	"	"				
Isopropylbenzene	ND		60.6	"	"	"	"				
4-Isopropyltoluene	ND		60.6	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		606	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		60.6		"						
Methylene chloride	ND		303	"		"	"				
Naphthalene	ND		121	"	"	"	"				
n-Propylbenzene	ND		30.3	"	"	"	"				
Styrene	ND		60.6	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		30.3	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		30.3	"	"	"	"				
Tetrachloroethene (PCE)	ND		30.3	"	"	"	"				
Toluene	ND		60.6	"	"	"	"				
1,2,3-Trichlorobenzene	ND		303	"	"	"	"				
1,2,4-Trichlorobenzene	ND		303	"	"	"	"				
1,1,1-Trichloroethane	ND		30.3	"	"	"	"				
1,1,2-Trichloroethane	ND		30.3	"	"	"	"				
Trichloroethene (TCE)	ND		30.3	"	"	"	"				
Trichlorofluoromethane	ND		60.6	"	"	"	"				
1,2,3-Trichloropropane	ND		60.6	"	"	"	"				
1,2,4-Trimethylbenzene	ND		60.6	"	"	"	"				
1,3,5-Trimethylbenzene	ND		60.6	"	"	"	"				
Vinyl chloride	ND		30.3	"	"	"	"				
m,p-Xylene	ND		60.6	"	"	"	"				
o-Xylene	ND		30.3	"	"	"	"				
Surrogate: Dibromofluoromethane (Su	urr)	Ro	covery: 109 % I	imits: 70-130 %	1	"	"				
1,4-Difluorobenzene (Surr)		Re	-	imits: 70-130 %	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

				mpounds by El				
A 1.	D. 14	MDI	Reporting		D3 - 2	B . A	N. d. J.	<b>3.</b> 7 /
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-3(19-20) (A11B329-08)			Matrix: So		tch: 110242			
Surrogate: Toluene-d8 (Surr)	,	Rec	overy: 101 %	Limits: 70-130 %	1 "	"	5035/8260B	
4-Bromofluorobenzene (Sur	r)		105 %	Limits: 70-130 %	"	"	"	
PP-4(0.5-1.5) (A11B329-09)			Matrix: So	il Ba	tch: 110242	26		
Acetone	ND		1020	ug/kg dry	50	02/24/11 16:36	5035/8260B	
Benzene	ND		12.8	"	"	"	"	
Bromobenzene	ND		25.5	"	"	"	"	
Bromochloromethane	ND		25.5	"	"	"	"	
Bromodichloromethane	ND		25.5	"	"	"	"	
Bromoform	ND		51.1	"	"	"	"	
Bromomethane	ND		255	"	"	"	"	
2-Butanone (MEK)	ND		511	"	"	"	"	
n-Butylbenzene	ND		51.1	"	"	"	"	
sec-Butylbenzene	ND		51.1	"	"	"	"	
tert-Butylbenzene	ND		51.1	"	"	"	"	
Carbon tetrachloride	ND		25.5	"	"	"	"	
Chlorobenzene	ND		25.5	"	"	"	"	
Chloroethane	ND		511	"	"	"	"	
Chloroform	ND		51.1	"	"	"	"	
Chloromethane	ND		255	"	"	"	"	
2-Chlorotoluene	ND		51.1	"	"	"	"	
4-Chlorotoluene	ND		51.1	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		255	"	"	"	"	
Dibromochloromethane	ND		102	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		25.5	"	"	"	"	
Dibromomethane	ND		51.1	"	"	"	"	
1,2-Dichlorobenzene	ND		25.5	"	"	"	"	
1,3-Dichlorobenzene	ND		25.5	"	"	"	"	
1,4-Dichlorobenzene	ND		25.5	"	"	"	"	
Dichlorodifluoromethane	ND		102	"	"	"	"	
1,1-Dichloroethane	ND		25.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		25.5	"	"	"	"	
1,1-Dichloroethene	ND		25.5	"	"	"	"	
cis-1,2-Dichloroethene	ND		25.5	"	"	"	"	
trans-1,2-Dichloroethene	ND		25.5	"	"	"	"	
1,2-Dichloropropane	ND		25.5	"	,,	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	npounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-4(0.5-1.5) (A11B329-09)			Matrix: Soil		Batch: 110242			
1,3-Dichloropropane	ND		25.5	ug/kg dry	50	"	5035/8260B	
2,2-Dichloropropane	ND		51.1	"	"	"	"	
1,1-Dichloropropene	ND		51.1	"	"	"	"	
cis-1,3-Dichloropropene	ND		25.5	"	"	"	"	
trans-1,3-Dichloropropene	ND		51.1	"	"	"	"	
Ethylbenzene	ND		25.5	"	"	"	"	
Hexachlorobutadiene	ND		102	"	"	"	"	
2-Hexanone	ND		511	"	"	"	"	
Isopropylbenzene	ND		51.1	"	"	"	"	
4-Isopropyltoluene	ND		51.1	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		511	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		51.1	"	"	"	"	
Methylene chloride	ND		255	"	"	"	"	
Naphthalene	ND		102	"	"	"	"	
n-Propylbenzene	ND		25.5	"	"	"	"	
Styrene	ND		51.1	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		25.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		25.5	"	"	"	"	
Tetrachloroethene (PCE)	4440		25.5	"	"	"	"	
Toluene	ND		51.1	"	"	"	"	
1,2,3-Trichlorobenzene	ND		255	"	"	"	"	
1,2,4-Trichlorobenzene	ND		255	"	"	"	"	
1,1,1-Trichloroethane	ND		25.5	"	"	"	"	
1,1,2-Trichloroethane	ND		25.5	"	"	"	"	
Trichloroethene (TCE)	31.2		25.5	"	"	"	"	
Trichlorofluoromethane	ND		51.1	"	"	"	"	
1,2,3-Trichloropropane	ND		51.1	"	"	"	"	
1,2,4-Trimethylbenzene	ND		51.1	"	"	"	"	
1,3,5-Trimethylbenzene	ND		51.1	"	"	"	"	
Vinyl chloride	ND		25.5	"	"	"	"	
m,p-Xylene	ND		51.1	"	"	"	"	
o-Xylene	ND		25.5	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	rr)	Re	covery: 108 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)	*		109 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			102 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

<u> </u>			Organic Com					
Analyte	Result	MDL	Reporting Limit	11	Dilution	Date Analyzed	Method	Notes
PP-4(0.5-1.5) (A11B329-09)	resurt	.,,,,,,,	Matrix: Soil	Units	atch: 11024	<u>-</u>	1.100100	140108
Surrogate: 4-Bromofluorobenzene (Surr	r)	P.o.		imits: 70-130 %	1	"	5035/8260B	
	'/	Rec	•		•		3033/0200B	
PP-4(12-13) (A11B329-10)			Matrix: Soil		atch: 110242			
Acetone	ND		1140	ug/kg dry	50	02/24/11 17:00	5035/8260B	
Benzene	ND		14.2	"	"	"	"	
Bromobenzene	ND		28.4	"	"	"	"	
Bromochloromethane	ND		28.4	"	"	"	"	
Bromodichloromethane	ND		28.4	"	"	"	"	
Bromoform	ND		56.8	"	"	"	"	
Bromomethane	ND		284	"	"	"	"	
2-Butanone (MEK)	ND		568	"	"	"	"	
n-Butylbenzene	ND		56.8	"	"	"	"	
sec-Butylbenzene	ND		56.8	"	"	"	"	
tert-Butylbenzene	ND		56.8	"	"	"	"	
Carbon tetrachloride	ND		28.4	"	"	"	"	
Chlorobenzene	ND		28.4	"	"	"	"	
Chloroethane	ND		568	"	"	"	"	
Chloroform	ND		56.8	"	"	"	"	
Chloromethane	ND		284	"	"	"	"	
2-Chlorotoluene	ND		56.8	"	"	"	"	
4-Chlorotoluene	ND		56.8	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		284	"	"	"	"	
Dibromochloromethane	ND		114	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		28.4	"	"	"	"	
Dibromomethane	ND		56.8	"	"	"	"	
1,2-Dichlorobenzene	ND		28.4	"	"	"	"	
1,3-Dichlorobenzene	ND		28.4	"	"	"	"	
1,4-Dichlorobenzene	ND		28.4	"	"	"	"	
Dichlorodifluoromethane	ND		114	"	"	"	"	
1,1-Dichloroethane	ND		28.4	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		28.4	"	"	"	"	
1,1-Dichloroethene	ND		28.4	"	"	"	"	
cis-1,2-Dichloroethene	ND		28.4	"	"	"	"	
trans-1,2-Dichloroethene	ND		28.4	"	"	"	"	
1,2-Dichloropropane	ND		28.4	"	"	"	"	
1,3-Dichloropropane	ND		28.4	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-4(12-13) (A11B329-10)			Matrix: Soil	Ва	tch: 110242	26					
2,2-Dichloropropane	ND		56.8	ug/kg dry	50	"	5035/8260B				
1,1-Dichloropropene	ND		56.8	"	"	"	"				
cis-1,3-Dichloropropene	ND		28.4	"	"	"	"				
trans-1,3-Dichloropropene	ND		56.8	"	"	"	"				
Ethylbenzene	ND		28.4	"	"	"	"				
Hexachlorobutadiene	ND		114	"	"	"	"				
2-Hexanone	ND		568	"	"	"	"				
Isopropylbenzene	ND		56.8	"	"	"	"				
4-Isopropyltoluene	ND		56.8	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		568	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		56.8	"	"	"	"				
Methylene chloride	ND		284	"	"	"	"				
Naphthalene	ND		114	"	"	"	"				
n-Propylbenzene	ND		28.4	"	"	"	"				
Styrene	ND		56.8	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		28.4	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		28.4	"	"	"	"				
Tetrachloroethene (PCE)	558		28.4	"	"	"	"				
Toluene	ND		56.8	"	"	"	"				
1,2,3-Trichlorobenzene	ND		284	"	"	"	"				
1,2,4-Trichlorobenzene	ND		284	"	"	"	"				
1,1,1-Trichloroethane	ND		28.4	"	"	"	"				
1,1,2-Trichloroethane	ND		28.4	"	"	"	"				
Trichloroethene (TCE)	48.2		28.4	"	"	"	"				
Trichlorofluoromethane	ND		56.8	"	"	"	"				
1,2,3-Trichloropropane	ND		56.8	"	"	"	"				
1,2,4-Trimethylbenzene	ND		56.8	"	"	"	"				
1,3,5-Trimethylbenzene	ND		56.8	"	"	"	"				
Vinyl chloride	ND		28.4	"	"	"	"				
m,p-Xylene	ND		56.8	"	"	"	"				
o-Xylene	ND		28.4	"	"	"	"				
Surrogate: Dibromofluoromethane (Surr)	)	Rec	overy: 105 %	Limits: 70-130 %	1	"	"				
1,4-Difluorobenzene (Surr)			109 %	Limits: 70-130 %	"	11	"				
Toluene-d8 (Surr)			98 %	Limits: 70-130 %	"	"	"				
4-Bromofluorobenzene (Surr)			103 %	Limits: 70-130 %	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-5(3-4) (A11B329-11)			Matrix: Soil	Batch: 1102426							
Acetone	ND		1250	ug/kg dry	50	02/24/11 17:23	5035/8260B				
Benzene	ND		15.6	"	"	"	"				
Bromobenzene	ND		31.2	"	"	"	"				
Bromochloromethane	ND		31.2	"	"	"	"				
Bromodichloromethane	ND		31.2	"	"	"	"				
Bromoform	ND		62.3	"	"	"	"				
Bromomethane	ND		312	"	"	"	"				
2-Butanone (MEK)	ND		623	"	"	"	"				
n-Butylbenzene	ND		62.3	"	"	"	"				
sec-Butylbenzene	ND		62.3	"	"	"	"				
tert-Butylbenzene	ND		62.3	"	"	"	"				
Carbon tetrachloride	ND		31.2	"	"	"	"				
Chlorobenzene	ND		31.2	"	"	"	"				
Chloroethane	ND		623	"	"	"	"				
Chloroform	ND		62.3	"	"	"	"				
Chloromethane	ND		312	"	"	"	"				
2-Chlorotoluene	ND		62.3	"	"	"	"				
4-Chlorotoluene	ND		62.3	"	"	"	"				
1,2-Dibromo-3-chloropropane	ND		312	"	"	"	"				
Dibromochloromethane	ND		125	"	"	"	"				
1,2-Dibromoethane (EDB)	ND		31.2	"	"	"	"				
Dibromomethane	ND		62.3	"	"	"	"				
1,2-Dichlorobenzene	ND		31.2	"	"	"	"				
1,3-Dichlorobenzene	ND		31.2	"	"	"	"				
1,4-Dichlorobenzene	ND		31.2	"	"	"	"				
Dichlorodifluoromethane	ND		125	"	"	"	"				
1,1-Dichloroethane	ND		31.2	"	"	"	"				
1,2-Dichloroethane (EDC)	ND		31.2	"	"	"	"				
1,1-Dichloroethene	ND		31.2	"	"	"	"				
cis-1,2-Dichloroethene	ND		31.2	"	"	"	n .				
trans-1,2-Dichloroethene	ND		31.2	"	"	"	"				
1,2-Dichloropropane	ND		31.2	"	"	"	"				
1,3-Dichloropropane	ND		31.2	"	"	"	"				
2,2-Dichloropropane	ND		62.3	"	"	"	"				
1,1-Dichloropropene	ND		62.3	"	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	npounds by E	PA 8260B			
		, m;	Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-5(3-4) (A11B329-11)			Matrix: Soil	Ba	atch: 110242			
cis-1,3-Dichloropropene	ND		31.2	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		62.3	"	"	"	"	
Ethylbenzene	ND		31.2	"	"	"	"	
Hexachlorobutadiene	ND		125	"	"	"	"	
2-Hexanone	ND		623	"	"	"	"	
Isopropylbenzene	ND		62.3	"	"	"	"	
4-Isopropyltoluene	ND		62.3	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		623	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		62.3	"	"	"	"	
Methylene chloride	ND		312	"	"	"	"	
Naphthalene	ND		125	"	"	"	"	
n-Propylbenzene	ND		31.2	"	"	"	"	
Styrene	ND		62.3	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		31.2	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		31.2	"	"	"	"	
Tetrachloroethene (PCE)	150		31.2	"	"	"	"	
Toluene	ND		62.3	"	"	"	"	
1,2,3-Trichlorobenzene	ND		312	"	"	"	"	
1,2,4-Trichlorobenzene	ND		312	"	"	"	"	
1,1,1-Trichloroethane	ND		31.2	"	"	"	"	
1,1,2-Trichloroethane	ND		31.2	"	"	"	"	
Trichloroethene (TCE)	ND		31.2	"	"	"	"	
Trichlorofluoromethane	ND		62.3	"	"	"	"	
1,2,3-Trichloropropane	ND		62.3	"	"	"	"	
1,2,4-Trimethylbenzene	ND		62.3	"	"	"	"	
1,3,5-Trimethylbenzene	ND		62.3	"	"	"	"	
Vinyl chloride	ND		31.2	"	"	"	"	
m,p-Xylene	ND		62.3	"	"	"	"	
o-Xylene	ND		31.2	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	<i>r)</i>	Re	ecovery: 110 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)			112 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			100 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Sur	")		104 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-5(12-13) (A11B329-12)			Matrix: Soil	В	atch: 11024	26		
Acetone	ND		1300	ug/kg dry	50	02/24/11 17:47	5035/8260B	
Benzene	ND		16.3	"	"	"	"	
Bromobenzene	ND		32.5	"	"	"	"	
Bromochloromethane	ND		32.5	"	"	"	"	
Bromodichloromethane	ND		32.5	"	"	"	"	
Bromoform	ND		65.0	"	"	"	"	
Bromomethane	ND		325	"	"	"	"	
2-Butanone (MEK)	ND		650	"	"	"	"	
n-Butylbenzene	ND		65.0	"	"	"	"	
sec-Butylbenzene	ND		65.0	"	"	"	"	
tert-Butylbenzene	ND		65.0	"	"	"	"	
Carbon tetrachloride	ND		32.5	"	"	"	"	
Chlorobenzene	ND		32.5	"	"	"	n	
Chloroethane	ND		650	"	"	"	"	
Chloroform	ND		65.0	"	"	"	"	
Chloromethane	ND		325	"	"	"	"	
2-Chlorotoluene	ND		65.0	"	"	"	"	
4-Chlorotoluene	ND		65.0	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		325	"	"	"	"	
Dibromochloromethane	ND		130	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		32.5	"	"	"	"	
Dibromomethane	ND		65.0	"	"	"	"	
1,2-Dichlorobenzene	ND		32.5	"	"	"	"	
1,3-Dichlorobenzene	ND		32.5	"	"	"	"	
1,4-Dichlorobenzene	ND		32.5	"	"	"	"	
Dichlorodifluoromethane	ND		130	"	"	"	"	
1,1-Dichloroethane	ND		32.5	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		32.5	"	"	"	"	
1,1-Dichloroethene	ND		32.5	"	"	"	"	
cis-1,2-Dichloroethene	ND		32.5	"	"	"	n .	
trans-1,2-Dichloroethene	ND		32.5	"	"	"	"	
1,2-Dichloropropane	ND		32.5	"	"	"	"	
1,3-Dichloropropane	ND		32.5	"	"	"	"	
2,2-Dichloropropane	ND		65.0	"	"	"	"	
1,1-Dichloropropene	ND		65.0	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	npounds by E	PA 8260B			
			Reporting				<del></del>	_
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-5(12-13) (A11B329-12)			Matrix: Soil	Ва	atch: 110242	26		
cis-1,3-Dichloropropene	ND		32.5	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		65.0	"	"	"	"	
Ethylbenzene	ND		32.5	"	"	"	"	
Hexachlorobutadiene	ND		130	"	"	"	"	
2-Hexanone	ND		650	"	"	"	"	
Isopropylbenzene	ND		65.0	"	"	"	"	
4-Isopropyltoluene	ND		65.0	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		650	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		65.0	"	"	"	"	
Methylene chloride	ND		325	"	"	"	"	
Naphthalene	ND		130	"	"	"	"	
n-Propylbenzene	ND		32.5	"	"	"	"	
Styrene	ND		65.0	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		32.5	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		32.5	"	"	"	"	
Tetrachloroethene (PCE)	482		32.5	"	"	"	"	
Toluene	ND		65.0	"	"	"	"	
1,2,3-Trichlorobenzene	ND		325	"	"	"	"	
1,2,4-Trichlorobenzene	ND		325	"	"	"	"	
1,1,1-Trichloroethane	ND		32.5	"	"	"	"	
1,1,2-Trichloroethane	ND		32.5	"	"	"	"	
Trichloroethene (TCE)	ND		32.5	"	"	"	"	
Trichlorofluoromethane	ND		65.0	"	"	"	"	
1,2,3-Trichloropropane	ND		65.0	"	"	"	"	
1,2,4-Trimethylbenzene	ND		65.0	"	"	"	"	
1,3,5-Trimethylbenzene	ND		65.0	"	"	"	"	
Vinyl chloride	ND		32.5	"	"	"	"	
m,p-Xylene	ND		65.0	"	"	"	"	
o-Xylene	ND		32.5	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	r)	Re	covery: 108 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)			110 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			100 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Sur	r)		105 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-6(6-7) (A11B329-13)			Matrix: Soil	В	atch: 11024	26		
Acetone	ND		1160	ug/kg dry	50	02/24/11 18:11	5035/8260B	
Benzene	ND		14.5	"	"	"	"	
Bromobenzene	ND		29.1	"	"	"	"	
Bromochloromethane	ND		29.1	"	"	"	"	
Bromodichloromethane	ND		29.1	"	"	"	"	
Bromoform	ND		58.1	"	"	"	"	
Bromomethane	ND		291	"	"	"	"	
2-Butanone (MEK)	ND		581	"	"	"	"	
n-Butylbenzene	ND		58.1	"	"	"	"	
sec-Butylbenzene	ND		58.1	"	"	"	"	
tert-Butylbenzene	ND		58.1	"	"	"	"	
Carbon tetrachloride	ND		29.1	"	"	"	"	
Chlorobenzene	ND		29.1	"	"	"	"	
Chloroethane	ND		581	"	"	"	"	
Chloroform	ND		58.1	"	"	"	"	
Chloromethane	ND		291	"	"	"	"	
2-Chlorotoluene	ND		58.1	"	"	"	"	
4-Chlorotoluene	ND		58.1	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		291	"	"	"	"	
Dibromochloromethane	ND		116	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		29.1	"	"	"	"	
Dibromomethane	ND		58.1	"	"	"	"	
1,2-Dichlorobenzene	ND		29.1	"	"	"	"	
1,3-Dichlorobenzene	ND		29.1	"	"	"	"	
1,4-Dichlorobenzene	ND		29.1	"	"	"	"	
Dichlorodifluoromethane	ND		116	"	"	"	"	
1,1-Dichloroethane	ND		29.1	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		29.1	"	"	"	"	
1,1-Dichloroethene	ND		29.1	"	"	"	"	
cis-1,2-Dichloroethene	ND		29.1	"	"	"	"	
trans-1,2-Dichloroethene	ND		29.1	"	"	"	"	
1,2-Dichloropropane	ND		29.1	"	"	"	"	
1,3-Dichloropropane	ND		29.1	"	"	"	"	
2,2-Dichloropropane	ND		58.1	"	"	"	"	
1,1-Dichloropropene	ND		58.1	"	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-6(6-7) (A11B329-13)			Matrix: Soil	Ва	tch: 11024	26					
cis-1,3-Dichloropropene	ND		29.1	ug/kg dry	50	"	5035/8260B				
trans-1,3-Dichloropropene	ND		58.1	"	"	"	"				
Ethylbenzene	ND		29.1	"	"	"	"				
Hexachlorobutadiene	ND		116	"	"	"	"				
2-Hexanone	ND		581	"	"	"	"				
Isopropylbenzene	ND		58.1	"	"	"	"				
4-Isopropyltoluene	ND		58.1	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		581	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		58.1	"	"	"	"				
Methylene chloride	ND		291	"	"	"	"				
Naphthalene	ND		116	"	"	"	"				
n-Propylbenzene	ND		29.1	"	"	"	"				
Styrene	ND		58.1	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		29.1	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		29.1	"	"	"	"				
Tetrachloroethene (PCE)	300		29.1	"	"	"	"				
Toluene	ND		58.1	"	"	"	"				
1,2,3-Trichlorobenzene	ND		291	"	"	"	"				
1,2,4-Trichlorobenzene	ND		291	"	"	"	"				
1,1,1-Trichloroethane	ND		29.1	"	"	"	"				
1,1,2-Trichloroethane	ND		29.1	"	"	"	"				
Trichloroethene (TCE)	ND		29.1	"	"	"	"				
Trichlorofluoromethane	ND		58.1	"	"	"	"				
1,2,3-Trichloropropane	ND		58.1	"	"	"	"				
1,2,4-Trimethylbenzene	ND		58.1	"	"	"	"				
1,3,5-Trimethylbenzene	ND		58.1	"	"	"	"				
Vinyl chloride	ND		29.1	"	"	"	"				
m,p-Xylene	ND		58.1	"	"	"	"				
o-Xylene	ND		29.1	"	"	"	"				
Surrogate: Dibromofluoromethane (Surr)		Rec	covery: 107 %	Limits: 70-130 %	1	11	"				
1,4-Difluorobenzene (Surr)			111 %	Limits: 70-130 %	"	"	"				
Toluene-d8 (Surr)			96 %	Limits: 70-130 %	"	"	"				
4-Bromofluorobenzene (Surr)			112 %	Limits: 70-130 %	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-6(12-13) (A11B329-14)			Matrix: Soil	В	atch: 11024	26		
Acetone	ND		1150	ug/kg dry	50	02/24/11 18:34	5035/8260B	
Benzene	ND		14.4	"	"	"	"	
Bromobenzene	ND		28.9	"	"	"	"	
Bromochloromethane	ND		28.9	"	"	"	"	
Bromodichloromethane	ND		28.9	"	"	"	"	
Bromoform	ND		57.7	"	"	"	"	
Bromomethane	ND		289	"	"	"	"	
2-Butanone (MEK)	ND		577	"	"	"	"	
n-Butylbenzene	ND		57.7	"	"	"	n	
sec-Butylbenzene	ND		57.7	"	"	"	· ·	
tert-Butylbenzene	ND		57.7	"	"	"	"	
Carbon tetrachloride	ND		28.9	"	"	"	"	
Chlorobenzene	ND		28.9	"	"	"	"	
Chloroethane	ND		577	"	"	"	"	
Chloroform	ND		57.7	"	"	"	"	
Chloromethane	ND		289	"	"	"	"	
2-Chlorotoluene	ND		57.7	"	"	"	"	
4-Chlorotoluene	ND		57.7	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		289	"	"	"	"	
Dibromochloromethane	ND		115	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		28.9	"	"	"	"	
Dibromomethane	ND		57.7	"	"	"	"	
1,2-Dichlorobenzene	ND		28.9	"	"	"	"	
1,3-Dichlorobenzene	ND		28.9	"	"	"	"	
1,4-Dichlorobenzene	ND		28.9	"	"	"	"	
Dichlorodifluoromethane	ND		115	"	"	"	"	
1,1-Dichloroethane	ND		28.9	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		28.9	"	"	"	"	
1,1-Dichloroethene	ND		28.9	"	"	"	"	
cis-1,2-Dichloroethene	ND		28.9	"	"	"	"	
trans-1,2-Dichloroethene	ND		28.9	"	"	"	"	
1,2-Dichloropropane	ND		28.9	"	"	"	"	
1,3-Dichloropropane	ND		28.9	"	"	"	n .	
2,2-Dichloropropane	ND		57.7	"	"	"	"	
1,1-Dichloropropene	ND		57.7	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	mpounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
PP-6(12-13) (A11B329-14)			Matrix: Soil	Ва	atch: 11024	26		
cis-1,3-Dichloropropene	ND		28.9	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		57.7	"	"	"	"	
Ethylbenzene	ND		28.9	"	"	"	"	
Hexachlorobutadiene	ND		115	"	"	"	"	
2-Hexanone	ND		577	"	"	"	"	
Isopropylbenzene	ND		57.7	"	"	"	"	
4-Isopropyltoluene	ND		57.7	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		577	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		57.7	"	"	"	"	
Methylene chloride	ND		289	"	"	"	"	
Naphthalene	ND		115	"	"	"	"	
n-Propylbenzene	ND		28.9	"	"	"	"	
Styrene	ND		57.7	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		28.9	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		28.9	"	"	"	"	
Tetrachloroethene (PCE)	274		28.9	"	"	"	"	
Toluene	ND		57.7	"	"	"	"	
1,2,3-Trichlorobenzene	ND		289	"	"	"	"	
1,2,4-Trichlorobenzene	ND		289	"	"	"	"	
1,1,1-Trichloroethane	ND		28.9	"	"	"	"	
1,1,2-Trichloroethane	ND		28.9	"	"	"	"	
Trichloroethene (TCE)	ND		28.9	"	"	"	"	
Trichlorofluoromethane	ND		57.7	"	"	"	"	
1,2,3-Trichloropropane	ND		57.7	"	"	"	"	
1,2,4-Trimethylbenzene	ND		57.7	"	"	"	"	
1,3,5-Trimethylbenzene	ND		57.7	"	"	"	"	
Vinyl chloride	ND		28.9	"	"	"	"	
m,p-Xylene	ND		57.7	"	"	"	"	
o-Xylene	ND		28.9	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	err)	Re	ecovery: 109 %	Limits: 70-130 %	1	"	"	
1,4-Difluorobenzene (Surr)			112 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			98 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Sur	r)		109 %	Limits: 70-130 %	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B												
		Reporting										
Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes					
		Matrix: Soil	В	atch: 11024	34							
ND		32400	ug/kg dry	1000	02/25/11 15:59	5035/8260B						
ND		405	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND		3240	"	"	"	"	R-01					
ND		1620	"	"	"	"						
ND		8090	"	"	"	"						
ND		39600	"	"	"	"	R-01					
11200		1620	"	"	"	"						
3820		1620	"	"	"	"						
ND		1620	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND		16200	"	"	"	"						
ND		1620	"	"	"	"						
ND		8090	"	"	"	"						
ND		1620	"	"	"	"						
ND		1620	"	"	"	"						
ND		8090	"	"	"	"						
ND		3240	"	"	"	"						
ND		809	"	"	"	"						
ND		1620	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND		3240	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND		809	"	"	"	"						
ND			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
	ND ND ND ND ND 11200 3820 ND	Result         MDL           ND            ND	Result         MDL         Reporting Limit           ND          32400           ND          405           ND          809           ND          809           ND          8090           ND          3240           ND          8090           ND          8090           ND          8090           ND          1620           ND          1620           ND          809           ND          809           ND          809           ND          1620           ND          1620           ND          8090           ND          8090           ND          8090           ND          809           ND          809           ND          809           ND          809           ND          809	Reporting Limit         Units           Matrix: Soil         B           ND          32400         ug/kg dry           ND          405         "           ND          809         "           ND          3240         "           ND          39600         "           ND          8090         "           ND          39600         "           11200          1620         "           ND          1620         "           ND          1620         "           ND          809         "           ND          8090         "           ND          1620         "           ND          8090         "           ND	Result         MDL         Limit         Units         Dilution           Matrix: Soil         Batch: 11024:           ND          32400         ug/kg dry         1000           ND          405         "         "           ND          809         "         "           ND          809         "         "           ND          809         "         "           ND          3240         "         "           ND          3240         "         "           ND          39600         "         "           ND          39600         "         "           ND          39600         "         "           ND          39600         "         "           ND          1620         "         "           ND          1620         "         "           ND          809         "         "           ND          1620         "         "	Result         MDL         Limit Limit         Units         Dilution         Date Analyzed           Matrix: Soil         Batch: 1102434           ND	Result         MDL         Reporting Limit         Units         Dilution         Date Analyzed         Method           Matrix: Soil         Batch: 1102434           ND					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
PP-6(17-18) (A11B329-15RE1)			Matrix: Soil	Ва	atch: 11024	34					
cis-1,3-Dichloropropene	ND		809	ug/kg dry	1000	"	5035/8260B				
trans-1,3-Dichloropropene	ND		1620	"	"	"	"				
Ethylbenzene	42200		809	"	"	"	"				
Hexachlorobutadiene	ND		3240	"	"	"	"				
2-Hexanone	ND		16200	"	"	"	"				
Isopropylbenzene	8620		1620	"	"	"	"				
4-Isopropyltoluene	6070		1620	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		32800	"	"	"	"	R-01			
Methyl tert-butyl ether (MTBE)	ND		1620	"	"	"	"				
Methylene chloride	ND		8090	"	"	"	"				
Naphthalene	19100		3240	"	"	"	"				
n-Propylbenzene	35200		809	"	"	"	"				
Styrene	ND		1620	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		809	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		809	"	"	"	"				
Tetrachloroethene (PCE)	2940		809	"	"	"	"				
Toluene	34800		1620	"	"	"	"				
1,2,3-Trichlorobenzene	ND		8090	"	"	"	"				
1,2,4-Trichlorobenzene	ND		8090	"	"	"	"				
1,1,1-Trichloroethane	ND		809	"	"	"	"				
1,1,2-Trichloroethane	ND		809	"	"	"	"				
Trichloroethene (TCE)	ND		809	"	"	"	"				
Trichlorofluoromethane	ND		1620	"	"	"	"				
1,2,3-Trichloropropane	ND		1620	"	"	"	"				
1,2,4-Trimethylbenzene	179000		1620	"	"	"	"				
1,3,5-Trimethylbenzene	58500		1620	"	"	"	"				
Vinyl chloride	ND		809	"	"	"	"				
m,p-Xylene	182000		1620	"	"	"	"				
o-Xylene	43000		809	"	"	"	"				
Surrogate: Dibromofluoromethane (Sur	<i>r)</i>	Re	covery: 121 %	Limits: 70-130 %	1	"	"				
1,4-Difluorobenzene (Surr)			124 %	Limits: 70-130 %	"	"	"				
Toluene-d8 (Surr)			93 %	Limits: 70-130 %	"	"	"				
4-Bromofluorobenzene (Sur	r)		100 %	Limits: 70-130 %	"	"	"				

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Com	pounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-6(15.5-16.5) (A11B329-16)			Matrix: Soil	В	atch: 11024	34		
Acetone	ND		1270	ug/kg dry	50	02/25/11 14:48	5035/8260B	
Benzene	ND		15.9	"	"	"	"	
Bromobenzene	ND		31.7	"	"	"	"	
Bromochloromethane	ND		31.7	"	"	"	"	
Bromodichloromethane	ND		31.7	"	"	"	"	
Bromoform	ND		63.5	"	"	"	"	
Bromomethane	ND		317	"	"	"	"	
2-Butanone (MEK)	ND		635	"	"	"	"	
n-Butylbenzene	ND		63.5	"	"	"	"	
sec-Butylbenzene	ND		63.5	"	"	"	"	
tert-Butylbenzene	ND		63.5	"	"	"	"	
Carbon tetrachloride	ND		31.7	"	"	"	"	
Chlorobenzene	ND		31.7	"	"	"	"	
Chloroethane	ND		635	"	"	"	"	
Chloroform	ND		63.5	"	"	"	"	
Chloromethane	ND		317	"	"	"	"	
2-Chlorotoluene	ND		63.5	"	"	"	"	
4-Chlorotoluene	ND		63.5	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		317	"	"	"	"	
Dibromochloromethane	ND		127	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		31.7	"	"	"	"	
Dibromomethane	ND		63.5	"	"	"	"	
1,2-Dichlorobenzene	ND		31.7	"	"	"	"	
1,3-Dichlorobenzene	ND		31.7	"	"	"	"	
1,4-Dichlorobenzene	ND		31.7	"	"	"	"	
Dichlorodifluoromethane	ND		127	"	"	"	"	
1,1-Dichloroethane	ND		31.7	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		31.7	"	"	"	"	
1,1-Dichloroethene	ND		31.7	"	"	"	"	
cis-1,2-Dichloroethene	ND		31.7	"	"	"	"	
trans-1,2-Dichloroethene	ND		31.7	"	"	"	"	
1,2-Dichloropropane	ND		31.7	"	"	"	"	
1,3-Dichloropropane	ND		31.7	"	"	"	"	
2,2-Dichloropropane	ND		63.5	"	"	"	"	
1,1-Dichloropropene	ND		63.5	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Cor	npounds by El	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-6(15.5-16.5) (A11B329-16)			Matrix: Soil	Ва	tch: 11024	34		
cis-1,3-Dichloropropene	ND		31.7	ug/kg dry	50	"	5035/8260B	
trans-1,3-Dichloropropene	ND		63.5	"	"	"	"	
Ethylbenzene	ND		31.7	"	"	"	"	
Hexachlorobutadiene	ND		127	"	"	"	"	
2-Hexanone	ND		635	"	"	"	"	
Isopropylbenzene	ND		63.5	"	"	"	"	
4-Isopropyltoluene	ND		63.5	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		635	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		63.5	"	"	"	"	
Methylene chloride	ND		317	"	"	"	"	
Naphthalene	ND		127	"	"	"	"	
n-Propylbenzene	ND		31.7	"	"	"	"	
Styrene	ND		63.5	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		31.7	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		31.7	"	"	"	"	
Tetrachloroethene (PCE)	381		31.7	"	"	"	"	
Toluene	ND		63.5	"	"	"	"	
1,2,3-Trichlorobenzene	ND		317	"	"	"	"	
1,2,4-Trichlorobenzene	ND		317	"	"	"	"	
1,1,1-Trichloroethane	ND		31.7	"	"	"	"	
1,1,2-Trichloroethane	ND		31.7	"	"	"	"	
Trichloroethene (TCE)	40.0		31.7	"	"	"	"	
Trichlorofluoromethane	ND		63.5	"	"	"	"	
1,2,3-Trichloropropane	ND		63.5	"	"	"	"	
1,2,4-Trimethylbenzene	100		63.5	"	"	"	"	
1,3,5-Trimethylbenzene	ND		63.5	"	"	"	"	
Vinyl chloride	ND		31.7	"	"	"	"	
m,p-Xylene	74.9		63.5	"	"	"	"	
o-Xylene	ND		31.7	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	r)	Re	covery: 118 %	Limits: 70-130 %	1	п	"	
1,4-Difluorobenzene (Surr)			121 %	Limits: 70-130 %	"	"	"	
Toluene-d8 (Surr)			98 %	Limits: 70-130 %	"	"	"	
4-Bromofluorobenzene (Surr	)		104 %	Limits: 70-130 %	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### ANALYTICAL SAMPLE RESULTS

	·	Volatile	Organic Compo	ounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TB (A11B329-17)			Matrix: Water		Batch: 11024	13		
Acetone	ND		20.0	ug/L	1	02/24/11 14:12	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	1.36		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
ГВ (А11В329-17)			Matrix: Wate	er B	atch: 11024	13		
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Sur	r)	Rec	covery: 103 %	Limits: 80-120 %	"	"	"	
1,4-Difluorobenzene (Surr)			101 %	Limits: 80-120 %	"	"	"	
Toluene-d8 (Surr)			98 %	Limits: 80-120 %	"	"	"	
4-Bromofluorobenzene (Sur	r)		113 %	Limits: 80-120 %	"	"	"	

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Philip Nerenberg, Lab Director

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### ANALYTICAL SAMPLE RESULTS

			Percent	Dry Weight				
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Note
PP-1(10.5-11.5) (A11B329-01)			Matrix: Soil		atch: 11024			
% Solids	80.7		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-1(13-14) (A11B329-02)			Matrix: Soil	В	atch: 11024	47		
% Solids	81.4		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-2(13-14) (A11B329-03)			Matrix: Soil	В	atch: 11024	47		
% Solids	83.7		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-2(14-15) (A11B329-04)			Matrix: Soil	В	atch: 11024	47		
% Solids	83.0		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-3(1.5-2) (A11B329-05)			Matrix: Soil	В	atch: 11024	47		
% Solids	89.1		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-3(8.5-9) (A11B329-06)			Matrix: Soil	В	atch: 11024	47		
% Solids	88.9		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-3(15-16) (A11B329-07)			Matrix: Soil	В	atch: 11024	47		
% Solids	79.1		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-3(19-20) (A11B329-08)			Matrix: Soil	В	atch: 11024	47		
% Solids	83.4		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-4(0.5-1.5) (A11B329-09)			Matrix: Soil	В	atch: 11024	47		
% Solids	91.1		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-4(12-13) (A11B329-10)			Matrix: Soil	В	atch: 11024	47		
% Solids	91.1		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-5(3-4) (A11B329-11)			Matrix: Soil	В	atch: 11024	47	-	
% Solids	86.6		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-5(12-13) (A11B329-12)			Matrix: Soil	B	atch: 11024	47	•	
% Solids	81.8		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-6(6-7) (A11B329-13)			Matrix: Soil		atch: 11024	47	•	
% Solids	91.4		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-6(12-13) (A11B329-14)			Matrix: Soil		atch: 11024		r	
% Solids	93.1		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
PP-6(17-18) (A11B329-15)			Matrix: Soil	, ,	atch: 11024			
% Solids	81.9		1.00	% by Weight	1	02/26/11 10:38	Apex SOP	
MW-6(15.5-16.5) (A11B329-16)			Matrix: Soil			11pex 501		
% Solids	82.8		1.00	% by Weight	atch: 110244	02/26/11 10:38	Apex SOP	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
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#### ANALYTICAL SAMPLE RESULTS

			Percent D	ry Weight				
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

	Gasol	ine Range	пуштос	arbons (Be	enzene t	o Napritna	alefie) by i	NVV I PH-	<u> </u>			
Analyte	Result	R MDL	eporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soil					
Blank (1102426-BLK1)				Pre	pared: 02/	24/11 11:43	Analyzed:	02/24/11 1	3:02			
NWTPH-Gx												
Gasoline Range Organics	ND		5.00	mg/kg wet	50							
Surr: 4-Bromofluorobenzene (Sur)		Recover	y: 106 %	Limits: 50	-150 %	Di	lution: 1x					
1,4-Difluorobenzene (Sur)			105 %	50	-150 %		"					
LCS (1102426-BS2)				Pre	pared: 02/	24/11 11:43	Analyzed:	02/24/11 1	2:38			
NWTPH-Gx												
Gasoline Range Organics	25.2		5.00	mg/kg wet	50	25.0		101	70-130%			
Surr: 4-Bromofluorobenzene (Sur)		Recover	y: 108 %	Limits: 50	-150 %	Di	lution: 1x					
1,4-Difluorobenzene (Sur)			105 %	50-	-150 %		"					
Duplicate (1102426-DUP1)				Pre	pared: 02/	24/11 11:43	Analyzed:	02/24/11 1	4:37			
QC Source Sample: PP-1(10.5-11.5) (	(A11B329-01)	1										
NWTPH-Gx												
Gasoline Range Organics	ND		6.40	mg/kg dry	50		3.50			***	30%	
Surr: 4-Bromofluorobenzene (Sur)		Recover	y: 119 %	Limits: 50	-150 %	Di	lution: 1x					
1,4-Difluorobenzene (Sur)			103 %	50	-150 %		"					
Duplicate (1102426-DUP2)				Pre	pared: 02/	24/11 11:43	Analyzed:	02/24/11 2	1:19			
QC Source Sample: PP-1(13-14) (A1	1B329-02)											
NWTPH-Gx												
Gasoline Range Organics	384		12.9	mg/kg dry	100		158			83	30%	Q-04
Surr: 4-Bromofluorobenzene (Sur)		Recover	y: 154 %	Limits: 50	-150 %	Di	lution: 1x					S-02
1,4-Difluorobenzene (Sur)			116 %	50	-150 %		"					
Batch 1102434 - EPA 5035A							Soil	I				
Blank (1102434-BLK1)				Pre	pared: 02/	24/11 16:33	Analyzed:	02/25/11 1	2:25			
NWTPH-Gx												
Gasoline Range Organics	ND		5.00	mg/kg wet	50							
Surr: 4-Bromofluorobenzene (Sur)		Recover	y: 125 %	Limits: 50	-150 %	Di	lution: 1x					
1,4-Difluorobenzene (Sur)			112 %	50	-150 %		"					
LCS (1102434-BS2)				Pre	pared: 02/	24/11 16:33	Analyzed:	02/25/11 1	2:01			
NWTPH-Gx							-					
Gasoline Range Organics	27.8		5.00	mg/kg wet	50	25.0		111	70-130%			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

	Gasol	ine Rang	ge Hydroc	arbons (B	enzene t	o Naphtha	lene) by	NWTPH-G	Sx	•		
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A	4						Soil					
LCS (1102434-BS2)				Pre	epared: 02/	24/11 16:33	Analyzed:	02/25/11 12	:01			
Surr: 4-Bromofluorobenzene (Sur)		Reco	very: 131 %	Limits: 50	0-150 %	Dilı	tion: 1x					
1,4-Difluorobenzene (Sur)			115 %	50	0-150 %		"					
Duplicate (1102434-DUP1)				Pre	epared: 02/	24/11 16:33	Analyzed:	02/25/11 13	:12			
QC Source Sample: PP-6(17-18) (A	11B329-15)											
NWTPH-Gx												
Gasoline Range Organics	6280		73.2	mg/kg dry	500		ND				30%	E
Surr: 4-Bromofluorobenzene (Sur)		Reco	very: 171 %	Limits: 50	0-150 %	Dilı	ution: 1x					S-02
1,4-Difluorobenzene (Sur)			118 %	50	0-150 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx													
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1102466 - EPA 5035A							Soil						
Blank (1102466-BLK1)				Pre	pared: 02/	28/11 12:19	Analyzed:	02/28/11 1	4:03				
NWTPH-Gx													
Gasoline Range Organics	ND		5.00	mg/kg wet	50								
Surr: 4-Bromofluorobenzene (Sur)		F	Recovery: 87 %	Limits: 50	150 %	Dilu	tion: 1x						
1,4-Difluorobenzene (Sur)			95 %	50-	150 %		"						
LCS (1102466-BS2)				Pre	pared: 02/	28/11 12:19	Analyzed:	02/28/11 13	3:39				
NWTPH-Gx													
Gasoline Range Organics	20.6		5.00	mg/kg wet	50	25.0		82	70-130%				
Surr: 4-Bromofluorobenzene (Sur)		F	Recovery: 88 %	Limits: 50	150 %	Dilu	tion: 1x						
1,4-Difluorobenzene (Sur)			97 %	50-	150 %		"						

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102413 - EPA 5030E	3						Wat	er				
Blank (1102413-BLK1)				Pre	pared: 02/2	24/11 10:56	Analyzed:	02/24/11 13	:47			
EPA 8260B												
Acetone	ND		20.0	ug/L	1							
Benzene	ND		0.250	"	"							
Bromobenzene	ND		0.500	"	"							
Bromochloromethane	ND		0.500	"	"							
Bromodichloromethane	ND		0.500	"	"							
Bromoform	ND		1.00	"	"							
Bromomethane	ND		5.00	"	"							
2-Butanone (MEK)	ND		10.0	"	"							
n-Butylbenzene	ND		1.00	"	"							
sec-Butylbenzene	ND		1.00	"	"							
tert-Butylbenzene	ND		1.00	"	"							
Carbon tetrachloride	ND		0.500	"	"							
Chlorobenzene	ND		0.500	"	"							
Chloroethane	ND		5.00	"	"							
Chloroform	ND		1.00	"	"							
Chloromethane	ND		5.00	"	"							
2-Chlorotoluene	ND		1.00	"	"							
4-Chlorotoluene	ND		1.00	"	"							
1,2-Dibromo-3-chloropropane	ND		5.00	"	"							
Dibromochloromethane	ND		1.00	"	"							
1,2-Dibromoethane (EDB)	ND		0.500	"	"							
Dibromomethane	ND		1.00	"	"							
1,2-Dichlorobenzene	ND		0.500	"	"							
1,3-Dichlorobenzene	ND		0.500	"	"							
1,4-Dichlorobenzene	ND		0.500	"	"							
Dichlorodifluoromethane	ND		1.00	"	"							
1,1-Dichloroethane	ND		0.500	"	"							
1,2-Dichloroethane (EDC)	ND		0.500	"	"							
1,1-Dichloroethene	ND		0.500	"	"							
cis-1,2-Dichloroethene	ND		0.500	"	"							
trans-1,2-Dichloroethene	ND		0.500	"	"							
1,2-Dichloropropane	ND		0.500	"	"							
1,3-Dichloropropane	ND		1.00	"	"							
2,2-Dichloropropane	ND		1.00	"	"							

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic (	Compound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	. Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102413 - EPA 5030B	}						Wat	er				
Blank (1102413-BLK1)					Prepared: 02/	24/11 10:56	Analyzed:	02/24/11 13	:47			
1,1-Dichloropropene	ND		1.00	ug/L	"							
cis-1,3-Dichloropropene	ND		0.500	"	"							
trans-1,3-Dichloropropene	ND		1.00	"	"							
Ethylbenzene	ND		0.500	"	"							
Hexachlorobutadiene	ND		5.00	"	"							
2-Hexanone	ND		10.0	"	"							
Isopropylbenzene	ND		1.00	"	"							
4-Isopropyltoluene	ND		1.00	"	"							
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"							
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"							
Methylene chloride	ND		5.00	"	"							
Naphthalene	ND		2.00	"	"							
n-Propylbenzene	ND		0.500	"	"							
Styrene	ND		1.00	"	"							
1,1,2-Tetrachloroethane	ND		0.500	"	"							
1,1,2,2-Tetrachloroethane	ND		0.500	"	"							
Tetrachloroethene (PCE)	ND		0.500	"	"							
Toluene	ND		1.00	"	"							
1,2,3-Trichlorobenzene	ND		1.00	"	"							
1,2,4-Trichlorobenzene	ND		2.00	"	"							
1,1,1-Trichloroethane	ND		0.500	"	"							
1,1,2-Trichloroethane	ND		0.500	"	"							
Trichloroethene (TCE)	ND		0.500	"	"							
Trichlorofluoromethane	ND		1.00	"	"							
1,2,3-Trichloropropane	ND		1.00	"	"							
1,2,4-Trimethylbenzene	ND		1.00	"	"							
1,3,5-Trimethylbenzene	ND		1.00	"	"							
Vinyl chloride	ND		0.500	"	"							
m,p-Xylene	ND		1.00	"	"							
o-Xylene	ND		0.500	"	"							
Surr: Dibromofluoromethane (Surr)		Roi	covery: 101 %	Limits:	80-120 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)		1101	100 %		80-120 %	Diii	unon. 1x					
Toluene-d8 (Surr)			98 %		80-120 %		"					
4-Bromofluorobenzene (Surr)			108 %		80-120 %		"					

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Coi	mpound	S DY EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102413 - EPA 5030E	3						Wat	er				
LCS (1102413-BS1)				Pre	pared: 02/	24/11 10:56	Analyzed:	02/24/11 12	2:56			
EPA 8260B					•		-					
Acetone	30.1		20.0	ug/L	1	40.0		75	70-130%			
Benzene	19.2		0.250	"	"	20.0		96	"			
Bromobenzene	20.1		0.500	"	"	"		101	"			
Bromochloromethane	18.3		0.500	"	"	"		92	"			
Bromodichloromethane	19.9		0.500	"	"	"		100	"			
Bromoform	22.3		1.00	"	"	"		112	"			
Bromomethane	25.9		5.00	"	"	"		130	"			
2-Butanone (MEK)	35.9		10.0	"	"	40.0		90	"			
n-Butylbenzene	23.0		1.00	"	"	20.0		115	"			
sec-Butylbenzene	22.9		1.00	"	"	"		114	"			
tert-Butylbenzene	24.8		1.00	"	"	"		124	"			
Carbon tetrachloride	18.5		0.500	"	"	"		92	"			
Chlorobenzene	21.6		0.500	"	"	"		108	"			
Chloroethane	25.9		5.00	"	"	"		130	"			EST
Chloroform	19.3		1.00	"	"	"		97	"			
Chloromethane	15.6		5.00	"	"	"		78	"			
2-Chlorotoluene	22.5		1.00	"	"	"		112	"			
4-Chlorotoluene	23.6		1.00	"	"	"		118	"			
1,2-Dibromo-3-chloropropane	21.2		5.00	"	"	"		106	"			
Dibromochloromethane	20.3		1.00	"	"	"		101	"			
1,2-Dibromoethane (EDB)	20.1		0.500	"	"	"		100	"			
Dibromomethane	18.9		1.00	"	"	"		94	"			
1,2-Dichlorobenzene	21.2		0.500	"	"	"		106	"			
1,3-Dichlorobenzene	20.2		0.500	"	"	"		101	"			
1,4-Dichlorobenzene	20.7		0.500	"	"	"		104	"			
Dichlorodifluoromethane	15.3		1.00	"	"	"		77	"			
1,1-Dichloroethane	18.4		0.500	"	"	"		92	"			
1,2-Dichloroethane (EDC)	21.1		0.500	"	"	"		106	"			
1,1-Dichloroethene	17.1		0.500	"	"	"		86	"			
cis-1,2-Dichloroethene	18.1		0.500	"	"	"		90	"			
trans-1,2-Dichloroethene	19.0		0.500	"	"	"		95	"			
1,2-Dichloropropane	16.9		0.500	"	"	"		84	"			
1,3-Dichloropropane	20.0		1.00	"	"	"		100	"			
2,2-Dichloropropane	20.8		1.00	"	"	"		104	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Reporting			Spike	Source		%REC		RPD	
Analyte	Result	MDL	Limit	Units	Dil.	Amount	Result	%REC	Limits	RPD	Limit	Notes
Batch 1102413 - EPA 5030B	l						Wat	er				
LCS (1102413-BS1)					Prepared: 02/	24/11 10:56	Analyzed:	02/24/11 12	:56			
1,1-Dichloropropene	19.9		1.00	ug/L	"	"		100	"			
cis-1,3-Dichloropropene	20.8		0.500	"	"	"		104	"			
trans-1,3-Dichloropropene	21.2		1.00	"	"	"		106	"			
Ethylbenzene	21.8		0.500	"	"	"		109	"			
Hexachlorobutadiene	23.5		5.00	"	"	"		118	"			
2-Hexanone	37.1		10.0	"	"	40.0		93	"			
Isopropylbenzene	22.9		1.00	"	"	20.0		114	"			
4-Isopropyltoluene	22.6		1.00	"	"	"		113	"			
4-Methyl-2-pentanone (MiBK)	38.5		10.0	"	"	40.0		96	"			
Methyl tert-butyl ether (MTBE)	19.9		1.00	"	"	20.0		99	"			
Methylene chloride	18.3		5.00	"	"	"		91	"			
Naphthalene	19.2		2.00	"	"	"		96	"			
n-Propylbenzene	22.8		0.500	"	"	"		114	"			
Styrene	21.3		1.00	"	"	"		107	"			
1,1,1,2-Tetrachloroethane	18.9		0.500	"	"	"		95	"			
1,1,2,2-Tetrachloroethane	21.6		0.500	"	"	"		108	"			
Tetrachloroethene (PCE)	20.6		0.500	"	"	"		103	"			
Toluene	19.2		1.00	"	"	"		96	"			
1,2,3-Trichlorobenzene	22.5		1.00	"	"	"		112	"			
1,2,4-Trichlorobenzene	22.4		2.00	"	"	"		112	"			
1,1,1-Trichloroethane	18.4		0.500	"	"	"		92	"			
1,1,2-Trichloroethane	20.0		0.500	"	"	"		100	"			
Trichloroethene (TCE)	18.7		0.500	"	"	"		94	"			
Trichlorofluoromethane	27.7		1.00	"	"	"		138	"			Q-29
1,2,3-Trichloropropane	20.5		1.00	"	"	"		103	"			
1,2,4-Trimethylbenzene	24.6		1.00	"	"	"		123	"			
1,3,5-Trimethylbenzene	22.5		1.00	"	"	"		113	"			
Vinyl chloride	19.2		0.500	"	"	"		96	"			
m,p-Xylene	43.3		1.00	"	"	40.0		108	"			
o-Xylene	21.8		0.500	"	"	20.0		109	"			
Surr: Dibromofluoromethane (Surr)		R	ecovery: 97 %	Limits:	80-120 %		ution: 1x					
1,4-Difluorobenzene (Surr)		70	98 %		80-120 %	Diii	m "					
Toluene-d8 (Surr)			104 %		80-120 %		"					
4-Bromofluorobenzene (Surr)			105 %		80-120 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Domesti			C :1	C		0/DEC		DDD	
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A	١						Soil					
Blank (1102426-BLK1)				Prep	pared: 02/	24/11 11:43	Analyzed:	02/24/11 13:	02			
5035/8260B												
Acetone	ND		1000	ug/kg wet	50							
Benzene	ND		12.5	"	"							
Bromobenzene	ND		25.0	"	"							
Bromochloromethane	ND		25.0	"	"							
Bromodichloromethane	ND		25.0	"	"							
Bromoform	ND		50.0	"	"							
Bromomethane	ND		250	"	"							
2-Butanone (MEK)	ND		500	"	"							
n-Butylbenzene	ND		50.0	"	"							
sec-Butylbenzene	ND		50.0	"	"							
tert-Butylbenzene	ND		50.0	"	"							
Carbon tetrachloride	ND		25.0	"	"							
Chlorobenzene	ND		25.0	"	"							
Chloroethane	ND		500	"	"							
Chloroform	ND		50.0	"	"							
Chloromethane	ND		250	"	"							
2-Chlorotoluene	ND		50.0	"	"							
4-Chlorotoluene	ND		50.0	"	"							
1,2-Dibromo-3-chloropropane	ND		250	"	"							
Dibromochloromethane	ND		100	"	"							
1,2-Dibromoethane (EDB)	ND		25.0	"	"							
Dibromomethane	ND		50.0	"	"							
1,2-Dichlorobenzene	ND		25.0	"	"							
1,3-Dichlorobenzene	ND		25.0	"	"							
1,4-Dichlorobenzene	ND		25.0	"	"							
Dichlorodifluoromethane	ND		100	"	"							
1,1-Dichloroethane	ND		25.0	"	"							
1,2-Dichloroethane (EDC)	ND		25.0	"	"							
1,1-Dichloroethene	ND		25.0	"	"							
cis-1,2-Dichloroethene	ND		25.0	"	"							
trans-1,2-Dichloroethene	ND		25.0	"	"							
1,2-Dichloropropane	ND		25.0	"	"							
1,3-Dichloropropane	ND		25.0	"	"							
2,2-Dichloropropane	ND		50.0	"	"							

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Co	mpound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soil					
Blank (1102426-BLK1)				Pı	repared: 02/	24/11 11:43	Analyzed:	02/24/11 13:	:02			
1,1-Dichloropropene	ND		50.0	ug/kg wet	"							
cis-1,3-Dichloropropene	ND		25.0	"	"							
trans-1,3-Dichloropropene	ND		50.0	"	"							
Ethylbenzene	ND		25.0	"	"							
Hexachlorobutadiene	ND		100	"	"							
2-Hexanone	ND		500	"	"							
Isopropylbenzene	ND		50.0	"	"							
4-Isopropyltoluene	ND		50.0	"	"							
4-Methyl-2-pentanone (MiBK)	ND		500	"	"							
Methyl tert-butyl ether (MTBE)	ND		50.0	"	"							
Methylene chloride	ND		250	"	"							
Naphthalene	ND		100	"	"							
n-Propylbenzene	ND		25.0	"	"							
Styrene	ND		50.0	"	"							
1,1,2-Tetrachloroethane	ND		25.0	"	"							
1,1,2,2-Tetrachloroethane	ND		25.0	"	"							
Tetrachloroethene (PCE)	ND		25.0	"	"							
Toluene	ND		50.0	"	"							
1,2,3-Trichlorobenzene	ND		250	"	"							
1,2,4-Trichlorobenzene	ND		250	"	"							
1,1,1-Trichloroethane	ND		25.0	"	"							
1,1,2-Trichloroethane	ND		25.0	"	"							
Trichloroethene (TCE)	ND		25.0	"	"							
Trichlorofluoromethane	ND		50.0	"	"							
1,2,3-Trichloropropane	ND		50.0	"	"							
1,2,4-Trimethylbenzene	ND		50.0	"	"							
1,3,5-Trimethylbenzene	ND		50.0	"	"							
Vinyl chloride	ND		25.0	"	"							
m,p-Xylene	ND		50.0	"	"							
o-Xylene	ND		25.0	"	"							
Surr: Dibromofluoromethane (Surr)	ПЪ		covery: 108 %	Limita: 7	0-130 %	D:I-	ution: 1x		•			
1,4-Difluorobenzene (Surr)		Ked	overy: 108 %		0-130 % 0-130 %	Dili	ипоп: 1x "					
Toluene-d8 (Surr)			110 %		0-130 % 0-130 %		"					
4-Bromofluorobenzene (Surr)			104 %		0-130 % 0-130 %		,,					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

				rganic Con	•							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A	1						Soi	I				
LCS (1102426-BS1)				Prej	pared: 02/	24/11 11:43	Analyzed:	02/24/11 12	2:15			
5035/8260B												
Acetone	2160		1000	ug/kg wet	50	2000		108	65-135%			
Benzene	1120		12.5	"	"	1000		112	"			
Bromobenzene	954		25.0	"	"	"		95	"			
Bromochloromethane	1140		25.0	"	"	"		114	"			
Bromodichloromethane	1130		25.0	"	"	"		113	"			
Bromoform	864		50.0	"	"	"		86	"			
Bromomethane	1300		250	"	"	"		130	"			
2-Butanone (MEK)	2240		500	"	"	2000		112	"			
n-Butylbenzene	1110		50.0	"	"	1000		111	"			
sec-Butylbenzene	1060		50.0	"	"	"		106	"			
tert-Butylbenzene	1010		50.0	"	"	"		101	"			
Carbon tetrachloride	1130		25.0	"	"	"		113	"			
Chlorobenzene	1010		25.0	"	"	"		101	"			
Chloroethane	1220		500	"	"	"		122	"			
Chloroform	1070		50.0	"	"	"		107	"			
Chloromethane	1090		250	"	"	"		109	"			
2-Chlorotoluene	1030		50.0	"	"	"		103	"			
4-Chlorotoluene	1010		50.0	"	"	"		101	"			
1,2-Dibromo-3-chloropropane	788		250	"	"	"		79	"			
Dibromochloromethane	1060		100	"	"	"		106	"			
1,2-Dibromoethane (EDB)	1060		25.0	"	"	"		106	"			
Dibromomethane	1070		50.0	"	"	"		107	"			
1,2-Dichlorobenzene	1070		25.0	"	"	"		107	"			
1,3-Dichlorobenzene	1040		25.0	"	"	"		104	"			
1,4-Dichlorobenzene	1010		25.0	"	"	"		101	"			
Dichlorodifluoromethane	914		100	"	"	"		91	"			
1,1-Dichloroethane	1080		25.0	"	"	"		108	"			
1,2-Dichloroethane (EDC)	1020		25.0	"	"	"		102	"			
1,1-Dichloroethene	1070		25.0	"	"	"		107	"			
cis-1,2-Dichloroethene	1060		25.0	"	"	"		106	"			
trans-1,2-Dichloroethene	1110		25.0	"	"	"		111	"			
1,2-Dichloropropane	1100		25.0	"	"	"		110	"			
1,3-Dichloropropane	982		25.0	"	"	"		98	"			
2,2-Dichloropropane	1060		50.0	"	"	"		106	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Reporting			Spike	Source		%REC		RPD	
Analyte	Result	MDL	Limit	Units	Dil.	Amount	Result	%REC	Limits	RPD	Limit	Notes
Batch 1102426 - EPA 5035A	<u> </u>						Soil					
LCS (1102426-BS1)				Pr	epared: 02/	24/11 11:43	Analyzed:	02/24/11 12	:15			
1,1-Dichloropropene	1030		50.0	ug/kg wet	"	"		103	"			
cis-1,3-Dichloropropene	1050		25.0	"	"	"		105	"			
trans-1,3-Dichloropropene	1030		50.0	"	"	"		103	"			
Ethylbenzene	926		25.0	"	"	"		93	"			
Hexachlorobutadiene	1100		100	"	"	"		110	"			
2-Hexanone	2130		500	"	"	2000		106	"			
Isopropylbenzene	1020		50.0	"	"	1000		102	"			
4-Isopropyltoluene	1050		50.0	"	"	"		105	"			
4-Methyl-2-pentanone (MiBK)	1940		500	"	"	2000		97	"			
Methyl tert-butyl ether (MTBE)	894		50.0	"	"	1000		89	"			
Methylene chloride	678		250	"	"	"		68	"			
Naphthalene	899		100	"	"	"		90	"			
n-Propylbenzene	1030		25.0	"	"	"		103	"			
Styrene	1060		50.0	"	"	"		106	"			
1,1,1,2-Tetrachloroethane	998		25.0	"	"	"		100	"			
1,1,2,2-Tetrachloroethane	948		25.0	"	"	"		95	"			
Tetrachloroethene (PCE)	1080		25.0	"	"	"		108	"			
Toluene	996		50.0	"	"	"		100	"			
1,2,3-Trichlorobenzene	1090		250	"	"	"		109	"			
1,2,4-Trichlorobenzene	1020		250	"	"	"		102	"			
1,1,1-Trichloroethane	1080		25.0	"	"	"		108	"			
1,1,2-Trichloroethane	1000		25.0	"	"	"		100	"			
Trichloroethene (TCE)	1160		25.0	"	"	"		116	"			
Trichlorofluoromethane	1210		50.0	"	"	"		121	"			
1,2,3-Trichloropropane	960		50.0	"	"	"		96	"			
1,2,4-Trimethylbenzene	1040		50.0	"	**	"		104	"			
1,3,5-Trimethylbenzene	1020		50.0	"	"	"		102	"			
Vinyl chloride	1120		25.0	"	"	"		112	"			
m,p-Xylene	2130		50.0	"	"	2000		106	"			
o-Xylene	1030		25.0	"	"	1000		103	"			
Surr: Dibromofluoromethane (Surr)		Red	covery: 109 %	Limits: 7	0-130 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			107 %		0-130 %		"					
Toluene-d8 (Surr)			104 %		0-130 %		"					
4-Bromofluorobenzene (Surr)			107 %		0-130 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

<u> </u>						a ::						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A	١						Soi					
Duplicate (1102426-DUP1)				Prep	pared: 02/	24/11 11:43	Analyzed:	02/24/11 14:	:37			
QC Source Sample: PP-1(10.5-11.5) 5035/8260B	(A11B329-01)	)										
Acetone	ND		1280	ug/kg dry	50		ND				30%	
Benzene	ND		16.0	"	"		14.9			***	30%	
Bromobenzene	ND		32.0	"	"		ND				30%	
Bromochloromethane	ND		32.0	"	"		ND				30%	
Bromodichloromethane	ND		32.0	"	"		ND				30%	
Bromoform	ND		64.0	"	"		ND				30%	
Bromomethane	ND		320	"	"		ND				30%	
2-Butanone (MEK)	ND		640	"	"		ND				30%	
n-Butylbenzene	ND		64.0	"	"		ND				30%	
sec-Butylbenzene	ND		64.0	"	"		ND				30%	
tert-Butylbenzene	ND		64.0	"	"		ND				30%	
Carbon tetrachloride	ND		32.0	"	"		ND				30%	
Chlorobenzene	ND		32.0	"	"		ND				30%	
Chloroethane	ND		640	"	"		ND				30%	
Chloroform	ND		64.0	"	"		ND				30%	
Chloromethane	ND		320	"	"		ND				30%	
2-Chlorotoluene	ND		64.0	"	"		ND				30%	
4-Chlorotoluene	ND		64.0	"	"		ND				30%	
1,2-Dibromo-3-chloropropane	ND		320	"	"		ND				30%	
Dibromochloromethane	ND		128	"	"		ND				30%	
1,2-Dibromoethane (EDB)	ND		32.0	"	"		ND				30%	
Dibromomethane	ND		64.0	"	"		ND				30%	
1,2-Dichlorobenzene	ND		32.0	"	"		ND				30%	
1,3-Dichlorobenzene	ND		32.0	"	"		ND				30%	
1,4-Dichlorobenzene	ND		32.0	"	"		ND				30%	
Dichlorodifluoromethane	ND		128	"	"		ND				30%	
1,1-Dichloroethane	ND		32.0	"	"		ND				30%	
1,2-Dichloroethane (EDC)	ND		32.0	"	"		21.7			***	30%	
1,1-Dichloroethene	ND		32.0	"	"		ND				30%	
cis-1,2-Dichloroethene	ND		32.0	"	"		ND				30%	
trans-1,2-Dichloroethene	ND		32.0	"	"		ND				30%	
1,2-Dichloropropane	ND		32.0	"	"		ND				30%	
1,3-Dichloropropane	ND		32.0	"	"		ND				30%	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soil					
Duplicate (1102426-DUP1)				Prej	pared: 02/	24/11 11:43	Analyzed:	02/24/11 14:	37			
QC Source Sample: PP-1(10.5-11.5) (	A11B329-01)											
2,2-Dichloropropane	ND		64.0	ug/kg dry	"		ND				30%	
1,1-Dichloropropene	ND		64.0	"	"		ND				30%	
cis-1,3-Dichloropropene	ND		32.0	"	"		ND				30%	
trans-1,3-Dichloropropene	ND		64.0	"	"		ND				30%	
Ethylbenzene	ND		32.0	"	"		19.2			***	30%	
Hexachlorobutadiene	ND		128	"	"		ND				30%	
2-Hexanone	ND		640	"	"		ND				30%	
Isopropylbenzene	ND		64.0	"	"		ND				30%	
4-Isopropyltoluene	ND		64.0	"	"		ND				30%	
4-Methyl-2-pentanone (MiBK)	ND		640	"	"		ND				30%	
Methyl tert-butyl ether (MTBE)	ND		64.0	"	"		ND				30%	
Methylene chloride	ND		320	"	"		ND				30%	
Naphthalene	ND		128	"	"		108			***	30%	
n-Propylbenzene	ND		32.0	"	"		20.4			***	30%	
Styrene	ND		64.0	"	"		ND				30%	
1,1,1,2-Tetrachloroethane	ND		32.0	"	"		ND				30%	
1,1,2,2-Tetrachloroethane	ND		32.0	"	"		ND				30%	
Tetrachloroethene (PCE)	ND		32.0	"	"		575			***	30%	
Toluene	ND		64.0	"	"		52.0			***	30%	
1,2,3-Trichlorobenzene	ND		320	"	"		ND				30%	
1,2,4-Trichlorobenzene	ND		320	"	"		ND				30%	
1,1,1-Trichloroethane	ND		32.0	"	"		ND				30%	
1,1,2-Trichloroethane	ND		32.0	"	"		ND				30%	
Trichloroethene (TCE)	ND		32.0	"	"		ND				30%	
Trichlorofluoromethane	ND		64.0	"	"		ND				30%	
1,2,3-Trichloropropane	ND		64.0	"	"		ND				30%	
1,2,4-Trimethylbenzene	ND		64.0	"	"		163			***	30%	
1,3,5-Trimethylbenzene	ND		64.0	"	"		68.1			***	30%	
Vinyl chloride	ND		32.0	"	"		ND				30%	
m,p-Xylene	ND		64.0	"	"		78.6			***	30%	
o-Xylene	ND		32.0	"	"		33.4			***	30%	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Co	mpound	s by EPA 8	8260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soi	]				
Duplicate (1102426-DUP1)				Pre	epared: 02/	24/11 11:43	Analyzed:	02/24/11 14	:37			
QC Source Sample: PP-1(10.5-11.5)	(A11B329-01)											
Surr: Toluene-d8 (Surr)		1	Recovery: 93 %	Limits: 70	-130 %	Dil	ution: 1x					
4-Bromofluorobenzene (Surr)			107 %	70	-130 %		"					
Duplicate (1102426-DUP2)				Pre	epared: 02/	24/11 11:43	Analyzed:	02/24/11 21	:19			
QC Source Sample: PP-1(13-14) (A1 5035/8260B	1B329-02)											
Acetone	ND		2570	ug/kg dry	100		ND				30%	
Benzene	ND		32.1	"	"		ND				30%	
Bromobenzene	ND		64.3	"	"		ND				30%	
Bromochloromethane	ND		64.3	"	"		ND				30%	
Bromodichloromethane	ND		617	"	"		257			***	30%	R-0
Bromoform	ND		129	"	"		ND				30%	
Bromomethane	ND		643	"	"		ND				30%	
2-Butanone (MEK)	ND		5270	"	"		1880			***	30%	R-0
n-Butylbenzene	294		129	"	"		112			90	30%	Q-04
sec-Butylbenzene	198		129	"	"		78.4			87	30%	Q-04
tert-Butylbenzene	ND		129	"	"		ND				30%	
Carbon tetrachloride	ND		64.3	"	"		ND				30%	
Chlorobenzene	ND		64.3	"	"		ND				30%	
Chloroethane	ND		1290	"	"		ND				30%	
Chloroform	ND		129	"	"		ND				30%	
Chloromethane	ND		643	"	"		ND				30%	
2-Chlorotoluene	ND		129	"	"		ND				30%	
4-Chlorotoluene	ND		129	"	"		ND				30%	
1,2-Dibromo-3-chloropropane	ND		643	"	"		ND				30%	
Dibromochloromethane	ND		257	"	"		ND				30%	
1,2-Dibromoethane (EDB)	ND		64.3	"	"		ND				30%	
Dibromomethane	ND		129	"	"		ND				30%	
1,2-Dichlorobenzene	ND		64.3	"	"		ND				30%	
1,3-Dichlorobenzene	ND		64.3	"	"		ND				30%	
1,4-Dichlorobenzene	ND		64.3	"	"		ND				30%	
Dichlorodifluoromethane	ND		257	"	"		ND				30%	
1,1-Dichloroethane	ND		64.3	"	"		ND				30%	
1,2-Dichloroethane (EDC)	ND		64.3	"	"		ND				30%	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			voiatile O	rganic Con	npound	S DY EPA 8	<b>∠</b> 60B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soil					
Duplicate (1102426-DUP2)				Pre	pared: 02/	24/11 11:43	Analyzed: (	02/24/11 21	:19			
QC Source Sample: PP-1(13-14) (A1	1B329-02)											
1,1-Dichloroethene	ND		64.3	ug/kg dry	"		ND				30%	
cis-1,2-Dichloroethene	ND		64.3	"	"		ND				30%	
trans-1,2-Dichloroethene	ND		64.3	"	"		ND				30%	
1,2-Dichloropropane	ND		64.3	"	"		ND				30%	
1,3-Dichloropropane	ND		64.3	"	"		ND				30%	
2,2-Dichloropropane	ND		129	"	"		ND				30%	
1,1-Dichloropropene	ND		129	"	"		ND				30%	
cis-1,3-Dichloropropene	ND		64.3	"	"		ND				30%	
trans-1,3-Dichloropropene	ND		129	"	"		ND				30%	
Ethylbenzene	ND		64.3	"	"		ND				30%	
Hexachlorobutadiene	ND		257	"	"		ND				30%	
2-Hexanone	ND		1290	"	"		ND				30%	
Isopropylbenzene	ND		129	"	"		ND				30%	
4-Isopropyltoluene	ND		129	"	"		ND				30%	
4-Methyl-2-pentanone (MiBK)	ND		2570	"	"		748			***	30%	R-01
Methyl tert-butyl ether (MTBE)	ND		129	"	"		ND				30%	
Methylene chloride	ND		643	"	"		ND				30%	
Naphthalene	ND		257	"	"		ND				30%	
n-Propylbenzene	ND		64.3	"	"		ND				30%	
Styrene	ND		129	"	"		ND				30%	
1,1,1,2-Tetrachloroethane	ND		64.3	"	"		ND				30%	
1,1,2,2-Tetrachloroethane	ND		64.3	"	"		74.4			***	30%	
Tetrachloroethene (PCE)	ND		64.3	"	"		32.7			***	30%	Q-05
Toluene	ND		129	"	"		ND				30%	
1,2,3-Trichlorobenzene	ND		643	"	"		ND				30%	
1,2,4-Trichlorobenzene	ND		643	"	"		ND				30%	
1,1,1-Trichloroethane	ND		64.3	"	"		ND				30%	
1,1,2-Trichloroethane	ND		2700	"	"		1060			***	30%	R-01
Trichloroethene (TCE)	ND		64.3	"	"		ND				30%	10
Trichlorofluoromethane	ND		129	"	"		ND				30%	
1,2,3-Trichloropropane	ND		129	"	"		ND				30%	
1,2,4-Trimethylbenzene	ND		129	"	"		74.4			***	30%	
1,3,5-Trimethylbenzene	ND		129	"	"		ND				30%	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

			TOIGING O	rganic Com	.pourius	, ., L. A 0						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soi	l				
Duplicate (1102426-DUP2)				Prep	oared: 02/2	24/11 11:43	Analyzed:	02/24/11 2	1:19			
QC Source Sample: PP-1(13-14) (A1	1B329-02)											
Vinyl chloride	ND		64.3	ug/kg dry	"		ND				30%	
m,p-Xylene	ND		129	"	"		ND				30%	
o-Xylene	ND		64.3	"	"		ND				30%	
Surr: Dibromofluoromethane (Surr)		Red	covery: 114 %	Limits: 70-1	130 %	Dilı	ution: 1x					
1,4-Difluorobenzene (Surr)			117 %	70-1	30 %		"					
Toluene-d8 (Surr)			100 %	70-1	30 %		"					
4-Bromofluorobenzene (Surr)			106 %	70-1	30 %		"					
Matrix Spike (1102426-MS1)				Prep	oared: 02/2	24/11 11:43	Analyzed:	02/24/11 2	2:30			
QC Source Sample: PP-2(13-14) (A1	1B329-03)											
5035/8260B												
Acetone	5130		2420	ug/kg dry	100	4840	ND	106	65-135%			
Benzene	2800		30.3	"	"	2420	ND	116	"			
Bromobenzene	2030		60.5	"	"	"	ND	84	"			
Bromochloromethane	3060		60.5	"	"	"	ND	127	"			
Bromodichloromethane	2320		60.5	"	"	"	ND	96	"			
Bromoform	1700		121	"	"	"	ND	70	"			
Bromomethane	3500		605	"	"	"	ND	145	"			Q-01
2-Butanone (MEK)	73800		1210	"	"	4840	ND	1520	"			E, Q-0
n-Butylbenzene	27300		121	"	"	2420	4070	959	"			E, Q-03
sec-Butylbenzene	9830		121	"	"	"	1700	336	"			Q-01
tert-Butylbenzene	2170		121	"	"	"	ND	89	"			
Carbon tetrachloride	2720		60.5	"	"	"	ND	112	"			
Chlorobenzene	2280		60.5	"	"	"	ND	94	"			
Chloroethane	3320		1210	"	"	"	ND	137	"			Q-01
Chloroform	3120		121	"	"	"	ND	129	"			
Chloromethane	3010		605	"	"	"	ND	124	"			
2-Chlorotoluene	2250		121	"	"	"	ND	93	"			
4-Chlorotoluene	2170		121	"	"	"	ND	90	"			
1,2-Dibromo-3-chloropropane	1590		605	"	"	"	ND	66	"			
Dibromochloromethane	2190		242	"	"	"	ND	90	"			
1,2-Dibromoethane (EDB)	2220		60.5	"	"	"	ND	92	"			
Dibromomethane	2560		121	"	"	"	ND	106	"			
1,2-Dichlorobenzene	2350		60.5	,,	,,	"	ND	97	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			TOTALITIE O	. 941110 0011		s by EPA 8						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035A							Soil					
Matrix Spike (1102426-MS1)				Prej	pared: 02/	24/11 11:43	Analyzed: (	02/24/11 22:	:30			
QC Source Sample: PP-2(13-14) (A1	1B329-03)											
1,3-Dichlorobenzene	2270		60.5	ug/kg dry	"	"	ND	94	"			
1,4-Dichlorobenzene	2240		60.5	"	"	"	ND	92	"			
Dichlorodifluoromethane	2510		242	"	"	"	ND	104	"			
1,1-Dichloroethane	2930		60.5	"	"	"	ND	121	"			
1,2-Dichloroethane (EDC)	2670		60.5	"	"	"	ND	110	"			
1,1-Dichloroethene	2900		60.5	"	"	"	ND	120	"			
cis-1,2-Dichloroethene	2920		60.5	"	"	"	ND	121	"			
trans-1,2-Dichloroethene	3030		60.5	"	"	"	ND	125	"			
1,2-Dichloropropane	2830		60.5	"	"	"	ND	117	"			
1,3-Dichloropropane	2090		60.5	"	"	"	ND	86	"			
2,2-Dichloropropane	2550		121	"	"	"	ND	105	"			
1,1-Dichloropropene	2620		121	"	"	"	ND	108	"			
cis-1,3-Dichloropropene	2120		60.5	"	"	"	ND	88	"			
trans-1,3-Dichloropropene	2070		121	"	"	"	ND	85	"			
Ethylbenzene	2110		60.5	"	"	"	ND	87	"			
Hexachlorobutadiene	2690		242	"	"	"	ND	111	"			
2-Hexanone	6250		1210	"	"	4840	ND	129	"			
Isopropylbenzene	2380		121	"	"	2420	ND	98	"			
4-Isopropyltoluene	12900		121	"	"	"	1180	483	"			Q-0
4-Methyl-2-pentanone (MiBK)	14700		1210	"	"	4840	ND	303	"			Q-0
Methyl tert-butyl ether (MTBE)	2180		121	"	"	2420	ND	90	"			
Methylene chloride	1730		605	"	"	"	ND	71	"			
Naphthalene	2370		242	"	"	"	129	92	"			
n-Propylbenzene	2840		60.5	"	"	"	66.3	114	"			
Styrene	2470		121	"	"	"	ND	102	"			
1,1,2-Tetrachloroethane	2190		60.5	"	"	"	ND	90	"			
1,1,2,2-Tetrachloroethane	2410		60.5	"	"	"	ND	99	"			
Tetrachloroethene (PCE)	3700		60.5	"	"	"	499	132	"			
Toluene	2230		121	"	"	"	ND	92	"			
1,2,3-Trichlorobenzene	2160		605	"	"	"	ND	89	"			
1,2,4-Trichlorobenzene	2210		605	"	"	"	ND	91	"			
1,1,1-Trichloroethane	2790		60.5	"	"	"	ND	115	"			
1,1,2-Trichloroethane	8260		60.5	"	"	"	ND	341	,,			Q-0

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Cor	npound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102426 - EPA 5035	4						Soi	I				
Matrix Spike (1102426-MS1)				Pre	pared: 02/	24/11 11:43	Analyzed:	02/24/11 22	:30			
QC Source Sample: PP-2(13-14) (A	11B329-03)											
Trichloroethene (TCE)	3100		60.5	ug/kg dry	"	"	ND	128	"			
Trichlorofluoromethane	3440		121	"	"	"	ND	142	"			Q-01
1,2,3-Trichloropropane	2450		121	"	"	"	77.5	98	"			
1,2,4-Trimethylbenzene	2430		121	"	"	"	ND	100	"			
1,3,5-Trimethylbenzene	2660		121	"	"	"	ND	110	"			
Vinyl chloride	3000		60.5	"	"	"	ND	124	"			
m,p-Xylene	4910		121	"	"	4840	ND	101	"			
o-Xylene	2360		60.5	"	"	2420	ND	98	"			
Surr: Dibromofluoromethane (Surr)		Re	covery: 112 %	Limits: 70-	130 %	Dilı	tion: 1x					
1,4-Difluorobenzene (Surr)			119 %	70-	130 %		"					
Toluene-d8 (Surr)			96 %	70-	130 %		"					
4-Bromofluorobenzene (Surr)			103 %	70-	130 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	I gariic Coi	iipouiiu	s by EPA 8	2006					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A							Soil					
Blank (1102434-BLK1)				Pre	pared: 02/	24/11 16:33	Analyzed:	02/25/11 12	:25			
5035/8260B												
Acetone	ND		1000	ug/kg wet	50							
Benzene	ND		12.5	"	"							
Bromobenzene	ND		25.0	"	"							
Bromochloromethane	ND		25.0	"	"							
Bromodichloromethane	ND		25.0	"	"							
Bromoform	ND		50.0	"	"							
Bromomethane	ND		250	"	"							
2-Butanone (MEK)	ND		500	"	"							
n-Butylbenzene	ND		50.0	"	"							
sec-Butylbenzene	ND		50.0	"	"							
tert-Butylbenzene	ND		50.0	"	"							
Carbon tetrachloride	ND		25.0	"	"							
Chlorobenzene	ND		25.0	"	"							
Chloroethane	ND		500	"	"							
Chloroform	ND		50.0	"	"							
Chloromethane	ND		250	"	"							
2-Chlorotoluene	ND		50.0	"	"							
4-Chlorotoluene	ND		50.0	"	"							
1,2-Dibromo-3-chloropropane	ND		250	"	"							
Dibromochloromethane	ND		100	"	"							
1,2-Dibromoethane (EDB)	ND		25.0	"	"							
Dibromomethane	ND		50.0	"	"							
1,2-Dichlorobenzene	ND		25.0	"	"							
1,3-Dichlorobenzene	ND		25.0	"	"							
1,4-Dichlorobenzene	ND		25.0	"	"							
Dichlorodifluoromethane	ND		100	"	"							
1,1-Dichloroethane	ND		25.0	"	"							
1,2-Dichloroethane (EDC)	ND		25.0	"	"							
1,1-Dichloroethene	ND		25.0	,,	"							
cis-1,2-Dichloroethene	ND ND		25.0	,,	"							
trans-1,2-Dichloroethene	ND		25.0	,,	"							
1,2-Dichloropropane	ND ND		25.0	,,	"							
1,3-Dichloropropane	ND ND		25.0	,,	"							
2,2-Dichloropropane	ND ND		50.0	,,	"							

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Co	mpound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A							Soil					
Blank (1102434-BLK1)				Pı	repared: 02/	24/11 16:33	Analyzed:	02/25/11 12	:25			
1,1-Dichloropropene	ND		50.0	ug/kg wet	"							
cis-1,3-Dichloropropene	ND		25.0	"	"							
trans-1,3-Dichloropropene	ND		50.0	"	"							
Ethylbenzene	ND		25.0	"	"							
Hexachlorobutadiene	ND		100	"	"							
2-Hexanone	ND		500	"	"							
Isopropylbenzene	ND		50.0	"	"							
4-Isopropyltoluene	ND		50.0	"	"							
4-Methyl-2-pentanone (MiBK)	ND		500	"	"							
Methyl tert-butyl ether (MTBE)	ND		50.0	"	"							
Methylene chloride	ND		250	"	"							
Naphthalene	ND		100	"	"							
n-Propylbenzene	ND		25.0	"	"							
Styrene	ND		50.0	"	"							
1,1,2-Tetrachloroethane	ND		25.0	"	"							
1,1,2,2-Tetrachloroethane	ND		25.0	"	"							
Tetrachloroethene (PCE)	ND		25.0	"	"							
Toluene	ND		50.0	"	"							
1,2,3-Trichlorobenzene	ND		250	"	"							
1,2,4-Trichlorobenzene	ND		250	"	"							
1,1,1-Trichloroethane	ND		25.0	"	"							
1,1,2-Trichloroethane	ND		25.0	"	"							
Trichloroethene (TCE)	ND		25.0	"	"							
Trichlorofluoromethane	ND		50.0	"	"							
1,2,3-Trichloropropane	ND		50.0	"	"							
1,2,4-Trimethylbenzene	ND		50.0	"	"							
1,3,5-Trimethylbenzene	ND		50.0	"	"							
Vinyl chloride	ND		25.0	"	"							
m,p-Xylene	ND		50.0	"	"							
o-Xylene	ND		25.0	"	"							
Surr: Dibromofluoromethane (Surr)	112		covery: 114 %	Limits: 7	0-130 %	Dil	ution: 1x					
1,4-Difluorobenzene (Surr)		Kei	118 %		0-130 % 0-130 %	Diii	ulion: 1x					
Toluene-d8 (Surr)			98 %		0-130 % 0-130 %		"					
4-Bromofluorobenzene (Surr)			108 %		0-130 % 0-130 %		,,					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			voiatile O	rganic Con	npound	S DY EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A	1						Soil					
LCS (1102434-BS1)				Prej	pared: 02/	24/11 16:33	Analyzed:	02/25/11 1	1:13			
5035/8260B												
Acetone	1920		1000	ug/kg wet	50	2000		96	65-135%			
Benzene	1220		12.5	"	"	1000		122	"			
Bromobenzene	893		25.0	"	"	"		89	"			
Bromochloromethane	1290		25.0	"	"	"		129	"			
Bromodichloromethane	1260		25.0	"	"	"		126	"			
Bromoform	846		50.0	"	"	"		85	"			
Bromomethane	1470		250	"	"	"		147	"			EST
2-Butanone (MEK)	1940		500	"	"	2000		97	"			
n-Butylbenzene	1050		50.0	"	"	1000		105	"			
sec-Butylbenzene	1020		50.0	"	"	"		102	"			
tert-Butylbenzene	951		50.0	"	"	"		95	"			
Carbon tetrachloride	1190		25.0	"	"	"		119	"			
Chlorobenzene	1030		25.0	"	"	"		103	"			
Chloroethane	1320		500	"	"	"		132	"			
Chloroform	1190		50.0	"	"	"		119	"			
Chloromethane	1270		250	"	"	"		127	"			
2-Chlorotoluene	968		50.0	"	"	"		97	"			
4-Chlorotoluene	952		50.0	"	"	"		95	"			
1,2-Dibromo-3-chloropropane	734		250	"	"	"		73	"			
Dibromochloromethane	1030		100	"	"	"		103	"			
1,2-Dibromoethane (EDB)	1020		25.0	"	"	"		102	"			
Dibromomethane	1210		50.0	"	"	"		121	"			
1,2-Dichlorobenzene	1020		25.0	"	"	"		102	"			
1,3-Dichlorobenzene	1010		25.0	"	"	"		101	"			
1,4-Dichlorobenzene	976		25.0	"	"	"		98	"			
Dichlorodifluoromethane	1010		100	"	"	"		101	"			
1,1-Dichloroethane	1210		25.0	"	"	"		121	"			
1,2-Dichloroethane (EDC)	1150		25.0	"	"	"		115	"			
1,1-Dichloroethene	1200		25.0	"	"	"		120	"			
cis-1,2-Dichloroethene	1180		25.0	"	"	"		118	"			
trans-1,2-Dichloroethene	1260		25.0	"	"	"		126	"			
1,2-Dichloropropane	1190		25.0	"	"	"		119	"			
1,3-Dichloropropane	964		25.0	"	"	"		96	"			
2,2-Dichloropropane	1150		50.0	"	"	"		115	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A							Soil					
LCS (1102434-BS1)				P	repared: 02/	24/11 16:33	Analyzed:	02/25/11 11:	:13			
1,1-Dichloropropene	1130		50.0	ug/kg we	t "	"		113	"			
cis-1,3-Dichloropropene	1020		25.0	"	"	"		102	"			
trans-1,3-Dichloropropene	1010		50.0	"	"	"		101	"			
Ethylbenzene	932		25.0	"	"	"		93	"			
Hexachlorobutadiene	1050		100	"	"	"		105	"			
2-Hexanone	1600		500	"	"	2000		80	"			
Isopropylbenzene	1020		50.0	"	"	1000		102	"			
4-Isopropyltoluene	984		50.0	"	"	"		98	"			
4-Methyl-2-pentanone (MiBK)	1700		500	"	"	2000		85	"			
Methyl tert-butyl ether (MTBE)	948		50.0	"	"	1000		95	"			
Methylene chloride	854		250	"	"	"		85	"			
Naphthalene	765		100	"	"	"		76	"			
n-Propylbenzene	977		25.0	"	"	"		98	"			
Styrene	1020		50.0	"	"	"		102	"			
1,1,1,2-Tetrachloroethane	1000		25.0	"	"	"		100	"			
1,1,2,2-Tetrachloroethane	909		25.0	"	"	"		91	"			
Tetrachloroethene (PCE)	1080		25.0	"	"	"		108	"			
Toluene	984		50.0	"	"	"		98	"			
1,2,3-Trichlorobenzene	972		250	"	"	"		97	"			
1,2,4-Trichlorobenzene	978		250	"	"	"		98	"			
1,1,1-Trichloroethane	1190		25.0	"	"	"		119	"			
1,1,2-Trichloroethane	974		25.0	"	"	"		97	"			
Trichloroethene (TCE)	1320		25.0	"	"	"		132	"			
Trichlorofluoromethane	1250		50.0	"	"	"		125	"			
1,2,3-Trichloropropane	856		50.0	"	"	"		86	"			
1,2,4-Trimethylbenzene	986		50.0	"	"	"		99	"			
1,3,5-Trimethylbenzene	990		50.0	"	"	"		99	"			
Vinyl chloride	1260		25.0	"	"	"		126	"			
m,p-Xylene	2130		50.0	"	"	2000		106	"			
o-Xylene	1040		25.0	"	"	1000		104	"			
Surr: Dibromofluoromethane (Surr)		Rei	covery: 115 %	Limits:	70-130 %		ution: 1x					
1,4-Difluorobenzene (Surr)		-100	114%		0-130 %	2,,,	"					
Toluene-d8 (Surr)			100 %		0-130 %		"					
4-Bromofluorobenzene (Surr)			108 %		70-130 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

				rganic Con	1							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A	١						Soil					
Duplicate (1102434-DUP1)				Prep	oared: 02/2	24/11 16:33	Analyzed: (	02/25/11 13	:12			
QC Source Sample: PP-6(17-18) (A	11B329-15)											
5035/8260B												
Acetone	ND		14600	ug/kg dry	500		ND				30%	
Benzene	ND		183		"		ND				30%	
Bromobenzene	ND		366	"	"		ND				30%	
Bromochloromethane	ND		366	"	"		ND				30%	
Bromodichloromethane	ND		2200	"	"		ND				30%	R-01
Bromoform	ND		732	"	"		405			***	30%	
Bromomethane	ND		3660	"	"		ND				30%	
2-Butanone (MEK)	ND		32600	"	"		ND				30%	R-01
n-Butylbenzene	11100		732	"	"		ND				30%	
sec-Butylbenzene	3370		732	"	"		ND				30%	
tert-Butylbenzene	ND		732	"	"		ND				30%	
Carbon tetrachloride	ND		366	"	"		ND				30%	
Chlorobenzene	ND		366	"	"		ND				30%	
Chloroethane	ND		7320	"	"		ND				30%	
Chloroform	ND		732	"	"		ND				30%	
Chloromethane	ND		3660	"	"		ND				30%	
2-Chlorotoluene	ND		732	"	"		ND				30%	
4-Chlorotoluene	ND		732	"	"		ND				30%	
1,2-Dibromo-3-chloropropane	ND		3660	"	"		ND				30%	
Dibromochloromethane	ND		1460	"	"		ND				30%	
1,2-Dibromoethane (EDB)	ND		366	"	"		ND				30%	
Dibromomethane	ND		732	"	"		ND				30%	
1,2-Dichlorobenzene	ND		366	"	"		ND				30%	
1,3-Dichlorobenzene	ND		366	"	"		ND				30%	
1,4-Dichlorobenzene	ND		366	"	"		ND				30%	
Dichlorodifluoromethane	ND		1460	"	"		ND				30%	
1,1-Dichloroethane	ND		366	"	"		ND				30%	
1,2-Dichloroethane (EDC)	ND		366	"	"		299			***	30%	
1,1-Dichloroethene	ND		366	"	"		ND				30%	
cis-1,2-Dichloroethene	ND		366	"	"		ND				30%	
trans-1,2-Dichloroethene	ND		366	"	"		ND				30%	
1,2-Dichloropropane	ND		366	"	"		ND				30%	
1,3-Dichloropropane	ND ND		366	,,	,,		ND ND				30%	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Reporting			Spike	Source		%REC		RPD	
Analyte	Result	MDL	Limit	Units	Dil.	Amount	Result	%REC	Limits	RPD	Limit	Notes
Batch 1102434 - EPA 5035A							Soil					
Duplicate (1102434-DUP1)				Prej	pared: 02/	24/11 16:33	Analyzed: (	02/25/11 13:	:12			
QC Source Sample: PP-6(17-18) (A1	1B329-15)											
2,2-Dichloropropane	ND		732	ug/kg dry	"		ND				30%	
1,1-Dichloropropene	ND		732	"	"		ND				30%	
cis-1,3-Dichloropropene	ND		366	"	"		ND				30%	
trans-1,3-Dichloropropene	ND		732	"	"		ND				30%	
Ethylbenzene	37700		366	"	"		299			197	30%	Q-04
Hexachlorobutadiene	ND		1460	"	"		ND				30%	
2-Hexanone	ND		7320	"	"		ND				30%	
Isopropylbenzene	7520		732	"	"		ND				30%	
4-Isopropyltoluene	5380		732	"	"		ND				30%	
4-Methyl-2-pentanone (MiBK)	ND		33700	"	"		ND				30%	R-01
Methyl tert-butyl ether	ND		732	"	"		ND				30%	
(MTBE)												
Methylene chloride	ND		3660	"	"		ND				30%	
Naphthalene	17800		1460	"	"		ND				30%	
n-Propylbenzene	32200		366	"	"		ND				30%	
Styrene	ND		732	"	"		ND				30%	
1,1,1,2-Tetrachloroethane	ND		366	"	"		ND				30%	
1,1,2,2-Tetrachloroethane	ND		366	"	"		ND				30%	
Tetrachloroethene (PCE)	2740		366	"	"		ND				30%	
Toluene	30900		732	"	"		ND				30%	
1,2,3-Trichlorobenzene	ND		3660	"	"		ND				30%	
1,2,4-Trichlorobenzene	ND		3660	"	"		ND				30%	
1,1,1-Trichloroethane	ND		366	"	"		ND				30%	
1,1,2-Trichloroethane	ND		366	"	"		ND				30%	
Trichloroethene (TCE)	ND		366	"	"		ND				30%	
Trichlorofluoromethane	ND		732	"	"		ND				30%	
1,2,3-Trichloropropane	ND		732	"	"		ND				30%	
1,2,4-Trimethylbenzene	161000		732	"	"		518			199	30%	E, Q-04
1,3,5-Trimethylbenzene	53800		732	"	"		ND				30%	,
Vinyl chloride	ND		366	"	"		ND				30%	
m,p-Xylene	159000		732	"	"		502			199	30%	Q-04
o-Xylene	38200		366	"	"		ND			•//	30%	ζ υ.
Surr: Dibromofluoromethane (Surr)			covery: 116 %	Limits: 70-	130 %	D:1.	ution: 1x				20,0	

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			D .:			0.1	G.		0/DEC		DDD	
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A	<b>\</b>						Soi	l				
Duplicate (1102434-DUP1)				Prep	pared: 02/	24/11 16:33	Analyzed:	02/25/11 1	3:12			
QC Source Sample: PP-6(17-18) (A1	11B329-15)											
Surr: Toluene-d8 (Surr)		$R\epsilon$	ecovery: 99 %	Limits: 70-		Dii	lution: 1x					
4-Bromofluorobenzene (Surr)			104 %	70	130 %		"					
Matrix Spike (1102434-MS1)				Prep	oared: 02/	24/11 16:33	Analyzed:	02/25/11 1	5:11			
QC Source Sample: MW-6(15.5-16.5	) (A11B329-1	6)										
5035/8260B												
Acetone	2400		1260	ug/kg dry	50	2520	ND	95	65-135%			
Benzene	1530		15.8	"	"	1260	ND	122	"			
Bromobenzene	1020		31.5	"	"	"	ND	81	"			
Bromochloromethane	1620		31.5	"	"	"	ND	129	"			
Bromodichloromethane	1570		31.5	"	"	"	ND	125	"			
Bromoform	970		63.1	"	"	"	ND	77	"			
Bromomethane	1940		315	"	"	"	ND	154	"			EST
2-Butanone (MEK)	2520		631	"	"	2520	ND	100	"			
n-Butylbenzene	1170		63.1	"	"	1260	ND	93	"			
sec-Butylbenzene	1110		63.1	"	"	"	ND	88	"			
tert-Butylbenzene	1080		63.1	"	"	"	ND	86	"			
Carbon tetrachloride	1500		31.5	"	"	"	ND	119	"			
Chlorobenzene	1140		31.5	"	"	"	ND	90	"			
Chloroethane	1710		631	"	"	"	ND	136	"			Q-0
Chloroform	1480		63.1	"	"	"	ND	118	"			
Chloromethane	1520		315	"	"	"	ND	121	"			
2-Chlorotoluene	1100		63.1	"	"	"	ND	87	"			
4-Chlorotoluene	1080		63.1	"	"	"	ND	86	"			
1,2-Dibromo-3-chloropropane	876		315	"	"	"	ND	70	"			
Dibromochloromethane	1140		126	"	"	"	ND	90	"			
1,2-Dibromoethane (EDB)	1180		31.5	"	"	"	ND	93	"			
Dibromomethane	1530		63.1	"	"	"	ND	121	"			
1,2-Dichlorobenzene	1160		31.5	"	"	"	ND	92	"			
1,3-Dichlorobenzene	1150		31.5	"	"	"	ND	91	"			
1,4-Dichlorobenzene	1100		31.5	"	"	"	ND	87	"			
Dichlorodifluoromethane	1260		126	"	"	"	ND	100	"			
1,1-Dichloroethane	1510		31.5	"	"	"	ND	120	"			
1,2-Dichloroethane (EDC)	1400		31.5	"	"	"	19.0	109	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
-		MDL	Lillit	Units	DII.	Amount			Limits	NΓD	LIIIII	notes
Batch 1102434 - EPA 5035A	1						Soi					
Matrix Spike (1102434-MS1)				Prep	ared: 02/	24/11 16:33	Analyzed:	02/25/11 15	:11			
QC Source Sample: MW-6(15.5-16.5)	) (A11B329-1	6)										
1,1-Dichloroethene	1520		31.5	ug/kg dry	"	"	ND	120	"			
cis-1,2-Dichloroethene	1500		31.5	"	"	"	ND	119	"			
trans-1,2-Dichloroethene	1530		31.5	"	"	"	ND	122	"			
1,2-Dichloropropane	1540		31.5	"	"	"	ND	122	"			
1,3-Dichloropropane	1100		31.5	"	"	"	ND	88	"			
2,2-Dichloropropane	1420		63.1	"	"	"	ND	113	"			
1,1-Dichloropropene	1410		63.1	"	"	"	ND	112	"			
cis-1,3-Dichloropropene	1140		31.5	"	"	"	ND	91	"			
trans-1,3-Dichloropropene	1110		63.1	"	"	"	ND	88	"			
Ethylbenzene	1040		31.5	"	"	"	20.3	81	"			
Hexachlorobutadiene	1100		126	"	"	"	ND	87	"			
2-Hexanone	1980		631	"	"	2520	ND	79	"			
Isopropylbenzene	1150		63.1	"	"	1260	ND	91	"			
4-Isopropyltoluene	1130		63.1	"	"	"	ND	89	"			
4-Methyl-2-pentanone (MiBK)	2050		631	"	"	2520	ND	81	"			
Methyl tert-butyl ether (MTBE)	1190		63.1	"	"	1260	ND	94	"			
Methylene chloride	933		315	"	"	"	ND	74	"			
Naphthalene	963		126	"	••	"	ND	76	"			
n-Propylbenzene	1130		31.5	"	••	"	19.7	88	"			
Styrene	1140		63.1	"		"	ND	91	"			
1,1,1,2-Tetrachloroethane	1110		31.5	"		"	ND	88	"			
1,1,2,2-Tetrachloroethane	1070		31.5	"		"	ND	85	"			
Tetrachloroethene (PCE)	1560		31.5	"		"	381	93	"			
Toluene	1110		63.1	"		"	ND	88	"			
1,2,3-Trichlorobenzene	1080		315	"		"	ND	85	"			
1,2,4-Trichlorobenzene	1090		315	"	"	"	ND	86	"			
1,1,1-Trichloroethane	1490		31.5	"		"	ND	118	"			
1,1,2-Trichloroethane	1130		31.5	"	"	"	ND	89	"			
Trichloroethene (TCE)	1640		31.5	"		"	40.0	127	"			
Trichlorofluoromethane	1570		63.1	"	"	"	ND	125	"			
1,2,3-Trichloropropane	1050		63.1	"	,,	"	ND	84	"			
1,2,4-Trimethylbenzene	1130		63.1	"	"	"	100	81	"			
1,3,5-Trimethylbenzene	1100		63.1	,,	,,	"	38.1	84	,,			

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Philip Nerenberg, Lab Director

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Cor	npound	s by EPA 8	260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102434 - EPA 5035A							Soi	l				
Matrix Spike (1102434-MS1)				Pre	pared: 02/	/24/11 16:33	Analyzed:	02/25/11 15	:11			
QC Source Sample: MW-6(15.5-16.5)	(A11B329-1	6)										
Vinyl chloride	1550		31.5	ug/kg dry	"	"	ND	123	"			
m,p-Xylene	2370		63.1	"	"	2520	74.9	91	"			
o-Xylene	1170		31.5	"	"	1260	ND	93	"			
Surr: Dibromofluoromethane (Surr)		Rec	covery: 119 %	Limits: 70-	-130 %	Dilı	tion: 1x					
1,4-Difluorobenzene (Surr)			120 %	70-	130 %		"					
Toluene-d8 (Surr)			97 %	70-	130 %		"					
4-Bromofluorobenzene (Surr)			104 %	70-	130 %		"					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O		•							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035A	١						Soi	l				
Blank (1102466-BLK1)				Prep	oared: 02/2	28/11 12:19	Analyzed:	02/28/11 14	:03			
5035/8260B												
Acetone	ND		1000	ug/kg wet	50							
Benzene	ND		12.5	"	"							
Bromobenzene	ND		25.0	"	"							
Bromochloromethane	ND		25.0	"	"							
Bromodichloromethane	ND		25.0	"	"							
Bromoform	ND		50.0	"	"							
Bromomethane	ND		250	"	"							
2-Butanone (MEK)	ND		500	"	**							
n-Butylbenzene	ND		50.0	"	"							
sec-Butylbenzene	ND		50.0	"	"							
tert-Butylbenzene	ND		50.0	"	"							
Carbon tetrachloride	ND		25.0	"	"							
Chlorobenzene	ND		25.0	"	"							
Chloroethane	ND		500	"	"							
Chloroform	ND		50.0	"	"							
Chloromethane	ND		250	"	"							
2-Chlorotoluene	ND		50.0	"	"							
4-Chlorotoluene	ND		50.0	"	"							
1,2-Dibromo-3-chloropropane	ND		250	"	"							
Dibromochloromethane	ND		100	"	"							
1,2-Dibromoethane (EDB)	ND		25.0	"	"							
Dibromomethane	ND		50.0	"	"							
1,2-Dichlorobenzene	ND		25.0	"	"							
1,3-Dichlorobenzene	ND		25.0	"	"							
1,4-Dichlorobenzene	ND		25.0	"	"							
Dichlorodifluoromethane	ND		100	"	"							
1,1-Dichloroethane	ND		25.0	"	"							
1,2-Dichloroethane (EDC)	ND		25.0	"	"							
1,1-Dichloroethene	ND		25.0	"	"							
cis-1,2-Dichloroethene	ND		25.0	"	"							
trans-1,2-Dichloroethene	ND		25.0	"	••							
1,2-Dichloropropane	ND		25.0	"	**							
1,3-Dichloropropane	ND		25.0	"	**							
2,2-Dichloropropane	ND		50.0	,,	,,							

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	rganic Co	mpound	s by EPA 8	3260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035A							Soil					
Blank (1102466-BLK1)				Pı	repared: 02/	28/11 12:19	Analyzed:	02/28/11 14	:03			
1,1-Dichloropropene	ND		50.0	ug/kg wet	"							
cis-1,3-Dichloropropene	ND		25.0	"	"							
trans-1,3-Dichloropropene	ND		50.0	"	"							
Ethylbenzene	ND		25.0	"	"							
Hexachlorobutadiene	ND		100	"	"							
2-Hexanone	ND		500	"	"							
Isopropylbenzene	ND		50.0	"	"							
4-Isopropyltoluene	ND		50.0	"	"							
4-Methyl-2-pentanone (MiBK)	ND		500	"	"							
Methyl tert-butyl ether (MTBE)	ND		50.0	"	"							
Methylene chloride	ND		250	"	"							EST
Naphthalene	ND		100	"	"							
n-Propylbenzene	ND		25.0	"	"							
Styrene	ND		50.0	"	"							
1,1,2-Tetrachloroethane	ND		25.0	"	"							
1,1,2,2-Tetrachloroethane	ND		25.0	"	"							
Tetrachloroethene (PCE)	ND		25.0	"	"							
Toluene	ND		50.0	"	"							
1,2,3-Trichlorobenzene	ND		250	"	"							
1,2,4-Trichlorobenzene	ND		250	"	"							
1,1,1-Trichloroethane	ND		25.0	"	"							
1,1,2-Trichloroethane	ND		25.0	"	"							
Trichloroethene (TCE)	ND		25.0	"	"							
Trichlorofluoromethane	ND		50.0	"	"							
1,2,3-Trichloropropane	ND		50.0	"	"							
1,2,4-Trimethylbenzene	ND		50.0	"	"							
1,3,5-Trimethylbenzene	ND		50.0	"	"							
Vinyl chloride	ND		25.0	"	"							
m,p-Xylene	ND		50.0	"	"							
o-Xylene	ND		25.0	"	"							
Surr: Dibromofluoromethane (Surr)	ПЪ		covery: 100 %	Limita: 7	0-130 %	D:I-	ution: 1x		•			
1,4-Difluorobenzene (Surr)		кес	overy: 100 %		0-130 % 0-130 %	Dili	unon: 1x					
Toluene-d8 (Surr)			100 %		0-130 % 0-130 %		"					
4-Bromofluorobenzene (Surr)			109 %		0-130 % 0-130 %		,,					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035A	1						Soil	1				
LCS (1102466-BS1)				Pre	pared: 02/	28/11 12:19	Analyzed:	02/28/11 1	3:14			
5035/8260B												
Acetone	1540		1000	ug/kg wet	50	2000		77	65-135%			
Benzene	932		12.5	"	"	1000		93	"			
Bromobenzene	1030		25.0	"	"	"		103	"			
Bromochloromethane	946		25.0	"	"	"		95	"			
Bromodichloromethane	964		25.0	"	"	"		96	"			
Bromoform	964		50.0	"	"	"		96	"			
Bromomethane	1080		250	"	"	"		108	"			
2-Butanone (MEK)	1630		500	"	"	2000		82	"			
n-Butylbenzene	1150		50.0	"	"	1000		115	"			
sec-Butylbenzene	1120		50.0	"	"	"		112	"			
tert-Butylbenzene	1080		50.0	"	"	"		108	"			
Carbon tetrachloride	927		25.0	"	"	"		93	"			
Chlorobenzene	1070		25.0	"	"	"		107	"			
Chloroethane	860		500	"	"	"		86	"			
Chloroform	917		50.0	"	"	"		92	"			
Chloromethane	856		250	"	"	"		86	"			
2-Chlorotoluene	1070		50.0	"	"	"		107	"			
4-Chlorotoluene	1080		50.0	"	"	"		108	"			
1,2-Dibromo-3-chloropropane	1060		250	"	"	"		106	"			
Dibromochloromethane	1110		100	"	"	"		111	"			
1,2-Dibromoethane (EDB)	1170		25.0	"	"	"		117	"			
Dibromomethane	929		50.0	"	"	"		93	"			
1,2-Dichlorobenzene	1160		25.0	"	"	"		116	"			
1,3-Dichlorobenzene	1110		25.0	"	"	"		111	"			
1,4-Dichlorobenzene	1090		25.0	"	"	"		109	"			
Dichlorodifluoromethane	673		100	"	"	"		67	"			
1,1-Dichloroethane	914		25.0	"	"	"		91	"			
1,2-Dichloroethane (EDC)	870		25.0	"	"	"		87	"			
1,1-Dichloroethene	896		25.0	"	"	"		90	"			
cis-1,2-Dichloroethene	914		25.0	"	"	"		91	"			
trans-1,2-Dichloroethene	916		25.0	"	"	"		92	"			
1,2-Dichloropropane	944		25.0	"	"	"		94	"			
1,3-Dichloropropane	1080		25.0	"	"	"		108	"			
2,2-Dichloropropane	846		50.0	"	"	"		85	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O									
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035A							Soil					
LCS (1102466-BS1)				P	repared: 02/	28/11 12:19	Analyzed: (	02/28/11 13	:14			
1,1-Dichloropropene	854		50.0	ug/kg we	t "	"		85	"			
cis-1,3-Dichloropropene	1100		25.0	"	"	"		110	"			
trans-1,3-Dichloropropene	1080		50.0	"	"	"		108	"			
Ethylbenzene	982		25.0	"	"	"		98	"			
Hexachlorobutadiene	1150		100	"	"	"		115	"			
2-Hexanone	2240		500	"	"	2000		112	"			
Isopropylbenzene	1070		50.0	"	"	1000		107	"			
4-Isopropyltoluene	1120		50.0	"	"	"		112	"			
4-Methyl-2-pentanone (MiBK)	2250		500	"	"	2000		112	"			
Methyl tert-butyl ether (MTBE)	884		50.0	"	"	1000		88	"			
Methylene chloride	467		250	"	"	"		47	"			EST
Naphthalene	1090		100	"	"	"		109	"			
n-Propylbenzene	1100		25.0	"	"	"		110	"			
Styrene	1090		50.0	"	"	"		109	"			
1,1,1,2-Tetrachloroethane	1040		25.0	"	"	"		104	"			
1,1,2,2-Tetrachloroethane	1180		25.0	"	"	"		118	"			
Tetrachloroethene (PCE)	1110		25.0	"	"	"		111	"			
Toluene	1060		50.0	"	"	"		106	"			
1,2,3-Trichlorobenzene	1200		250	"	"	"		120	"			
1,2,4-Trichlorobenzene	1150		250	"	"	"		115	"			
1,1,1-Trichloroethane	888		25.0	"	"	"		89	"			
1,1,2-Trichloroethane	1070		25.0	"	"	"		107	"			
Trichloroethene (TCE)	959		25.0	"	"	"		96	"			
Trichlorofluoromethane	890		50.0	"	"	"		89	"			
1,2,3-Trichloropropane	1150		50.0	"	"	"		115	"			
1,2,4-Trimethylbenzene	1120		50.0	"	"	"		112	"			
1,3,5-Trimethylbenzene	1100		50.0	"	"	"		110	"			
Vinyl chloride	877		25.0	"	"	"		88	"			
m,p-Xylene	2230		50.0	"	"	2000		111	"			
o-Xylene	1070		25.0	"	"	1000		107	"			
Surr: Dibromofluoromethane (Surr)		R	ecovery: 99 %	Limits:	70-130 %		ution: 1x					
1,4-Difluorobenzene (Surr)		A.	98 %		0-130 %	Diii	# "					
Toluene-d8 (Surr)			111 %		0-130 %		"					
4-Bromofluorobenzene (Surr)			103 %		70-130 %		,,					

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile O	<u>.</u>	•	,	-					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035A	١						Soil					
Matrix Spike (1102466-MS1)				Prep	pared: 02/2	28/11 12:19	Analyzed:	02/28/11 15	5:39			
QC Source Sample: PP-3(1.5-2) (A1 5035/8260B	1B329-05RE1)	)										
Acetone	16200		10300	ug/kg dry	500	20700	ND	78	65-135%			
Benzene	9330		129	"	"	10300	223	88	"			
Bromobenzene	10100		258	"	"	"	ND	97	"			
Bromochloromethane	9110		258	"	"	"	ND	88	"			
Bromodichloromethane	9790		258	"	"	"	ND	95	"			
Bromoform	9370		517	"	"	"	ND	91	"			
Bromomethane	10600		2580	"	"	"	ND	103	"			
2-Butanone (MEK)	17600		5170	"	"	20700	ND	85	"			
n-Butylbenzene	11700		517	"	"	10300	ND	114	"			
sec-Butylbenzene	11200		517	"	"	"	ND	109	"			
tert-Butylbenzene	10500		517	"	"	"	ND	102	"			
Carbon tetrachloride	9000		258	"	"	"	ND	87	"			
Chlorobenzene	10500		258	"	"	"	ND	102	"			
Chloroethane	8790		5170	"	"	"	ND	85	"			
Chloroform	8980		517	"	"	"	ND	87	"			
Chloromethane	8560		2580	"	"	"	ND	83	"			
2-Chlorotoluene	10300		517	"	"	"	ND	100	"			
4-Chlorotoluene	10400		517	"	"	"	ND	101	"			
1,2-Dibromo-3-chloropropane	9980		2580	"	"	"	ND	97	"			
Dibromochloromethane	11100		1030	"	"	"	ND	107	"			
1,2-Dibromoethane (EDB)	11300		258	"	"	"	ND	110	"			
Dibromomethane	9540		517	"	"	"	ND	92	"			
1,2-Dichlorobenzene	11500		258	"	"	"	ND	111	"			
1,3-Dichlorobenzene	11000		258	"	"	"	ND	107	"			
1,4-Dichlorobenzene	10600		258	"	**	"	ND	102	"			
Dichlorodifluoromethane	6580		1030	"	"	"	ND	64	"			Q-0
1,1-Dichloroethane	9090		258	"	**	"	ND	88	"			•
1,2-Dichloroethane (EDC)	8440		258	"	"	"	ND	82	"			
1,1-Dichloroethene	8890		258	"	"	"	ND	86	"			
cis-1,2-Dichloroethene	9550		258	"	"	"	567	87	"			
trans-1,2-Dichloroethene	9360		258	"	"	"	ND	91	"			
1,2-Dichloropropane	9110		258	"	"	"	ND	88	"			
1,3-Dichloropropane	10700		258	"	"	"	ND	103	"			

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

#### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	DDD	RPD Limit	Notes
Analyte	Resuit	MDL	Limit	Units	DII.	Amount	Resuit	%REC	Limits	KPD	Limit	Notes
Batch 1102466 - EPA 5035A							Soil					
Matrix Spike (1102466-MS1)				Pre	pared: 02/	28/11 12:19	Analyzed: 0	02/28/11 15:	39			
QC Source Sample: PP-3(1.5-2) (A11	B329-05RE1)	)										
2,2-Dichloropropane	8150		517	ug/kg dry	"	"	ND	79	"			
1,1-Dichloropropene	8640		517	"	"	"	ND	84	"			
cis-1,3-Dichloropropene	10800		258	"	"	"	ND	105	"			
trans-1,3-Dichloropropene	10800		517	"	"	"	ND	104	"			
Ethylbenzene	9850		258	"	"	"	ND	95	"			
Hexachlorobutadiene	11500		1030	"	"	"	ND	112	"			
2-Hexanone	22900		5170	"	"	20700	ND	111	"			
Isopropylbenzene	10800		517	"	"	10300	ND	104	"			
4-Isopropyltoluene	11100		517	"	"	"	ND	108	"			
4-Methyl-2-pentanone (MiBK)	22500		5170	"	"	20700	ND	109	"			
Methyl tert-butyl ether	8890		517	"	"	10300	ND	86	"			
(MTBE)												
Methylene chloride	4380		2580	"	"	"	ND	42	"			EST
Naphthalene	10300		1030	"	"	"	ND	100	"			
n-Propylbenzene	10700		258	"	"	"	ND	104	"			
Styrene	11200		517	"	"	"	ND	108	"			
1,1,1,2-Tetrachloroethane	10400		258	"	"	"	ND	101	"			
1,1,2,2-Tetrachloroethane	11500		258	"	"	"	ND	111	"			
Tetrachloroethene (PCE)	26700		258	"	"	"	18300	81	"			
Toluene	10500		517	"	"	"	ND	102	"			
1,2,3-Trichlorobenzene	11900		2580	"	"	"	ND	115	"			
1,2,4-Trichlorobenzene	10900		2580	"	"	"	ND	105	"			
1,1,1-Trichloroethane	9150		258	"	"	"	ND	89	"			
1,1,2-Trichloroethane	10900		258	"	"	"	ND	106	"			
Trichloroethene (TCE)	13800		258	"	"	"	5970	76	**			
Trichlorofluoromethane	9490		517	"	"	"	ND	92	"			
1,2,3-Trichloropropane	11600		517	"	"	"	ND	112	"			
1,2,4-Trimethylbenzene	11200		517	"	"	"	ND	109	"			
1,3,5-Trimethylbenzene	11000		517	"	"	"	ND	106	"			
Vinyl chloride	8940		258	"	"	"	ND	86	"			
m,p-Xylene	22600		517	"	"	20700	ND	109	"			
o-Xylene	10900		258	"	"	10300	ND	105	"			
Surr: Dibromofluoromethane (Surr)			overy: 103 %	Limits: 70-	120.0/		ution: 1x					

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1,4-Difluorobenzene (Surr)

Philip Nevenberg

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70-130 %

100 %

4-Bromofluorobenzene (Surr)

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	ganic Co	mpound	s by EPA	8260B					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102466 - EPA 5035	A						Soi	l				
Matrix Spike (1102466-MS1)				Pı	repared: 02	/28/11 12:19	Analyzed:	02/28/11 15	:39			
QC Source Sample: PP-3(1.5-2) (A1	1B329-05RE1	1)										
Surr: Toluene-d8 (Surr)		Rec	covery: 114 %	Limits: 7	0-130 %	Dil	ution: 1x					

70-130 %

103 %

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### QUALITY CONTROL (QC) SAMPLE RESULTS

				Percent l	Ory We	ight						
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1102447 - Total Sol	ids (Dry We	ight)					Soil	l				
Duplicate (1102447-DUP1)				Prep	ared: 02/	25/11 11:18	Analyzed:	02/26/11 10	:38			
QC Source Sample: PP-3(1.5-2) (A	A11B329-05)											
Apex SOP												
% Solids	89.2		1.00	% by Weight	1		89.1			0.1	20%	
Duplicate (1102447-DUP2)				Prep	ared: 02/	25/11 11:18	Analyzed:	02/26/11 10	:38			
QC Source Sample: PP-5(12-13) (	A11B329-12)											
Apex SOP												
% Solids	82.1		1.00	% by Weight	1		81.8			0.4	20%	

No Client related Batch QC samples analyzed for this batch. See notes page for more information.

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

### SAMPLE PREPARATION INFORMATION

		Gasoline Range	Hydrocarbons (Benz	ene to Naphthalene) b	y NWTPH-Gx		
Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1102426							
A11B329-01	Soil	NWTPH-Gx	02/21/11 14:45	02/21/11 14:45	6.2g/5mL	10g/10mL	0.81
A11B329-02	Soil	NWTPH-Gx	02/21/11 14:46	02/21/11 14:46	5.7g/5mL	10g/10mL	0.88
A11B329-04	Soil	NWTPH-Gx	02/21/11 15:15	02/21/11 15:15	6.5g/5mL	10g/10mL	0.77
A11B329-08	Soil	NWTPH-Gx	02/21/11 16:08	02/21/11 16:08	5.92g/5mL	10g/10mL	0.85
A11B329-10	Soil	NWTPH-Gx	02/21/11 17:10	02/21/11 17:10	5.29g/5mL	10g/10mL	0.95
A11B329-14	Soil	NWTPH-Gx	02/22/11 10:15	02/22/11 10:15	4.97g/5mL	10g/10mL	1.01
Batch: 1102434							
A11B329-03RE1	Soil	NWTPH-Gx	02/21/11 15:12	02/21/11 15:12	5.66g/5mL	10g/10mL	0.88
A11B329-07RE1	Soil	NWTPH-Gx	02/21/11 16:02	02/21/11 16:02	5.77g/5mL	10g/10mL	0.87
A11B329-16	Soil	NWTPH-Gx	02/22/11 11:45	02/22/11 11:45	5.69g/5mL	10g/10mL	0.88
Batch: 1102466							
A11B329-15RE2	Soil	NWTPH-Gx	02/22/11 10:08	02/22/11 10:08	4.37g/5mL	10g/10mL	1.14
		Vo	latile Organic Comp	ounds by EPA 8260B			
Prep: EPA 5030B					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1102413							
A11B329-17	Water	EPA 8260B	02/22/11 00:00	02/24/11 12:56	5mL/5mL	5mL/5mL	1.00
Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
Batch: 1102426	111441111	1/10tilot	Samprea	Tropurou			
A11B329-01	Soil	5035/8260B	02/21/11 14:45	02/21/11 14:45	6.2g/5mL	10g/10mL	0.81
A11B329-03	Soil	5035/8260B	02/21/11 15:12	02/21/11 15:12	5.66g/5mL	10g/10mL	0.88
A11B329-04	Soil	5035/8260B	02/21/11 15:15	02/21/11 15:15	6.5g/5mL	10g/10mL	0.77
A11B329-05	Soil	5035/8260B	02/21/11 15:25	02/21/11 15:25	5.98g/5mL	10g/10mL	0.84
A11B329-07	Soil	5035/8260B	02/21/11 16:02	02/21/11 16:02	5.77g/5mL	10g/10mL	0.87
A11B329-08	Soil	5035/8260B	02/21/11 16:08	02/21/11 16:08	5.92g/5mL	10g/10mL	0.85
A11B329-09	Soil	5035/8260B	02/21/11 16:45	02/21/11 16:45	5.94g/5mL	10g/10mL	0.84
	Soil	5035/8260B	02/21/11 17:10	02/21/11 17:10	5.29g/5mL	10g/10mL	0.95
A11B329-10					•	3	
A11B329-10 A11B329-11	Soil	5035/8260B	02/21/11 17:30	02/21/11 17:30	5.29g/5mL	10g/10mL	0.95
		5035/8260B 5035/8260B	02/21/11 17:30 02/21/11 17:42	02/21/11 17:30 02/21/11 17:42	5.29g/5mL 5.67g/5mL	10g/10mL 10g/10mL	0.95 0.88

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

### SAMPLE PREPARATION INFORMATION

		Vo	latile Organic Compo	ounds by EPA 8260B			
Prep: EPA 5035A					Sample	Default	RL Prep
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor
A11B329-14	Soil	5035/8260B	02/22/11 10:15	02/22/11 10:15	4.97g/5mL	10g/10mL	1.01
Batch: 1102434							
A11B329-15RE1	Soil	5035/8260B	02/22/11 10:08	02/22/11 10:08	4.37g/5mL	10g/10mL	1.14
A11B329-16	Soil	5035/8260B	02/22/11 11:45	02/22/11 11:45	5.69g/5mL	10g/10mL	0.88
Batch: 1102466							
A11B329-02RE1	Soil	5035/8260B	02/21/11 14:46	02/21/11 14:46	5.7g/5mL	10g/10mL	0.88
A11B329-05RE1	Soil	5035/8260B	02/21/11 15:25	02/21/11 15:25	5.98g/5mL	10g/10mL	0.84
A11B329-06RE1	Soil	5035/8260B	02/21/11 15:33	02/21/11 15:33	5.87g/5mL	10g/10mL	0.85

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Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 03/04/11 10:49

#### **Notes and Definitions**

#### Qualifiers:

E Estimated Value. The result is above the calibration range or	f the instrument.
---	-------------------

EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

ESTa Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.

ESTb Result reported as an Estimated Value. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte.

Data is likely biased high.

Q-01 Percent recovery and/or RPD is outside acceptance limits.

Q-03 Percent recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.

Q-04 Percent recovery and/or RPD is outside control limits due to a non-homogeneous sample matrix.

Q-05 Analyses are not controlled on RPD values from sample or duplicate concentrations near or below the reporting level.

Q-29 Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.

S-02 Surrogate recovery cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

#### Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC

Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop Seattle

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles03/04/11 10:49

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

\*\*\* Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles EnvironmentalProject:Short Stop Seattle750 S. Rosemont Rd.Project Number:[none]Reported:West Linn, OR 97068Project Manager:David Coles03/04/11 10:49

APEX LABS				_	HA	CHAIN OF CUSTODY	¥(	SOS	<u>[</u> 0	2			Lab	=	00	LAN A118329 COCLUZ	Ž
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Company. Coles ENVIVOR, CONSULT. Project Mgs. D. G. Colos	MSULF.	Project	Mar. D	9.9	00			£	Project Name: Short Stoy	υĭ	Ś	7	1	H.	ره	Seettle Project	
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Sampled by: D. 6. (169	-										ş	ALY	ANALYSIS REQUEST				
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SAMPLE ID (0.5 - 11.5)		140 E		-	_	Z MAL			-			_	HT N CT C VI S	JOT	1300	1280	
*PP-1 (13-14)	-	941	-	-		7	7				-	┝					
3/20-2(13-14)		1572	_			7	2				-						
(PP-2(14-15)		ISIS	\- \-		L	7	7					_					
"PP-3 (1.5-2)		1525	10			_	7					H					
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18-3 (15-16)		1602	_	_		7	7				H						
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PP-4 (06-1.5)		1645	1	_			7				-						_
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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles EnvironmentalProject:Short Stop Seattle750 S. Rosemont Rd.Project Number:[none]Reported:West Linn, OR 97068Project Manager:David Coles03/04/11 10:49

APEX LABS						E	AII	CHAIN OF CUSTODY	FC	ΩS	10	DY			Lab. A 11 B329	A	<u>a</u>	22	5	202	COC 2005
12232 S.W. Garden Place, Tigard, OR 97223 Pkr 503-718-2323 Fatt: 503-718-0333	2R 9722	3 Phr 5	03-718-	3323 Fe	rr: 503	.718-0	333														
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Address:								Phone	Ę.				ř.				Email:				
Sampled by:														INAL	ANALYSIS REQUEST	10000					
She Location: OR (WA) Other: SAMPLE ID	# di 8V1	ETAG	3MIT	XBILVIN	# OF CONTAINERS	CALLEH-HCID	NATPH-6x	хэла	8500 BBD91 AOC?	8300 AOC? 8300 H <sup>a</sup> D AOC?	STO SIM PARS	8083 PCBs	8981 Chlor. Pest	RCRA Ments (8)	Priority Metals (13)  At Sb, Ac the, the Cd, Cc, Cc, Cc, Fe, Pb, El, Ma, Ma, Mc, Mc, K, So, Ap, Au, Tl, V, Xn, Sp, Au, Tl, V, Xn, Mc, Ap, Na, Tl, V, Xn, Mc, Na, Mc, Mc, Mc, Mc, Mc, Mc, Mc, Mc, Mc, Mc		TCLP Mask (8)	1300-COF2			
11 172-5 (3-4)		77)	1/11 130	8	b		-		2												
12 89-5 (12-13)		ے	1742		_	-	_		2	-							-	-			
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Wednesday, April 6, 2011

David Coles Coles Environmental 750 S. Rosemont Rd. West Linn, OR 97068

RE: Short Stop #1 / [none]

Enclosed are the results of analyses for work order <u>A11C337</u>, which was received by the laboratory on 3/24/2011 at 12:30:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: <a href="mailto:pnerenberg@apex-labs.com">pnerenberg@apex-labs.com</a>, or by phone at 503-718-2323.

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL REPORT FOR SAMPLES

	SA	MPLE INFORMATI	ON	
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	A11C337-01	Water	03/22/11 17:35	03/24/11 12:30
MW-2	A11C337-02	Water	03/23/11 10:10	03/24/11 12:30
MW-3	A11C337-03	Water	03/23/11 12:10	03/24/11 12:30
MW-4	A11C337-04	Water	03/23/11 11:00	03/24/11 12:30
MW-4D	A11C337-05	Water	03/23/11 11:05	03/24/11 12:30
MW-5	A11C337-06	Water	03/23/11 13:05	03/24/11 12:30
MW-6	A11C337-07	Water	03/22/11 16:20	03/24/11 12:30
TB	A11C337-08	Water	03/22/11 00:00	03/24/11 12:30

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds b	y EPA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A11C337-01)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 12:05	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by E	PA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-1 (A11C337-01)			Matrix: Wate	er B	atch: 11034	17		
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	II .	"	"	"	
Surrogate: Dibromofluoromethane (Sur	r)	Rec	covery: 103 %	Limits: 80-120 %	"	"	"	
1,4-Difluorobenzene (Surr)			104 %	Limits: 80-120 %	"	"	"	
Toluene-d8 (Surr)			94 %	Limits: 80-120 %	"	"	"	
4-Bromofluorobenzene (Surr	)		107 %	Limits: 80-120 %	"	"	"	

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Philip Nerenberg, Lab Director

Philip Newsberg

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds b	y EPA 8260B			
	D 1:	1001	Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-2 (A11C337-02)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 12:30	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	TI. '4	Dilution	Date Analyzed	Method	Notes
MW-2 (A11C337-02)	Result	WIDL	Matrix: Wate	Units	Batch: 11034		Method	INOIES
· · · · · · · · · · · · · · · · · · ·	1775					"	ED1 00 (0D	
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	,,	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0					
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	rr)	Re	ecovery: 101 %	Limits: 80-120 %	6 "	u u	"	
1,4-Difluorobenzene (Surr)			105 %	Limits: 80-120 %	6 "	"	"	
Toluene-d8 (Surr)			91 %	Limits: 80-120 %	6 "	"	"	
4-Bromofluorobenzene (Sur	r)		102 %	Limits: 80-120 %	6 "	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
/IW-3 (A11C337-03)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 12:55	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	***	Dilution	Date Analyzed	Method	Notes
Analyte //W-3 (A11C337-03)	Result	MDL	Matrix: Wate	Units	Batch: 11034		Method	Notes
<u> </u>	175					"	ED1 00 (0D	
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0					
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	n	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	err)	Re	ecovery: 102 %	Limits: 80-120 %	6 "	"	"	
1,4-Difluorobenzene (Surr)			106 %	Limits: 80-120 9	6 "	"	"	
Toluene-d8 (Surr)			92 %	Limits: 80-120 9	6 "	"	"	
4-Bromofluorobenzene (Sun	r)		109 %	Limits: 80-120 %	6 "	"	"	

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
/IW-4 (A11C337-04)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 13:21	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
/IW-4 (A11C337-04)			Matrix: Wate	er	Batch: 11034	17		
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		Rec	covery: 100 %	Limits: 80-120 %	ó "	11	11	
1,4-Difluorobenzene (Surr)				Limits: 80-120 %	ó "	"	"	
Toluene-d8 (Surr)			94 %	Limits: 80-120 %	ó "	"	"	
4-Bromofluorobenzene (Surr)			107 %	Limits: 80-120 %	ś "	"	"	

Apex Laboratories

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

#### Volatile Organic Compounds by EPA 8260B Reporting Analyte Result MDL Limit Dilution Date Analyzed Method Notes Units MW-4D (A11C337-05) Batch: 1103417 Matrix: Water Acetone ND 20.0 ug/L 03/25/11 13:46 EPA 8260B ND Benzene 0.250 Bromobenzene ND 0.500 ---Bromochloromethane ND 0.500 Bromodichloromethane ND 0.500 Bromoform ND 1.00 Bromomethane ND 5.00 2-Butanone (MEK) ND 10.0 n-Butylbenzene ND 1.00 sec-Butylbenzene ND 1.00 tert-Butylbenzene ND 1.00 Carbon tetrachloride ND 0.500 Chlorobenzene ND 0.500 ---Chloroethane ND 5.00 Chloroform ND 1.00 Chloromethane ND 5.00 2-Chlorotoluene ND 1.00 4-Chlorotoluene ND 1.00 1,2-Dibromo-3-chloropropane ND 5.00 Dibromochloromethane ND 1.00 1,2-Dibromoethane (EDB) ND ---0.500 Dibromomethane ND 1.00 1,2-Dichlorobenzene ND 0.500 1,3-Dichlorobenzene ND 0.500 1,4-Dichlorobenzene ND 0.500 Dichlorodifluoromethane ND 1.00 ND 1,1-Dichloroethane 0.500 1,2-Dichloroethane (EDC) ND 0.500 1,1-Dichloroethene ND 0.500 cis-1,2-Dichloroethene ND 0.500 trans-1,2-Dichloroethene ND 0.500 1,2-Dichloropropane ND 0.500 1,3-Dichloropropane ND 1.00 2,2-Dichloropropane ND 1.00 1,1-Dichloropropene ND 1.00

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
	D 1	) my	Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-4D (A11C337-05)			Matrix: Wate		Batch: 11034			
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Su	rr)	1	Recovery: 99 %	Limits: 80-120 %	6 "	"	"	
1,4-Difluorobenzene (Surr)			102 %	Limits: 80-120 %	6 "	"	"	
Toluene-d8 (Surr)			92 %	Limits: 80-120 %	6 "	"	"	
4-Bromofluorobenzene (Sur	r)		107 %	Limits: 80-120 %	6 "	"	"	

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Philip Nerenberg, Lab Director

12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

	· · · · ·	Volatile	Organic Compo	ounds by	EPA 8260B			-
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
/IW-5 (A11C337-06)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 14:11	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Philip Nerenberg, Lab Director

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-5 (A11C337-06)			Matrix: Wate	er	Batch: 110341	7		
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr	r)	I	Recovery: 98 %	Limits: 80-120 %	% "	n .	"	
1,4-Difluorobenzene (Surr)				Limits: 80-120 %	% "	"	"	
Toluene-d8 (Surr)			93 %	Limits: 80-120 %	% "	"	n	
4-Bromofluorobenzene (Surr	)		104 %	Limits: 80-120 %	% "	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

	Volatile Organic Compounds by EPA 8260B											
<b>.</b>		Reporting		_								
Result	MDL		Units			Method	Notes					
				Batch: 11034	17							
ND		20.0	ug/L	1	03/25/11 14:36	EPA 8260B						
ND		0.250	"	"	"	"						
ND		0.500	"	"	"	"						
ND		0.500	"	"	"	"						
ND		0.500	"	"	"	"						
ND		1.00	"	"	"	"						
ND		5.00	"	"	"	"						
ND		10.0	"	"	"	"						
ND		1.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		0.500	"	"	"	"						
ND		0.500	"	"	"	"						
ND		5.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		5.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		5.00	"	"	"	"						
ND		1.00	"	"	"	"						
ND		0.500	"	"	"	"						
ND		1.00	"	"	"	"						
ND		0.500	"	"	"	"						
ND		0.500	"	"	"	"						
			"	"	"	"						
ND		1.00	"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			"	"	"	"						
			,,	"	"	"						
			,,	,,	"	"						
			"	,,	"	"						
	ND N	ND	Matrix: Water	Matrix: Water   ND	Matrix: Water   Batch: 11034	Matrix: Water   Batch: 1103417	Matrix: Water   Batch: 1103417					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles04/06/11 16:21

#### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Con	npounds by	EPA 8260B			
			Reporting					
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes
/IW-6 (A11C337-07)			Matrix: Wate	er	Batch: 11034	17		
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"	
Ethylbenzene	ND		0.500	"	"	"	"	
Hexachlorobutadiene	ND		5.00	"	"	"	"	
2-Hexanone	ND		10.0	"	"	"	"	
Isopropylbenzene	ND		1.00	"	"	"	"	
4-Isopropyltoluene	ND		1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"	
Methylene chloride	ND		5.00	"	"	"	"	
Naphthalene	ND		2.00	"	"	"	"	
n-Propylbenzene	ND		0.500	"	"	"	"	
Styrene	ND		1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"	
Tetrachloroethene (PCE)	1.73		0.500	"	"	"	"	
Toluene	ND		1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"	
1,1,1-Trichloroethane	ND		0.500	"	"	"	"	
1,1,2-Trichloroethane	ND		0.500	"	"	"	"	
Trichloroethene (TCE)	ND		0.500	"	"	"	"	
Trichlorofluoromethane	ND		1.00	"	"	"	"	
1,2,3-Trichloropropane	ND		1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"	
Vinyl chloride	ND		0.500	"	"	"	"	
m,p-Xylene	ND		1.00	"	"	"	"	
o-Xylene	ND		0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)		Rec	covery: 107 %	Limits: 80-120 %	ó "	11	п	
1,4-Difluorobenzene (Surr)				Limits: 80-120 %	ó "	"	"	
Toluene-d8 (Surr)				Limits: 80-120 %		"	"	
4-Bromofluorobenzene (Surr)			103 %	Limits: 80-120 %	6 "	"	"	

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

		Volatile	Organic Compo	ounds by	EPA 8260B			
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
TB (A11C337-08)			Matrix: Water		Batch: 11034	17		
Acetone	ND		20.0	ug/L	1	03/25/11 11:39	EPA 8260B	
Benzene	ND		0.250	"	"	"	"	
Bromobenzene	ND		0.500	"	"	"	"	
Bromochloromethane	ND		0.500	"	"	"	"	
Bromodichloromethane	ND		0.500	"	"	"	"	
Bromoform	ND		1.00	"	"	"	"	
Bromomethane	ND		5.00	"	"	"	"	
2-Butanone (MEK)	ND		10.0	"	"	"	"	
n-Butylbenzene	ND		1.00	"	"	"	"	
sec-Butylbenzene	ND		1.00	"	"	"	"	
tert-Butylbenzene	ND		1.00	"	"	"	"	
Carbon tetrachloride	ND		0.500	"	"	"	"	
Chlorobenzene	ND		0.500	"	"	"	"	
Chloroethane	ND		5.00	"	"	"	"	
Chloroform	ND		1.00	"	"	"	"	
Chloromethane	ND		5.00	"	"	"	"	
2-Chlorotoluene	ND		1.00	"	"	"	"	
4-Chlorotoluene	ND		1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND		5.00	"	"	"	"	
Dibromochloromethane	ND		1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND		0.500	"	"	"	"	
Dibromomethane	ND		1.00	"	"	"	"	
1,2-Dichlorobenzene	ND		0.500	"	"	"	"	
1,3-Dichlorobenzene	ND		0.500	"	"	"	"	
1,4-Dichlorobenzene	ND		0.500	"	"	"	"	
Dichlorodifluoromethane	ND		1.00	"	"	"	"	
1,1-Dichloroethane	ND		0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND		0.500	"	"	"	"	
1,1-Dichloroethene	ND		0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND		0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND		0.500	"	"	"	"	
1,2-Dichloropropane	ND		0.500	"	"	"	"	
1,3-Dichloropropane	ND		1.00	"	"	"	"	
2,2-Dichloropropane	ND		1.00	"	"	"	"	
1,1-Dichloropropene	ND		1.00	"	"	"	"	

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B											
			Reporting								
Analyte	Result	MDL	Limit	Units	Dilution	Date Analyzed	Method	Notes			
ГВ (A11C337-08)			Matrix: Wate	er B	atch: 11034	17					
cis-1,3-Dichloropropene	ND		0.500	ug/L	1	"	EPA 8260B				
trans-1,3-Dichloropropene	ND		1.00	"	"	"	"				
Ethylbenzene	ND		0.500	"	"	"	"				
Hexachlorobutadiene	ND		5.00	"	"	"	"				
2-Hexanone	ND		10.0	"	"	"	"				
Isopropylbenzene	ND		1.00	"	"	"	"				
4-Isopropyltoluene	ND		1.00	"	"	"	"				
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"	"	"				
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"	"	"				
Methylene chloride	ND		5.00	"	"	"	"				
Naphthalene	ND		2.00	"	"	"	"				
n-Propylbenzene	ND		0.500	"	"	"	"				
Styrene	ND		1.00	"	"	"	"				
1,1,1,2-Tetrachloroethane	ND		0.500	"	"	"	"				
1,1,2,2-Tetrachloroethane	ND		0.500	"	"	"	"				
Tetrachloroethene (PCE)	ND		0.500	"	"	"	"				
Toluene	ND		1.00	"	"	"	"				
1,2,3-Trichlorobenzene	ND		1.00	"	"	"	"				
1,2,4-Trichlorobenzene	ND		2.00	"	"	"	"				
1,1,1-Trichloroethane	ND		0.500	"	"	"	"				
1,1,2-Trichloroethane	ND		0.500	"	"	"	"				
Trichloroethene (TCE)	ND		0.500	"	"	"	"				
Trichlorofluoromethane	ND		1.00	"	"	"	"				
1,2,3-Trichloropropane	ND		1.00	"	"	"	"				
1,2,4-Trimethylbenzene	ND		1.00	"	"	"	"				
1,3,5-Trimethylbenzene	ND		1.00	"	"	"	"				
Vinyl chloride	ND		0.500	"	"	"	"				
m,p-Xylene	ND		1.00	"	"	"	"				
o-Xylene	ND		0.500	"	"	"	"				
Surrogate: Dibromofluoromethane (Sur	r)	R	ecovery: 99 %	Limits: 80-120 %	"	"	"				
1,4-Difluorobenzene (Surr)			106 %	Limits: 80-120 %	"	"	"				
Toluene-d8 (Surr)			95 %	Limits: 80-120 %	"	"	"				
4-Bromofluorobenzene (Surr	r)		108 %	Limits: 80-120 %	"	"	"				

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Philip Nerenberg, Lab Director

Philip Newsberg

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles04/06/11 16:21

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	garne ou	проини	S Dy Li A C	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103417 - EPA 5030B	}						Wat	er				
Blank (1103417-BLK1)				Pre	epared: 03/	25/11 09:27	Analyzed:	03/25/11 11	:14			
EPA 8260B												
Acetone	ND		20.0	ug/L	1							
Benzene	ND		0.250	"	"							
Bromobenzene	ND		0.500	"	"							
Bromochloromethane	ND		0.500	"	"							
Bromodichloromethane	ND		0.500	"	"							
Bromoform	ND		1.00	"	"							
Bromomethane	ND		5.00	"	"							
2-Butanone (MEK)	ND		10.0	"	"							
n-Butylbenzene	ND		1.00	"	"							
sec-Butylbenzene	ND		1.00	"	"							
tert-Butylbenzene	ND		1.00	"	"							
Carbon tetrachloride	ND		0.500	"	"							
Chlorobenzene	ND		0.500	"	"							
Chloroethane	ND		5.00	"	"							
Chloroform	ND		1.00	"	"							
Chloromethane	ND		5.00	"	"							
2-Chlorotoluene	ND		1.00	"	"							
4-Chlorotoluene	ND		1.00	"	"							
1,2-Dibromo-3-chloropropane	ND		5.00	"	"							
Dibromochloromethane	ND		1.00	"	"							
1,2-Dibromoethane (EDB)	ND		0.500	"	"							
Dibromomethane	ND		1.00	"	"							
1,2-Dichlorobenzene	ND		0.500	"	"							
1,3-Dichlorobenzene	ND		0.500	"	"							
1,4-Dichlorobenzene	ND		0.500	"	"							
Dichlorodifluoromethane	ND		1.00	"	"							
1,1-Dichloroethane	ND		0.500	"	"							
1,2-Dichloroethane (EDC)	ND		0.500	"	"							
1,1-Dichloroethene	ND		0.500	"	"							
cis-1,2-Dichloroethene	ND		0.500	"	"							
trans-1,2-Dichloroethene	ND		0.500	"	"							
1,2-Dichloropropane	ND		0.500	"	"							
1,3-Dichloropropane	ND		1.00	"	"							
2,2-Dichloropropane	ND		1.00	"	"							

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Page 19 of 25

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### QUALITY CONTROL (QC) SAMPLE RESULTS

			voiatile Of	yanıc (	Compound	b by EPA 8	2000					
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103417 - EPA 5030B							Wat	er				
Blank (1103417-BLK1)					Prepared: 03/	25/11 09:27	Analyzed:	03/25/11 11:	14			
1,1-Dichloropropene	ND		1.00	ug/L	"							
cis-1,3-Dichloropropene	ND		0.500	"	"							
trans-1,3-Dichloropropene	ND		1.00	"	"							
Ethylbenzene	ND		0.500	"	"							
Hexachlorobutadiene	ND		5.00	"	"							
2-Hexanone	ND		10.0	"	"							
Isopropylbenzene	ND		1.00	"	"							
4-Isopropyltoluene	ND		1.00	"	"							
4-Methyl-2-pentanone (MiBK)	ND		10.0	"	"							
Methyl tert-butyl ether (MTBE)	ND		1.00	"	"							
Methylene chloride	ND		5.00	"	"							
Naphthalene	ND		2.00	"	"							
n-Propylbenzene	ND		0.500	"	"							
Styrene	ND		1.00	"	"							
1,1,2-Tetrachloroethane	ND		0.500	"	"							
1,1,2,2-Tetrachloroethane	ND		0.500	"	"							
Tetrachloroethene (PCE)	ND		0.500	"	"							
Toluene	ND		1.00	"	"							
1,2,3-Trichlorobenzene	ND		1.00	"	"							
1,2,4-Trichlorobenzene	ND		2.00	"	"							
1,1,1-Trichloroethane	ND		0.500	"	"							
1,1,2-Trichloroethane	ND		0.500	"	"							
Trichloroethene (TCE)	ND		0.500	"	"							
Trichlorofluoromethane	ND		1.00	"	"							
1,2,3-Trichloropropane	ND		1.00	"	"							
1,2,4-Trimethylbenzene	ND		1.00	"	"							
1,3,5-Trimethylbenzene	ND		1.00	"	"							
Vinyl chloride	ND		0.500	"	"							
m,p-Xylene	ND		1.00	"	"							
o-Xylene	ND		0.500	"	"							
Surr: Dibromofluoromethane (Surr)	110		covery: 102 %	Limita	80-120 %		ution: 1x					
1,4-Difluorobenzene (Surr)		Ket	105 %	Limits.	80-120 % 80-120 %	Diii	uion: 1x					
Toluene-d8 (Surr)			95 %		80-120 %		"					
4-Bromofluorobenzene (Surr)			93 % 104 %		80-120 %		"					

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles04/06/11 16:21

### QUALITY CONTROL (QC) SAMPLE RESULTS

			Volatile Or	gu	pounu							
Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103417 - EPA 5030B	3						Wat	er				
LCS (1103417-BS1)				Pre	epared: 03/	25/11 09:27	Analyzed:	03/25/11 10	):24			
EPA 8260B												
Acetone	36.4		20.0	ug/L	1	40.0		91	70-130%			
Benzene	18.3		0.250	"	"	20.0		92	"			
Bromobenzene	18.0		0.500	"	"	"		90	"			
Bromochloromethane	17.6		0.500	"	"	"		88	"			
Bromodichloromethane	19.9		0.500	"	"	"		100	"			
Bromoform	19.9		1.00	"	"	"		99	"			
Bromomethane	26.7		5.00	"	"	"		133	"			Q-29
2-Butanone (MEK)	37.7		10.0	"	"	40.0		94	"			
n-Butylbenzene	22.5		1.00	"	"	20.0		112	"			
sec-Butylbenzene	22.9		1.00	"	"	"		114	"			
tert-Butylbenzene	23.1		1.00	"	"	"		115	"			
Carbon tetrachloride	19.1		0.500	"	"	"		95	"			
Chlorobenzene	19.4		0.500	"	"	"		97	"			
Chloroethane	40.4		5.00	"	"	"		202	"			EST
Chloroform	18.6		1.00	"	"	"		93	"			
Chloromethane	21.5		5.00	"	"	"		107	"			
2-Chlorotoluene	21.5		1.00	"	"	"		107	"			
4-Chlorotoluene	22.3		1.00	"	"	"		112	"			
1,2-Dibromo-3-chloropropane	18.4		5.00	"	"	"		92	"			
Dibromochloromethane	19.7		1.00	"	"	"		99	"			
1,2-Dibromoethane (EDB)	19.2		0.500	"	"	"		96	"			
Dibromomethane	18.2		1.00	"	"	"		91	"			
1,2-Dichlorobenzene	19.6		0.500	"	"	"		98	"			
1,3-Dichlorobenzene	18.0		0.500	"	"	"		90	"			
1,4-Dichlorobenzene	20.4		0.500	"	"	"		102	"			
Dichlorodifluoromethane	18.1		1.00	"	"	"		90	"			
1,1-Dichloroethane	17.4		0.500	"	"	"		87	"			
1,2-Dichloroethane (EDC)	19.7		0.500	"	"	"		99	"			
1,1-Dichloroethene	15.4		0.500	"	"	"		77	"			
cis-1,2-Dichloroethene	17.7		0.500	"	"	"		89	"			
trans-1,2-Dichloroethene	17.4		0.500	"	"	"		87	"			
1,2-Dichloropropane	17.8		0.500	"	"	"		89	"			
1,3-Dichloropropane	17.8		1.00	"	"	"		89	"			
2,2-Dichloropropane	19.9		1.00	"	"	"		100	"			

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12232 S.W. Garden Place Tigard, OR 97223 503-718-2323 Phone 503-718-0333 Fax

Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd.Project Number: [none]Reported:West Linn, OR 97068Project Manager: David Coles04/06/11 16:21

### QUALITY CONTROL (QC) SAMPLE RESULTS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1103417 - EPA 5030B					-		Wat				<u> </u>	
LCS (1103417-BS1)	'				Prepared: 03/	25/11 00:27			.24			
1,1-Dichloropropene	20.4		1.00	ug/L		23/11 09.27	Anaryzeu.	102	.24			
cis-1,3-Dichloropropene	18.1		0.500	ug/L	"	"		91	"			
trans-1,3-Dichloropropene	20.0		1.00	,,	"	"		100	"			
Ethylbenzene	19.3		0.500	,,	"	"		97	"			
Hexachlorobutadiene	23.7		5.00	,,	,,	"		119	"			
2-Hexanone	35.4		10.0	,,	,,	40.0		88	"			
Isopropylbenzene				.,	,,			111	"			
	22.2		1.00	,,	"	20.0			"			
4-Isopropyltoluene	22.6		1.00	"	"			113	"			
4-Methyl-2-pentanone (MiBK)	36.8		10.0	"	"	40.0		92	"			
Methyl tert-butyl ether (MTBE)	18.3		1.00			20.0		92				
Methylene chloride	15.0		5.00	"	"	"		75	"			
Naphthalene	17.7		2.00	"	"	"		88	"			
n-Propylbenzene	21.8		0.500	"	"	"		109	"			
Styrene	21.1		1.00	"	"	"		106	"			
1,1,1,2-Tetrachloroethane	18.2		0.500	"	"	"		91	"			
1,1,2,2-Tetrachloroethane	19.4		0.500	"	"	"		97	"			
Tetrachloroethene (PCE)	16.2		0.500	"	"	"		81	"			
Toluene	17.6		1.00	"	"	"		88	"			
1,2,3-Trichlorobenzene	20.3		1.00	"	"	"		102	"			
1,2,4-Trichlorobenzene	21.8		2.00	"	"	"		109	"			
1,1,1-Trichloroethane	18.2		0.500	"	"	"		91	"			
1,1,2-Trichloroethane	19.4		0.500	"	"	"		97	"			
Trichloroethene (TCE)	18.1		0.500	"	"	"		91	"			
Trichlorofluoromethane	33.3		1.00	"	"	"		166	"			EST
1,2,3-Trichloropropane	20.3		1.00	"	"	"		102	"			
1,2,4-Trimethylbenzene	23.1		1.00	"	"	"		115	"			
1,3,5-Trimethylbenzene	22.3		1.00	"	"	"		112	"			
Vinyl chloride	23.4		0.500	"	"	"		117	"			
m,p-Xylene	39.1		1.00	"	"	40.0		98	"			
o-Xylene	20.7		0.500	"	"	20.0		104	"			
Surr: Dibromofluoromethane (Surr)			ecovery: 98 %	Limits:	80-120 %		ution: Ix					
1,4-Difluorobenzene (Surr)		T(	108 %	Limits.	80-120 %	Dill	uion. 1x					
Toluene-d8 (Surr)			89 %		80-120 %		"					
4-Bromofluorobenzene (Surr)			97%		80-120 %		"					

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

### SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B												
Prep: EPA 5030B					Sample	Default	RL Prep					
Lab Number	Matrix	Method	Sampled	Prepared	Initial/Final	Initial/Final	Factor					
Batch: 1103417												
A11C337-01	Water	EPA 8260B	03/22/11 17:35	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-02	Water	EPA 8260B	03/23/11 10:10	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-03	Water	EPA 8260B	03/23/11 12:10	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-04	Water	EPA 8260B	03/23/11 11:00	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-05	Water	EPA 8260B	03/23/11 11:05	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-06	Water	EPA 8260B	03/23/11 13:05	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-07	Water	EPA 8260B	03/22/11 16:20	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					
A11C337-08	Water	EPA 8260B	03/22/11 00:00	03/25/11 10:27	5mL/5mL	5mL/5mL	1.00					

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Coles Environmental Project: Short Stop #1

750 S. Rosemont Rd. Project Number: [none] Reported:
West Linn, OR 97068 Project Manager: David Coles 04/06/11 16:21

#### **Notes and Definitions**

#### Qualifiers:

EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

Q-29 Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.

#### Notes and Conventions:

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.

RPD Relative Percent Difference

MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.

WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.

Batch QC

Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.

Blank Policy Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

\*\*\* Used to indicate a possible discrepency with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

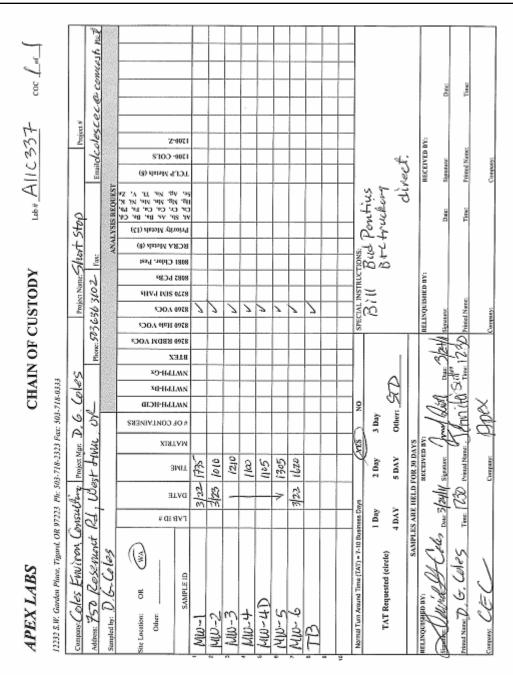
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Coles EnvironmentalProject:Short Stop #1750 S. Rosemont Rd.Project Number:[none]Reported:West Linn, OR 97068Project Manager:David Coles04/06/11 16:21



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Philip Nemberg